

1993

University of Southern Maine Graduate Catalog 1993-1994

University of Southern Maine

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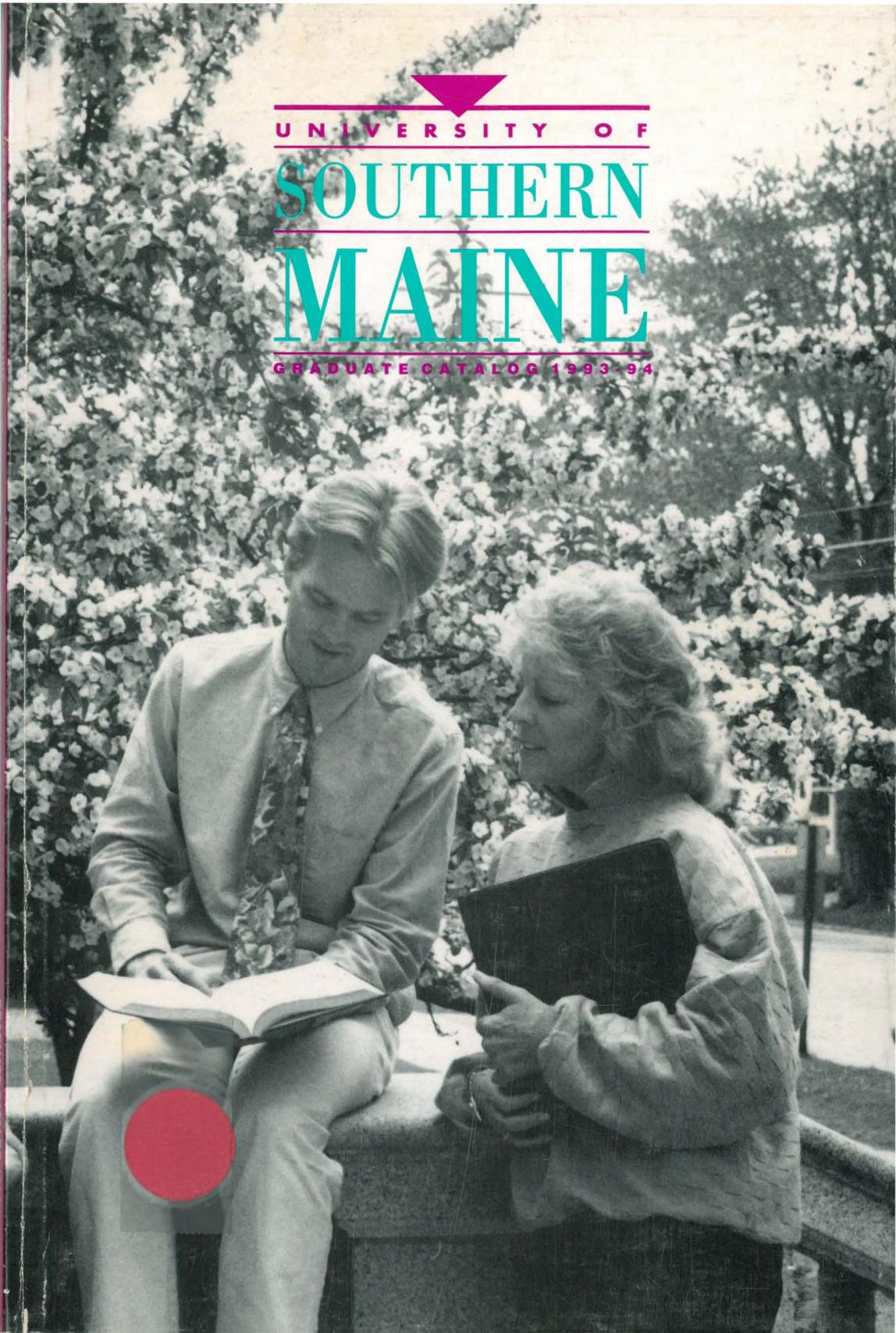
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UNIVERSITY OF

SOUTHERN
MAINE

GRADUATE CATALOG 1993-94



UNIVERSITY OF SOUTHERN MAINE

Graduate Catalog 1993-1994

University of Southern Maine

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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 shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, national origin or citizenship status, age, disability, or veterans status and shall comply with Section 504, Title IX, and the ADA in employment, education, and all other areas of the University. Inquiries about discrimination in any area of the University should be directed to EEO Director, Sue Ellen Bordwell, 7 College Avenue, Gorham, Maine 04038. (207) 780-5094, TDD (207) 780-5646 or to the Office of Civil Rights, U.S. Department of Education, Region I, John W. McCormack Post Office and Courthouse Building, Boston, Massachusetts 02109, (617) 223-9692.

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.

ACADEMIC CALENDAR 1993-1994

FALL SEMESTER

Classes Begin	Wednesday, September 1
Labor Day - No Classes	Monday, September 6
October Vacation Begins	After all classes on Saturday, October 9
Classes Resume	Wednesday, October 13
Veterans' Day - No Classes	Thursday, November 11
Thanksgiving Vacation Begins	After all classes on Tuesday, November 23
Classes Resume	Monday, November 29
Last Day of Classes	Wednesday, December 22

SPRING SEMESTER

Classes Begin	Tuesday, January 18
Winter Vacation Begins	After all classes on Saturday, February 19
Classes Resume	Monday, February 28
Spring Vacation Begins	After all classes on Saturday, March 26
Classes Resume	Monday, April 4
Last Day of Classes	Friday, May 13
Commencement	Saturday, May 14

UNIVERSITY OF MAINE SCHOOL OF LAW

FALL SEMESTER

Orientation and Registration	Wednesday, August 25 (entering class only)
First Day of Classes	Thursday, August 26 (entering class only)
First Day of Classes (upper classes)	Monday, August 30
Labor Day - No Classes	Monday, September 6
Thanksgiving Vacation Begins	5:00 p.m. on Wednesday, November 24
Classes Resume	Monday, November 29
Last Day of Classes (first year class)	Friday, December 3
Last Day of Classes (upper classes)	Wednesday, December 8
Examination Period* (for all classes)	Thursday, December 16-23

SPRING SEMESTER

First Day of Classes	Monday, January 10
Spring Vacation Begins	Friday, February 18 at 5:00 p.m.
Classes Resume	Monday, February 28
All Classes End	Friday, April 22
Examination Period*	Monday, May 2-10
Commencement	Saturday, May 14

*Examinations are regularly scheduled on Saturdays within the examination periods.

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THE UNIVERSITY

The University of Southern Maine, one of seven campuses of the University of Maine System, has been serving the higher educational needs of the region for over one hundred years, although this institution has had its present name only since 1978. The University traces its antecedents back to two institutions, Gorham State College (established in 1878) and the University of Maine in Portland (established in 1933). Today, the University is the second largest institution of higher education in the state of Maine and enrolls over 10,000 students who pursue degree programs in the College of Arts and Sciences, School of Business, Economics and Management, Lewiston-Auburn College, College of Education, School of Law, School of Nursing, the Muskie Institute of Public Affairs, and School of Applied Science. Thirty-seven baccalaureate degree programs as well as graduate and professional studies are available. The University is served by over 320 full-time faculty, most of whom hold terminal degrees in their respective fields and who distinguish themselves by a strong commitment to teaching, scholarly research, and service to the community. As a unit of the University of Maine System, the University of Southern Maine, through its students, faculty, and programs, benefits from its association and cooperation with its sister campuses.

Graduate study is today an integral part of the educational activity of the University of Southern Maine. The oldest post-baccalaureate program at the University is the juris doctor, offered by the University of Maine School of Law. The study of law has been available in Maine since the establishment of the then College of Law in 1898. The master's degree in education was the next program to be made available, enrolling students in 1964. The master of business administration degree followed in 1971. Today, all are strong programs serving the preparatory and continuing professional and educational needs of their constituencies.

More recently the University of Southern Maine has developed several new programs, some professional in nature, others interdisciplinary in emphasis. The master of science program in nursing is designed to meet the present and emerging health-care needs of the region by providing an opportunity for advanced study and clinical training in a profession that nationally has assumed greater responsibility for the preparation of its members. The master of science program in computer science is primarily professional in nature and is directed to individuals pursuing careers in industry.

The graduate program in public policy and management offers an interdisciplinary, problem-focused master's degree that prepares students for professional careers in local and state government and the nonprofit sector. Through a cooperative arrangement with the University of Maine, two master of science degree options are possible: the master of science in electrical engineering and the master of engineering in electrical engineering. The master of science in applied immunology, offered in cooperation with Maine Medical Center and the Foundation for Blood Research, prepares its graduates for either continuing study or careers in the rapidly developing field of biotechnology.

The University of Southern Maine has recently introduced three graduate programs: American and New England studies and statistics offered by the College of Arts and Sciences, and school psychology offered by the College of Education.

The University affirms that graduate education should provide the subject matter and require study at a level that builds upon the knowledge and intellectual skills acquired through undergraduate experience. It should strengthen and broaden professional competence and stimulate independent research. Indeed, research, basic and applied, is a critical component of all graduate education. To support these objectives, the University is served both by a strong faculty and the resources of associated facilities. The University Libraries contain over 350,000 volumes and more than 950,000 microforms to support graduate and undergraduate programs. Over 2,400 subscriptions to periodicals, yearbooks, and annuals as well as access to more than 500 online databases provide current information. The holdings of all the libraries in the University of Maine System may be searched and requested through URSUS, the UMS online catalog. URSUS also provides bibliographic access to the Maine State Library, the Law and Legislative Library, the Bangor Public Library, the libraries of Bates, Bowdoin and Colby, and a variety of journal indexes. The resources of other libraries around the region, the nation and the world may be identified through the OCLC network and requested electronically through the Interlibrary Loan Office.

The computing facilities at the University of Southern Maine include access to an IBM 3090 processor and an IBM 4381 processor. The primary operating system for academic use on these systems is VM/CMS which supports interactive program development and production runs. In addition to these mainframe facilities, there are over 225, fully networked, IBM compatible and Apple Macintosh microcomputers available to students in many locations throughout the campus. A DEC Ultrix network of workstations exists in the Department of Computer Science and a small DEC VMS-based cluster exists in the School of Applied Science. A few other unix based systems exist in some departments on campus.

In addition to the regular academic semesters, the Summer Session offers a wide range of coursework at the graduate level. For a schedule of summer graduate courses, please consult the Summer Session catalog.

Graduate Affairs

The Office of Graduate Affairs, in association with the Graduate Council and the academic deans, coordinates graduate activities at the University of Southern Maine. The Graduate Council is made up of elected faculty representing various graduate programs. The Council provides advice regarding the quality and standards of graduate education, review of existing and proposed programs, and policy and procedures regarding admissions, degree requirements, and related matters. The director is responsible for the operation of the Office of Graduate Affairs. All graduate students are invited to visit this Office, located at 39 Exeter Street, on the Portland campus. Graduate students are also advised to maintain close contact with the appropriate director or graduate coordinator in that school, college, or program.

ADMISSIONS

The following policies and procedures apply generally; consult the particular degree program for specific information.

General Policy

To be admitted to graduate study, an applicant must have received a baccalaureate degree or the equivalent from an accredited college or university and show promise of ability to pursue advanced study and research in the appropriate program.

Required Submissions

- A. A completed application.
- B. Letter(s) of recommendation.
- C. Official transcript(s) of all previous undergraduate and graduate work.
- D. Official score(s) from standard tests (e.g., Graduate Record Examination, Miller Analogy Test). Scores must be for tests taken within five years of application deadlines.
- E. Official TOEFL scores of 550 or higher, if the applicant is a foreign student.
- F. A nonrefundable \$25 application fee with the application.
- G. Such other materials as may be defined by the school or college.

For additional policies and procedures governing application to a particular school or college at USM, please refer to the program description in this catalog under each of the respective schools or colleges.

Submission of Application

Except for graduate programs in the College of Education, all documents relating to an application for admission to graduate study are to be sent to the Office of Graduate Affairs, which is located on the Portland campus. All materials relating to graduate study in the College of Education should be sent directly to the Office of Graduate Education, which is located on the Gorham campus. Once all materials are received they will be forwarded to the appropriate graduate unit for review. Final action on the status of the application is taken by the respective graduate program. Notification of final action is made by the Office of Graduate Affairs or the Office of Graduate Education. All papers relating to an application become the property of the University of Southern Maine. Applicants are responsible for seeing that all application materials are received by the appropriate office prior to the application deadline.

Application Deadlines

Applications for admission and supporting material must be received by the Office of Graduate Affairs or the Office of Graduate Education by deadlines set by the individual graduate programs. Please refer to the appropriate program description for specific information.

Deadline for Enrollment

An applicant admitted for full-time or part-time study must register in that semester for which he or she has been admitted unless other arrangements are made.

Immunization Law

Maine State law requires all individuals born after December 31, 1956, who plan to enroll in a degree program or plan to take 12 or more credits, to show proof of immunity against measles, rubella, diphtheria, and tetanus before registering for classes.

Immunization records must be on file with Student Health Services before students will be allowed to register for classes.

Specific information about immunization requirements is sent with admissions packets, and is also available in most departments and at Student Health Services. The Immunization Hotline number is 780-4504.

Readmission

A student previously registered in a graduate program who has failed to maintain continuous enrollment or who has withdrawn or been withdrawn from the program or a student who has failed to matriculate in accordance with the enrollment deadline and who wishes to resume studies must file an application for readmission to graduate school by the regularly published deadlines for the semester or summer session and register during the usual registration period. The application for readmission is to be accompanied by official transcripts of any work attempted in the interim.

Classification of Admissions

Regular admission is granted a student who has a record of high scholarship and about whom there is no question of ability to carry on graduate study.

In some instances, conditional admission may be granted to a student who does not meet the established requirements or standards provided there is sufficient evidence to show that the student is capable of doing satisfactory graduate work. Prospective students should consult the specific graduate program for further information. Those programs admitting students conditionally determine the conditions to be met to change to a regular status.

Foreign Student Applications

Students whose first language is not English are required to take the Test of English as a Foreign Language (TOEFL) and submit scores as part of the application documents. *Only applicants with TOEFL scores of 550 or higher will be considered for admission to a graduate program.* Transcripts from foreign universities should provide the student's rank in class, be translated to English, and be notarized.

Admissions Credit

Admissions credit is credit earned for graduate coursework completed at the University of Southern Maine after the student has made formal application to a graduate program but prior to matriculation into a graduate program.

Admissions credit must be approved by the appropriate graduate program prior to course registration and is subject to the condition that a grade of B or better is received for the coursework. For the maximum number of admissions credits allowed, please consult the appropriate section of this catalog for the specific graduate program. Not all graduate programs may grant graduate admissions credit.

Transfer Credit

Transfer credit is credit earned for coursework prior to matriculation in a graduate program at the University of Southern Maine. Such credit is normally approved only at the time of admission and request for approval must be included as part of the admissions application. The amount of transfer credit accepted is determined by each graduate program. Additional credit may be approved by the appropriate graduate program in unusual circumstances. Transfer credit will not be approved for: 1) courses that would not have received graduate credit if taken at the University of Southern Maine; 2) correspondence courses; 3) courses that exceed time limits prescribed for a particular degree program; 4) courses in which a grade lower than a B was received; 5) courses that are inappropriate for inclusion in the student's program of study. For specific program policies regarding transfer credit, please consult the appropriate section of this catalog.

Admission of the Handicapped

The University does not discriminate against qualified applicants on the basis of a physical or mental handicap. All classroom buildings and two dormitories are equipped with ramps for wheelchair access. The University Library contains a Kurzweil Reading Machine to assist the visually impaired. Most elevator buttons are coded in braille. An applicant reporting a physical handicap will be advised to schedule an interview with the University Coordinator of Academic Support Services for Students with Disabilities.

Academic Support for Students with Disabilities

The Academic Support for Students with Disabilities Office works with students to overcome obstacles they may face and to develop strategies and support services for achieving academic success at the University of Southern Maine.

Any USM student with a physical, hearing, medical, emotional, or learning disability who is taking a credit bearing course is eligible for services. Students may be asked to provide documentation.

Academic services may include: tutors; notetakers; taped readings; test proctoring; extra time on tests; interpreters (when appropriate). Students are advised to contact the office before each semester to plan their programs so that appropriate accommodations can be made. A lift-operated van is available upon request to provide transportation between campuses for students with wheelchairs. The Academic Support for Students with Disabilities Office is located in Payson Smith Hall on the Portland campus. Call 789-4706 (voice) or 780-4395 (T.D.D.) to schedule an appointment.

Appeal of Admissions Decision

Applicants may appeal an admissions decision by submitting a written appeal to the dean or director of the appropriate program. The appeal will be reviewed by the appropriate graduate program faculty, and the dean or director will notify the student of action taken on the appeal. Should the student wish to pursue the appeal process further, a written appeal should be submitted to the director of Graduate Affairs. The applicant's letter should include all information she or he believes should be taken into account in reviewing the decision. Still further appeal of the admissions decision may be made to the provost and vice president for Academic Affairs.

FINANCIAL INFORMATION

Tuition rates are established by the University of Maine System Board of Trustees. The University reserves the right to adjust these charges to respond to changing costs, state and/or federal legislative action, and other matters. Such adjustment may be made at any time. A student acknowledges this reservation by applying for admission or registering for courses.

There are three types of tuition charged: undergraduate, graduate, and law. The type of tuition charged is usually determined by the level of the course. Tuition charges are calculated by multiplying the number of credit hours attempted by a rate established by the University. Courses being audited are included in this calculation.

Tuition

Charges in effect as of July 12, 1993

	<i>Graduate</i>	<i>Law</i>
Maine Resident	\$132.00	\$228.00
Non-Maine Resident	\$373.00	\$452.00
New England Regional Program	\$198.00	\$342.00

Fees

Activity Fee This is a mandatory fee charged each semester. Students enrolled in law courses are charged \$20.00.

Application Fee A mandatory \$25.00 fee is charged to an applicant who has not previously matriculated at the University of Southern Maine. This fee is charged only once.

Commencement Fee A mandatory \$25.00 fee charged to a student who completes degree requirements. This fee must be paid at least six weeks prior to Commencement. Law students are not charged this fee.

Course Fees A mandatory fee is assessed for some courses. These fees cover costs associated with specialized instruction. Additional information is provided in University course listings.

Health Service and Insurance Package Students living in University residence halls or commuter students paying the health fee may purchase insurance under a policy issued to the University of Southern Maine. Students who do not live in University residence halls cannot purchase insurance without paying the Health Service Fee. Students must be registered for six or more credits to participate. More information about the policy is available from the Health Centers.

Health Service Fee The University operates health service facilities on both campuses. During the academic year, students living in University residence halls are entitled to almost all services at no charge. By paying the \$75.00 Health Service Fee, commuter students gain the same benefits for the full academic year; the spring semester charge is \$40.00. Detailed information about the scope of services is included in the brochure describing the Student Health Fee and Insurance Package, available from the Health Centers located in Upton Hall, Gorham (780-5411) and the Gym, Portland (780-4211).

Installment Payment Fee A \$15.00 fee is charged students participating in the University's three and/or four payment plans. There is a \$50.00 fee assessed those enrolling in the ten payment plan.

Insufficient Funds Fee A \$5.00 fee charged when a student's check is returned or a bank card is declined for insufficient funds.

Late Fee A mandatory \$25.00 fee charged students who do not pay University bills when due.

Matriculation Fee A mandatory one-time \$15.00 fee charged to create a student record when a student begins pursuing a degree within the University of Maine System.

Parking Fee A sticker, allowing a student to park on campus, costs \$20.00.

Recreation Fee A mandatory \$1.00 per credit charge assessed to all students. The maximum charge is \$12.00.

Technology Fee A mandatory \$3.00 per credit charge assessed all students.

Transcript Fee Students are charged \$3.00 for an official copy of an academic transcript.

Room and Board

Board The University offers a variety of meal plans. Information about the meal plans is available from Student Life, Room 100, Upton Hall, Gorham (telephone 780-5240).

Resident and Commuter Meal Plans	
19 meal plan with \$15.00 in points	\$1,098.00 per semester
17 meal plan with Portland Exchange	1,098.00 per semester
16 meal plan with \$50.00 in points	1,025.00 per semester
6 meal plan with \$325.00 in points	825.00 per semester
13 meal plan with \$90.00 in points	1,025.00 per semester
10 meal plan with \$130.00 in points	1,025.00 per semester

Portland Exchange

The 17 meal plan with Portland Exchange allows students to purchase meals in the Portland Campus Center without using points.

Commuter Only Plan

Commuter students can purchase discount meal tickets. Information about the plans is available from the Department of Student Life and Dining Services.

Room University residence halls are located on the Gorham campus and at 645 Congress Street in Portland. Information about housing is available from Student Life, Room 100, Upton Hall, Gorham (telephone 780-5240).

Gorham, Single Room (Towers)	\$1,324.00 per semester
Gorham, Single (Robie/Andrews Upton)	\$1,352.00 per semester
Gorham, Double Room	\$1,127.00 per semester
Portland, Double or A-Wing	\$1,171.00 per semester
Portland, B-Wing	\$1,115.00 per semester
Portland, YC-Wing or Suite	\$1,260.00 per semester
Portland, Studio	\$1,449.00 per semester

All rates are based on full occupancy. An additional \$200 is charged students in undercapacity residences.

Students living in University housing may obtain limited telephone service for \$60.00 per semester. Contact Student Life for information about enrollment and restrictions.

A limited number of parking spaces are available for students living in Portland Hall. A \$120.00 rental fee is charged each semester.

Telephone Fee Students living in University housing may purchase telephone service. Information about rates and restrictions is available from Student Life.

Other Expenses

Books and Supplies Students are responsible for the purchase of books and supplies. Payment is made at the time of purchase.

Deposits

Students admitted to the School of Law must pay a nonrefundable \$200.00 tuition deposit by April 15 or within two weeks of acceptance if admitted after April 1. An additional \$200.00 deposit is due by June 15. Checks should be mailed directly to the School of Law. This deposit will be applied to tuition charges if the student registers and remains enrolled; otherwise it is forfeited. With permission of the Law School, payment may be postponed in cases of extreme hardship. Other graduate programs do not require a deposit.

Newly admitted students who are approved for on-campus housing must also pay a \$75.00 room deposit. After a student registers, these deposits are applied to his or her account. These deposits are forfeited if an applicant for September admission withdraws after May 1, or if an applicant for January admission withdraws after January 1. Applicants who provide the Admissions Office with written notification of withdrawal before the previously mentioned dates will have the deposit refunded.

The Department of Student Life establishes and publicizes dates for room selection each spring. Students who are registered for spring semester and request on-campus housing for fall are required to pay a \$75.00 room deposit. Usually, this deposit is applied to the fall bill. If a student notifies Student Life that housing is not desired before May 1, this deposit will be refunded. If notification is received after May 1, the deposit is forfeited.

Payment Policies and Procedures

Billing Each semester, the University establishes specific dates for charging students and mailing bills. It is the student's responsibility to maintain accurate home and local addresses at the Registrar's Office. Students registering during some Orientation Sessions, the open registration period, and after classes start are billed at the time of registration. The University is not obligated to mail a bill.

How To Make Payment The University offers a variety of payment options.

Cash Cash payment may be made at the Student Billing Office or at an off-campus center. Cash should not be mailed.

Checks Checks should be made payable to the University of Southern Maine. The student's name and Social Security number should be shown on the check.

Credit Cards The University accepts both MasterCard and Visa.

Financial Aid From USM The University offers eligible students grants, scholarships, loans, and employment opportunities. Grants, scholarships, and loans are credited for payment of University charges. Additional information can be obtained from Student Financial Aid.

Installment Payment The University offers a variety of payment plans. Additional information about these plans and enrollment deadlines are available from Student Billing.

Outside Scholarships Students must notify Student Billing of any non-University scholarships, to be used to pay University charges, prior to the date payment is due. Upon receipt of proper documentation, the University may extend the payment due date.

Third Party Payments A student must give Student Billing written authorization from the agency/employer prior to the payment due date. No conditional payment offers will be accepted.

When Payment Is Due Each semester, the University establishes specific dates payment is due and notifies students of these dates on bills and through University publications.

Adding Courses Costs associated with credit hours added after the semester begins must be paid at the time of registration.

Other Charges After the semester starts, additional charges must be paid as they occur.

A late fee is charged if payment is not received by the due date. Students with past due charges are not allowed to re-register. Students who show a pattern of late payment may be required to pay all University charges before registration is accepted. The University also reserves the right to cancel a current semester's registration, preventing a student from receiving grades or credit for courses, if outstanding charges are not paid. Transcripts, certification of graduation, and other records will be withheld from students who have not paid all bills and loans due the University. This includes bills for damage to University property, unpaid charges, or fines owed due to violation of University motor vehicle regulations and library fines.

Add/Drop

Students may add and/or drop courses during the first week of the semester without incurring a financial obligation. When a student drops a course after the end of the first week, a tuition refund will be calculated in accordance with the schedule shown in the following section. University fees are not refunded after the first week. This schedule adjustment period begins with the first day of scheduled University classes and includes weekends and holidays. The date the Registrar receives written notification that a student is dropping a course is used to determine the amount of refund, if any.

Refund Policy

The charges assessed students who withdraw from the University are adjusted in accordance with the schedules shown below. The date the Registrar receives written notification of withdrawal is used when calculating refunds. A semester begins with the first day of scheduled University classes and includes weekends and holidays.

Failure to notify the Registrar promptly will increase financial liability. A student who feels the withdrawal was caused by reasons beyond his or her control (extended illness or military service obligations, for example) may petition for special consideration. Such requests will be considered only if received within one year of the end of the semester involved. Charges will not be reduced for voluntary absence from classes. Contact the Student Billing Office for additional information about this procedure.

Tuition and Room Refunds The following schedule applies when a student withdraws from the University. University fees are not refunded after the 100% refund period. Students who vacate University housing, but remain enrolled, will be charged in accordance with the terms and conditions of the Residence Hall contract.

<i>Fall and Spring Semester</i>	<i>Refund Percentage</i>
Withdrawal prior to the end of the first week	100%
Withdrawal prior to the end of the second week	75%
Withdrawal prior to the end of the third week	50%
Withdrawal prior to the end of the fourth week	25%
Withdrawal after the fourth week	0%
<i>Special and Summer Sessions more than three weeks</i>	
Withdrawal prior to the first day of class	100%
Withdrawal prior to the end of the first week	75%
Withdrawal prior to the end of the second week	50%
Withdrawal prior to the end of the third week	25%
Withdrawal after the third week	0%

Special and Summer Sessions that are three weeks or less

Withdrawal prior to the first day of class

100%

Withdrawal prior to the end of the first week

50%

Withdrawal after the first week

0%

Board Refunds Students who withdraw from the University are charged for meals at an established daily rate. Additional information is available from the Department of Residence Life.

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

A student is classified as eligible or non-eligible for in-state tuition at the time of acceptance to the University. The decision, made by the executive director for Financial Resources, 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 once having registered as an out-of-state student is eligible for in-state classification unless he or she has been a resident of the state of Maine for at least a 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 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" Form to the executive director for Financial Resources, or other designated official. If the executive director for Financial Resources' decision is considered incorrect by the student:
- B. The student may appeal that decision in the following order:
 1. To the vice president for Administration.
 2. To the president of the campus.
 3. To the treasurer of the University System, whose decision shall be final.

In the event that the executive director for Financial Resources, 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 of status and will be given an opportunity to present facts in opposition to the change. The student may appeal the decision of the executive director for Financial Resources 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.

New England Regional Program

In cooperation with the New England Board of Higher Education the University offers certain graduate 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 50 percent. Because the listing of available programs varies from year to year, candidates should consult the *New England Regional Student Program Graduate Catalogue*. This catalog is available for review in the Office of Graduate Affairs and Office of Graduate Education. Copies may be obtained from the New England Board of Higher Education, 45 Temple Place, Boston, Massachusetts, 02111.

STUDENT FINANCIAL AID

Students admitted to a master's degree program at the University are eligible to apply for financial aid from a variety of sources. The Student Financial Aid Office administers loans and employment programs for financially needy students. Maine lending institutions offer eligible students low interest student loans. Some employers offer assistance in the form of tuition reimbursement, flexible scheduling, or paid educational sabbaticals. Scholarship assistance may also be available from organizations, clubs, or religious groups of which the student or his or her family is a member. The University is also approved by the Veterans Administration for payment of veteran's benefits.

Eligibility for Aid

To receive financial assistance, a student must be admitted into a degree program at the University and must be enrolled for at least six credit hours for a semester. Aid can be granted only to U.S. citizens and certain non-citizens. Non-citizens who think they might qualify are encouraged to contact the Student Financial Aid Office for more information.

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 or her family are expected to contribute, when able, from income and assets to meet college costs.

The deciding factor in the establishment of a student's eligibility for financial aid is that of documented financial "need"; that is, when an applicant has been determined to have insufficient family resources to meet the cost of attending the University of Southern Maine, she or he is eligible for assistance. Since the federal government provides most of the funds the University allocates to its students, family resources are assessed in accordance with a formula required by the U.S. Department of Education.

Aid applicants must also meet standards of Satisfactory Academic Progress in their chosen course of study. These standards are set by the University in accordance with federal financial aid regulations and are in addition to the requirements established by the dean or director of an academic program. A full explanation of these standards may be found in a separate publication entitled "Financial Aid Policies" available in the Student Financial Aid Office.

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 are exempt from registration.

Students must also submit a statement certifying that they are not in default on repaying a student loan and do not owe a repayment of federal grant funds. This statement is provided by the Student Financial Aid Office. Students who are in default or owe a repayment are not eligible for assistance.

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

Application Procedures

To apply for financial assistance from the University of Southern Maine, new and continuing graduate students must complete a Free Application for Federal Student Aid (FAFSA) and submit it directly to the Federal Student Aid Programs in Iowa for processing. In addition, each student must also complete a USM Institutional Application and provide a signed copy of his or her most recent federal income tax return to the Student Financial Aid Office.

Students are encouraged to apply for assistance as early as possible. To ensure a fair distribution of funds, priority filing dates are established for fall semester aid applicants. The 1993-94 priority filing dates are:

New Students (All Other Graduate)	March 1
Continuing Graduate Students	March 30

The FAF should be received by the processor by these dates. Tax return information should be received in the Student Financial Aid Office by March 30. Applications are accepted after the priority filing dates, although the type and amount of aid offered may be reduced subject to funding limitations. Applicants who file after the priority filing date will probably receive delayed notification and may not have funds available in time to pay semester bills.

Entering graduate students who have attended colleges or universities other than the University of Southern Maine cannot receive any federal financial aid until the Student Financial Aid Office has received and evaluated a Financial Aid Transcript certified by the students' prior institution. The Financial Aid Transcript(s)

are required even if the student received no financial aid from the previous institution(s). To avoid delay, the student should arrange to have a certified Financial Aid Transcript sent by the prior institution's financial aid office at the time of original application.

How Financial Aid Is Allocated

The University begins reviewing student aid applications in early spring. Once a student is accepted, all necessary financial aid application materials are 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 Student Financial Aid Office. 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 funds, the amount of aid may be adjusted if the student's financial situation changes. Students (and, when appropriate, 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 USM.

Types of Aid Available

Graduate Assistantships are available in most programs. Generally, the assistant is required to pursue graduate studies (at least 6 hours of credit per semester or 9 hours of credit for foreign students) and to assist in supervising undergraduate instruction or conducting research. In compensation, the assistants are generally paid a yearly stipend plus up to 9 hours of tuition assistance each semester. Assistantships are awarded by the Office of Graduate Affairs on the recommendation of the individual graduate programs. Interested students should first contact the Office of Graduate Affairs.

Federal Work Study is a program funded by the University of Southern Maine and the federal government. A student's financial need governs the amount that can be earned.

Federal Perkins Loans are funded by the federal government, the University, and former borrowers repaying loans. No repayment is required until after the student ceases his or her education. Once repayment begins, the student is charged 5 percent 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.

Federal Stafford Student Loans (subsidized) is a program sponsored by the federal and state governments that allows students to secure low-cost loans. Eligibility for subsidized Federal Stafford Loans is based on demonstrated financial need. Contact your local bank, credit union, or savings and loan institution for more information.

Federal Stafford Student Loans (unsubsidized) is a new program under the Federal Family Education Loan Program that allows students to secure low cost loans. This program is available to all students. Contact your local lending institution for more information.

Federal Supplemental Loans for Students is a program sponsored by the federal and state governments. Students may qualify for additional borrowing. Contact your local lending institution for more information.

Alternative Loans such as MELA, TERI and ALPS are credit-based loan programs which provide long term financing options for qualified students. Additional information about these programs may be obtained from the Student Financial Aid Office.

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, Malecite, or Micmac Tribes. Certification of tribal status is required.

Veterans Educational Benefits Students eligible for educational assistance from the Veterans Administration are encouraged to contact the Veterans Affairs Office 30 days before the start of each semester. The Veterans Affairs Office is located in the Registrar's Office.

Trustee Tuition Waivers A limited number of tuition waivers are available. The awards are based upon academic achievement and promise, special talents, potential to make unique contributions to the University community, and USM's commitment to expanding the pluralistic character of its student body. Further information may be obtained from the dean's office of the student's school or college.

For additional information, contact the Student Financial Aid Office, 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 Student Financial Aid Office 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.

ACADEMIC POLICIES

Courses offered for graduate credit are those listed in the graduate catalog or other official publications. The determination of whether or not a particular graduate course fulfills degree requirements, however, is the responsibility of the individual graduate program. Courses numbered 600 are restricted to graduate-level students.

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; B; C; D; F.

Other letter grades are as follows:

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 course requirements. Incomplete grades must be resolved by the end of the 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 (failure) 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 may assign students invalid grades for a course, or may 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 semester. The Registrar shall notify faculty members involved, and their departmental chairperson, 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 resolution to a specific period.

W Withdrawal after the first week through the eighth week of a semester. If a student has not officially withdrawn by the end of the eighth week of the course, one of the above regular grades, normally F, will be assigned. The W notation may be obtained after the eighth 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, audit basis.

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 a course. At that time, the record becomes permanent and cannot be changed.

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 is maintained by the Office of the Registrar for all students. While the grade report is the unofficial notification to the student, academic dean and advisor of that 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 only if there are no outstanding charges against his or her account with the Business Office. There is a charge of three dollars per transcript. 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. A Placement Transcript is unofficial, but may be reproduced by the Placement Office for prospective employers at no additional cost.

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.

Grade Point Average

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

D+, D, or F grades are not acceptable for graduate work. Students receiving such grades will be reviewed for retention in the graduate program.

Add/Drop

During the first week of a semester, students may add or drop courses and select or reverse the pass-fail option. Adds require the signature of the instructor, but drops should be completed with the Registrar without signature. Drops processed during the first week do not have financial penalty. Drops completed after the first week may result in a partial refund in accordance with the refund schedule in the Financial Information section of this catalog. The procedure enables the student to make the necessary changes in the planned curriculum. A student dropping a course after the second week through the eighth week of classes will receive the grade notation of W. If a student has not officially withdrawn by the end of the eighth week of the course, she or he will be assigned a regular grade, normally F. The W notation may be assigned after the eighth 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 according to any one of the procedures described above will be graded F in that course and must assume all financial obligations associated with the course.*

Enrollment and Auditing

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.

The following policies apply generally to graduate programs. Consult each degree program for specific policies.

Credit for Undergraduate Work

A graduate student may be able to apply six credit hours of undergraduate work to his or her graduate program according to the determination of the particular program of study. In all cases, the following conditions must be met to apply undergraduate credit to a graduate program:

- A. Coursework must be earned after the student has been granted matriculation status in a graduate program.
- B. Coursework must add breadth or depth to the student's program of study.
- C. Coursework is not of a remedial nature to correct a deficiency.
- D. No equivalent or comparable graduate course exists at the University of Southern Maine.
- E. Coursework receives prior approval of the student's advisor, course instructor, and graduate program director.
- F. Coursework is earned in upper-level undergraduate courses (i.e., 300-400 level courses).
- G. Grade of B or better is earned for the coursework.
- H. Coursework meets all existing graduate course requirements except the course number requirement.

Requirements of Graduate Study

Thesis Requirements

The requirement of a thesis is determined by each particular graduate program.

Oral and Written Comprehensive Examination

The requirement of an oral and/or written comprehensive examination is determined by each graduate program.

Directed Study

A degree student may earn up to nine hours of independent study or directed study. All independent study or directed study must be approved by the appropriate graduate program. Students are encouraged to consult with their faculty advisor regarding regulations governing independent study for particular programs.

Continuous Enrollment and Residency

Continuous enrollment requires that every graduate student must earn at least six credits towards his or her degree program every calendar year from the time of the first registration until completion of all requirements for the graduate degree. Students enrolled for thesis advisement, however, may take fewer than six credits per calendar year. Continuous enrollment fulfills the residency requirement.

Leave of Absence

In extenuating circumstances a student may petition for exception to the continuous enrollment policy; the petition must bear approval of the student's advisor and director of the graduate program. Notification must be sent to the Office of Graduate Affairs or Office of Graduate Education.

Time Limit

The time limit for completion of a graduate degree is dated from the date of first matriculation and is either five or six years, depending on the requirements of the particular graduate program.

Academic Grade Appeal Policy

The purpose of the academic grade appeal policy is to provide a fair and speedy review of all student appeals of academic grades in graduate/professional programs at the University of Southern Maine that will permit such appeals to be determined in a manner that reflects the interests of both the student and the instructor. The only matters reviewable under this policy are claims of prejudice on the part of an instructor in an academic exercise or activity for which a grade leading to academic credit is awarded, and/or evident and prejudicial error in the administration or grading method used for any paper, examination, performance, or other exercise or activity for which a grade leading to academic credit is awarded; provided that the academic judgment used in determining on the merits the grade to be awarded to such exercise or activity shall not be reviewable.

An appeal under this policy shall be carried out according to the following procedures:

1. The student should present his or her complaint, in writing, to the instructor involved and shall seek to have the matter resolved by the instructor. In no event shall there be a right of appeal hereunder for a complaint presented to the instructor more than 30 days after a final grade is mailed to the student or made available to the student through a registrar or official performing a similar function.
2. If the student remains aggrieved by the decision of the instructor under step (1), he or she may, within 15 days after the instructor's final decision, appeal, in writing, to the chairperson of the department, or program director, or dean of the college in which the course or other exercise or activity is offered.
3. The chairperson, program director, or dean, after discussion with the student and instructor, may resolve the grievance by agreement or render a decision within 60 days of receipt of the written appeal. The decision may be (a) that the appeal be dismissed or (b) that a grade be changed or the student be allowed an opportunity to retake an examination or other exercise or (c) that another appropriate remedy be administered.

The student or the instructor may, within 30 days of the receipt of the decision of the chairperson, program director, or dean, appeal to the provost in writing, stating the reason for the appeal and delivering a copy of the writing to the opposing party and the chairperson, program director, or dean. The opposing party may, within 10 days of receipt of the reasons for appeal, reply in writing to the provost. The provost shall review the original complaint, the written decision of the chairperson, program director, or dean, and the written reasons for the appeal and reply. The provost shall, within 60 days of receipt of the appeal and after reviewing the matter, prepare a written decision which shall uphold the decision of the chairperson, program director, or dean, or prescribe any other appropriate remedy. The provost's decision shall be final and not subject to further review. Copies of the decision of the provost shall be delivered to the student, the instructor, and the chairperson, program director, or dean.

Registration Policies

Advance Registration

Matriculated graduate students may register for courses during an advance registration period. Advance registration for the spring semester is conducted near the end of the fall semester and registration for the fall semester is conducted near the end of the spring semester. Matriculated students are encouraged to register during the advance periods to increase the probability that they will obtain desired courses. No payment of tuition or fees is due during advance registration. For information regarding payment of bills, see the Financial Information section. For further information on advance registration, contact program offices.

Open Registration

Students who have not registered during the advance registration period may register during the week prior to the start of classes each semester. For specific information regarding this open registration process, contact the Registrar's Office, (207) 780-5230.

Registration Status

Full-time registration is for 9 or more degree credits; part-time registration is for 8 degree credits or less. *Note:* For the purpose of eligibility for graduate assistantships or financial aid, credits required for full-time status may differ. Please consult the Office of Graduate Affairs or the Student Financial Aid Office for current requirements.

Student Advisement

Each degree student will be assigned a faculty advisor upon admission to a program. Students are encouraged to maintain regular contact with their faculty advisor throughout their program of study.

Extramural Course Credit

Courses taken at other institutions may be accepted as part of the graduate program provided they are taken after the student has matriculated and that prior approval is granted by the student's advisor and program director. Extramural credit is not approved for: 1) courses which would not have received graduate credit if taken at the University of Southern Maine; 2) correspondence courses; 3) courses which are inappropriate for inclusion in the student's program of study; 4) courses in which a grade lower than B was received.

Substitutions and Waivers

In certain circumstances a degree student may request a substitution or waiver of program requirements. The program director should be contacted if a substitution or waiver of a requirement is requested.

Degree Progress

The definition of satisfactory progress towards completion of a degree is determined by the particular graduate program. However, in any semester in which the cumulative GPA falls below 3.0 (B average) the student will be placed on probation and must bring the cumulative GPA to 3.0 level within the time set by the graduate program or the student will be withdrawn from the program and must apply for readmission.

Plagiarism

The development of original thinking and intellectual honesty are regarded as central to a graduate education. Although in the pursuit of these goals students will continually consult existing works, it is expected that they will acknowledge the debt owed to others by citing all sources.

Plagiarism, the use without attribution of language, ideas, or the organization of ideas not one's own, is a fundamental breach of basic academic principles and is prohibited in all courses. Unless group work is assigned, coursework is normally completed independently. If books, journals, magazines, or any other sources are reviewed and the ideas or language therein used, they must be cited. Where specific guidelines are not given, students should consult a reference source on proper notation.

Evidence of plagiarism will result in a grade of F for the assignment and may, at the discretion of the instructor, lead to an F in the course. In addition, further sanctions (i.e., censure, probation, suspension, or dismissal) may be imposed through the Student Conduct Code.

Withdrawal

Withdrawal from the University of Southern Maine may be for personal reasons on the part of the student, academic reasons as determined by the program requirements, or by administrative decision.

A. Student Withdrawal. To withdraw from the University the student must submit an official Withdrawal Form to the Registrar's Office and complete an exit interview with his or her advisor.

B. Academic Withdrawal. If a student has not made satisfactory progress towards fulfilling degree requirements (see above), he or she may be withdrawn from the University by the program director or department chair.

C. *Administrative Withdrawal.* A student may be withdrawn from a particular graduate program for reasons of a professional nature as determined by the program director or department chair. Such withdrawals must have approval of the director of Graduate Affairs.

If a student withdraws or is withdrawn from the University during the first week of the semester, there will be no courses or grades recorded. A student withdrawing or being withdrawn after the first week through the eighth week will receive a W grade for each course in which the student was enrolled. A student withdrawing or being withdrawn after the eighth week will receive regular grade designations as determined by the instructor(s). Under unusual circumstances grades of W can be assigned after the eighth week if approved by the instructor and the director of the program, and with final approval of the Office of Graduate Affairs.

Program Transfer

A matriculated graduate student admitted to a particular program of study at the University of Southern Maine may request a program transfer within the University of Southern Maine. Formal application to the transfer program must be submitted in the usual fashion described under Admission. Transfer requests will be reviewed by the appropriate program faculty according to the admissions calendar. Transfer of credit will depend upon the requirements of the individual program. **Quality points do not transfer.**

Graduation

Graduation Requirements

To be eligible for graduation from a graduate degree program a student must:

- A. Complete satisfactorily the number of graduate credit hours required in the program with a 3.0 grade average. All courses completed for graduate programs must be passed with a minimum grade of C.
- B. Complete satisfactorily all program degree requirements as defined in the particular graduate program (e. g., thesis, comprehensive examination).
- C. Submit a completed application for graduation and a Commencement Fee to the Registrar.

Certification for Graduation Each graduate program is responsible for certifying fulfillment of graduation requirements by a student to the Office of Graduate Affairs or the Office of Graduate Education.

Commencement Ceremony A graduate may participate in a commencement ceremony only if he or she has completed all degree program requirements and has been certified for graduation by the program.

Students may request exception to graduate study policies or appeal a decision based on these policies. Contact the Office of Graduate Affairs for procedures.

SCHOOL OF APPLIED SCIENCE

Dean: Brian C. Hodgkin

Assistant Dean: Richard H. Carter

The School of Applied Science offers the master of science degree in computer science; and through a cooperative arrangement, the master of science and the master of engineering in electrical engineering are extended from the University of Maine through the Center for Engineering Studies. Graduate courses in civil engineering are frequently available. The master of science degree in applied immunology is offered in collaboration with the Maine Medical Center and with the Foundation for Blood Research. Graduate courses are also offered in epidemiology.

MASTER OF SCIENCE IN COMPUTER SCIENCE

Chair: Charles Welty

Professors: Heath, Welty; *Associate Professors:* Briggs, MacLeod; *Assistant Professors:* Boothe, Fenner; *Adjunct*

Faculty: El-Taha

Program Description

The master of science in computer science program is designed to provide the student with a thorough knowledge of the concepts, theory, and practice of computer science as well as develop the student's ability to analyze critically solutions to problems and to make sound professional decisions. Students will be prepared for positions of responsibility and expertise. Graduates may assume positions involving such diverse activities as the design, implementation, and testing of software products; the development of new hardware technology; and the analysis, construction, and management of large-scale computer systems. Graduates will possess a good foundation for further study in computer science.

Admission

Each student applying for full admission must meet the following requirements (conditional admission status may be granted to students who do not fully meet these requirements):

1. A baccalaureate degree from an accredited institution with grade point average of at least 3.0 on a 4.0 scale (B average).
2. The following USM courses or their equivalent with an average grade of 3.0:
 - COS 160 Introduction to Programming: Pascal
 - COS 161 Algorithms in Programming
 - COS 250 Computer Organization
 - COS 280 Discrete Structures
 - COS 285 Data Structures
 - COS 360 Programming Languages
 - MAT 152 Calculus A
 - MAT 153 Calculus B
3. Official scores for the Graduate Record Examination (GRE) and GRE Advanced Computer Science Test.

Admission to the master's program is competitive and based on an evaluation of the application materials by the Computer Science Graduate Admissions Committee.

Applicants meeting the entrance requirements for a master's in computer science will be granted regular admission status. Applicants not meeting the entrance requirements of the program may be granted conditional admission during which time the student must compensate for any specific academic deficiency. The Computer Science Graduate Admissions Committee will designate specific undergraduate computer science and mathematics courses to remedy admissions deficiencies. These courses will carry no credit toward the master's degree and must be successfully completed and must precede the completion of 12 hours of graduate credit. Upon successful completion of the designated preparatory coursework the student may be granted regular admission status.

Application Materials

In addition to the materials described in the Admissions chapter, applicants for this program must submit three letters of recommendation attesting to the candidate's academic and/or professional accomplishments.

Application Deadlines

The application deadline is March 1 for fall semester (September) and October 1 for spring semester (January) admission.

Program Policies

In addition to the general policies described in the Academic Policies chapter, specific policies of this program are as follows.

Transfer Credit A maximum of 9 credit hours of transfer credit may be used toward the degree.

Time Limit All required courses for the M.S. degree must be completed within six years prior to graduation. Otherwise, additional coursework must be taken to fulfill program requirements.

Program Requirements

The master's program requires a minimum of 30 credits. Of these, 24 must be in coursework; the remaining 6 credits must be master's project credit. The required coursework must include an approved sequence of at least 8 courses. Six of these courses must be approved computer science offerings of which at least 4 must be graduate (500-600 level) courses.

Students may receive graduate credit for taking up to two upper-level courses offered by other programs subject to approval in advance by the computer science faculty. To ensure breadth in the field, each student is required to take COS 450 Operating Systems, COS 480 Introduction to Theory of Computing, and MAT 380 Probability and Statistics (MAT 381 may be substituted for MAT 380), or their equivalent. One or more of these course requirements will be fulfilled if it is determined that the student has successfully completed equivalent coursework at the undergraduate level. However, graduate credit will not be given for courses taken to fulfill undergraduate requirements. Any other 300- or 400-level courses must be approved in advance by the computer science faculty if they are to be taken to fulfill degree requirements.

The student is required to undertake and complete a master's project. The project may take two different forms. If the student is affiliated with industry and involved in computer science-related activities, a well-defined practicum, approved by the computer science faculty, is one form. The student may also engage in an academic project under the direct supervision of a computer science faculty member. This option involves the solution of a research problem, the construction of a non-trivial software tool, or some other comparable summarizing activity.

The student is required to produce a final document describing the completed project. This document will adhere to a specified format and must be approved by a committee of computer science faculty members.

Graduate Courses

(Restricted to students with full graduate standing in the Computer Science Department or permission of the instructor.)

COS 550 Advanced Operating Systems

Topics include cooperating processes, privacy and protection of system and user processes, hardware aids, basic concepts of networks and distributed processing. System performance analysis may also be covered. Prerequisite: COS 450. Cr 3.

COS 552 Advanced Computer Networks

This second course in computer networks explores recent developments with particular emphasis on fiber optic high speed networks. A laboratory component involving performance evaluation of network protocols may be included. Prerequisite: COS 460 or graduate standing. Cr 3.

COS 555 Advanced Computer Architecture

This course presents topics from research areas in computer architecture as well as advanced and emerging technologies. Possible topics are parallel machines, content addressable memories, VLSI systems. Cr 3.

COS 558 Database Management

Data structures and access methods most commonly used in database systems. Major topics include: data models with an emphasis on the relational model. Overview of some database management systems. Cr 3.

COS 562 Modeling and Analysis of Computer Systems

Development and analysis of deterministic models of modern computer systems. Queuing models will be used to analyze computer operating systems and computer communication networks. An operational analysis approach to performance evaluation and bottleneck analysis will be emphasized. Applications to actual systems will be considered. Other topics include: model validation, system measurement, mean value analysis, and computational algorithms. Prerequisites: COS 450 and MAT 380. Cr 3.

COS 565 Software Design and Development

A study of techniques and approaches related to the design and development of large scale software products. Consideration of formal methods for specification, analysis, design, implementation, and testing. A "large" group programming project will be the vehicle for much of the learning in this course. Cr 3.

COS 566 Simulation and Analytical Modelling

The theoretical limitations of analytical modelling will be contrasted with the practical limitations of simulation. The BCMP family of analytical models will be presented along with the computational solutions of these models. The use of simulation will be discussed with regard to a high level language (such as SIMSCRIPT). Such topics as model verification and evaluation of experimental results will be considered. Cr 3.

COS 570 Seminar: Advanced Topics in Computer Science

Topics vary from year to year. Will include current research, emerging technologies, case studies. Cr 3.

COS 572 Advanced Artificial Intelligence

A survey course that explores the key areas of research within the field of artificial intelligence. Topics discussed include knowledge representation, search, computer vision, automated reasoning, planning, learning, and robotics. The nature of the problems underlying each area, relevant theoretical results, and successful systems are discussed. Prerequisite: COS 472 or graduate standing. Cr 3.

COS 574 Advanced Computer Graphics

Advanced computer graphics techniques are described and analyzed. Subjects considered include the projection of 3D objects to 2D, hierarchical object representation, representation of 3D curves and surfaces, illumination and shading, solid modeling, and advanced graphics hardware. Prerequisite: COS 452 or instructor's permission. Cr 3.

COS 580 Theory of Computation

The study of computability theory, automata theory, and formal languages. Topics are similar to those discussed in COS 480 but will be covered in greater depth, with the emphasis on developing the ability to apply these abstract notions to practical situations. Prerequisite: COS 480. Cr 3.

COS 582 Design and Analysis of Algorithms

This course deals with the analysis of algorithms, and the relevance of such analysis to the design of efficient computer algorithms. Examination of such

topics as sorting, tree and graph algorithms, pattern matching, algebraic simplification and transformations, NP-hard problems, and approximation algorithms. A balance is struck between the derivation of results of theoretical significance and the practical endeavor of designing efficient algorithms. Cr 3.

COS 585 Combinatorial Optimization

Combinatorial optimization problems include the traveling salesman problem, bin packing, and facility location in networks. These problems, while easy to describe, are often difficult to solve exactly. This course considers various combinatorial optimization problems and optimal and approximate algorithms. Cr 3.

COS 587 Introduction to Parallel Computation

An introduction to the field of parallel algorithms and techniques for efficient parallelisation. The course considers the design and analysis of parallel algorithms from the context of an abstract machine independent programming language as well as from the viewpoint of existing parallel architectures. Cr 3.

COS 697 Independent Study

An opportunity for graduate students to pursue areas not currently offered in the graduate curriculum. Cr 3.

COS 698 Master's Project

A six-credit project is required of all students. The project must be approved by the computer science faculty in advance. Offered only as a pass/fail course. Prerequisites: full graduate standing and faculty approval. Cr 3 or 6.

MASTER OF SCIENCE IN APPLIED IMMUNOLOGY

Chair: Ah-Kau Ng

Professors: Ng, Thompson; *Adjunct Faculty-Professors:* Ault, Bagwell, J. Haddow, Hillman, Lovett, Nishiyama, Rand, Ritchie, Charles Yentsch; *Associate Professors:* Chandler, Doherty, Knight, Mahoney, Moody, Smith, Clarice Yentsch; *Assistant Professors:* Beauregard, Craig, Himmelfarb, Jones, Siekman, Vary, Whitaker; *Instructors:* Breggia, Carmody, P. Haddow, Inman, Palomaki

Applied Medical Sciences

The Department of Applied Medical Sciences offers the master's degree in applied immunology.

Immunologic techniques have found applications in areas as diverse as cancer research, molecular genetics, marine biology, developmental biology, human reproduction, and organ transplantation. Furthermore, monoclonal antibodies and enzyme-based immunodiagnostic tests to detect such antigens as infectious agents and circulating hormones have revolutionized the diagnostic industry by providing sophisticated, specific, and sensitive assays.

The M.S. program in applied immunology is designed to prepare students for careers in basic research, clinical diagnosis, industrial research, and teaching. The program is truly interdisciplinary, providing graduates with a sound background in cellular, molecular, and medical immunology. Laboratory skills are emphasized. These include, but are not limited to, *in vivo* and *in vitro* cellular and humoral immune function assays, production and characterization of heterologous and monoclonal antibodies, immunodiagnostic techniques, and methods in biochemistry and molecular biology. Intensive electives and externships in advanced immunologic applications and theory, as well as opportunities for thesis projects, are offered with research, clinical, and industrial laboratories throughout Maine. The student will be provided the opportunity to tailor programs specifically to individual needs and the flexibility to pursue training in his or her own particular area of interest. In addition, coursework includes the refinement of such general skills as are required of all scientists, namely: critical evaluation and presentation of current scientific literature, the reading and writing of technical material, problem solving, experimental design, logic, and ethics.

The University of Southern Maine Department of Applied Medical Science laboratory facilities and the laboratories of program affiliates provide students with the opportunity to work with all equipment that is commonly found in the modern immunology laboratory.

Epidemiology Courses

In addition to the Applied Immunology program, the Department of Applied Medical Sciences offers courses in epidemiology and applied biostatistics.

Admission

The program is directed to the following individuals: graduates in life sciences; biomedical scientists; researchers; and technologists employed or prepared to be employed in public or private research laboratories, industrial laboratories, and health care and educational institutions.

For maximum consideration for admission to the program, a grade point average of 3.0 in undergraduate science and mathematics courses is highly recommended.

It is highly recommended that the applicant have completed courses in the following subjects or their equivalents: organic chemistry; biochemistry; microbiology; genetics; cellular and molecular biology; physiology.

The Applied Immunology Graduate Committee is responsible for evaluating applications and recommending candidates for admission. Interviews by members of this committee may be required of applicants. Applicants who have deficiencies in background courses that the committee considers essential for success in the program may be conditionally admitted, with full admission being dependent upon satisfactory completion of those courses.

Application Materials

In addition to the materials described in the Admissions chapter, applicants for this program must submit: 1) official scores for the Graduate Record Examination (GRE) and 2) three letters of recommendation attesting to the candidate's academic and/or professional accomplishments.

Application Deadline

The application deadline is May 1 for maximum consideration for fall semester (September), but applications will be accepted until August 1. For spring semester (January) the dates are November 1 and December 1.

Program Policies

In addition to the general policies described in the Academic Policies chapter, specific policies of this program are as follows:

No more than 14 graduate credits completed prior to matriculation can be applied to the degree.

All required courses must be completed within six years prior to graduation. Otherwise, additional coursework must be taken to fulfill program requirements.

Program Requirements

Forty credits are required for the master of science degree in applied immunology: 24 credits of required core courses, at least 6 credits of thesis research, and at least 10 credits of electives and externships.

Each student will be assigned an academic committee, which will be responsible for ensuring that the student fulfills all requirements for the program.

All students must complete the following courses:

AIM	530	Biostatistics and Computers	3 credits
AIM	610	Cellular Immunology	3 credits
AIM	611	Cellular Immunology Laboratory	3 credits
AIM	620	Molecular Immunology	3 credits
AIM	621	Molecular Immunology Laboratory	3 credits
AIM	630	Medical Immunology	3 credits
AIM	631	Medical Immunology Laboratory	3 credits
AIM	690	Immunology Journal Club/Seminar	3 credits
AIM	698	Thesis Research	6 credits

Electives will be available in the form of advanced seminars or tutorials in many areas including:

AIM	640	Advanced Biostatistics
AIM	641	Biological Markers in High Risk Pregnancies
AIM	642	Computer Analysis of Biomedical Data
AIM	643	Computer Applications in Immunology
AIM	644	Concepts in Biochemical Epidemiology
AIM	645	Immunocytochemistry
AIM	646	Development of Immunoassays

AIM	647	Electrophoresis and Immunoblotting
AIM	648	Electron Microscopy
AIM	649	Flow Cytometry
AIM	650	Fluorescence Microscopy
AIM	651	Scientific Writing
AIM	652	High Performance Liquid Chromatography
AIM	653	HLA and Erythrocyte Typing
AIM	654	Hybridoma Methodology
AIM	655	Immunochemistry in Oceanography
AIM	656	Immunoelectronmicroscopy
AIM	657	Immunoematology
AIM	659	Lymphocyte Subsets
AIM	660	Protein Phenotyping
AIM	661	Purification of Antigens and Antibodies
AIM	662	Reproductive Immunology
AIM	663	T-Cell Cloning
AIM	664	Chromatography
AIM	665	Tissue Culture Techniques
AIM	666	Laboratory Management
AIM	671	Molecular Biology Lab

Externships will be available throughout the state of Maine in many laboratories that use immunological techniques in clinical, basic research, and industrial applications. These affiliates include biomedical, biotechnological, marine biological, and educational institutions.

Laboratory Fees

Laboratory fees are assessed in AIM laboratory courses to cover the cost of supplies and materials.

AIM 530 Biostatistics and Computers

This course is intended to expose the student to the concepts of biostatistics. Topics include descriptive statistics, probability distribution, inference, significance testing, and regression. Students will also be trained in integrated software use, including word processing, database management, spread sheets and graphic representation of experimental data. Admission is restricted to AIM graduate students or with permission of the program director. Cr 3.

AIM 599/BIO 499 Immunology

This is an introductory course dealing with general principles of immunology. Topics to be surveyed include the basic principles of natural and acquired immunities (both tumoral and cell-mediated), molecular and cellular components of the immune system, immuno-assays, and clinical aspects of immunology. Cr 3.

AIM 610 Cellular Immunology

This course stresses the cellular components of the immune system. Specific topics include characterization of the cells of the immune system, cellular interactions during immune responses, distinguishing subpopulations of lymphocytes and their functions, the role of phagocytic cells, tolerance, and the problems of immunization such as antigen dose, route of administration, and characterization of the immune response over time. Cr 3.

AIM 611 Cellular Immunology Laboratory

This course consists of a series of comprehensive laboratories in which students learn basic techniques for the isolation, identification and functional analysis of cells in the immune system. The role of T cells, B cells, NK cells, macrophages and neutrophils

in the cellular immune response is examined through assays such as mixed lymphocyte culture, ⁵¹Cr-Release, NBT dye reduction, ³H thymidine uptake, flow cytometry and microcytotoxicity. Emphasis will be on experimental design, and the clinical and research applications of the procedures used. Permission of the instructor is required. Cr 3.

AIM 620 Molecular Immunology

This course stresses the molecular components of the immune system. Specific topics include the genetics, synthesis, and structures of antibody molecules and T-cell receptors, the molecular basis for the generation of diversity, genetic regulation of the immune response, structure and function of the major histocompatibility complex, and the kinetics of antibody-antigen interactions. This course will also consider the practical problems of antibody purification, determination of antibody affinity and avidity, preparation of antibody fragments, determination of antibody classes and subclasses, and the design of assays using enzyme-conjugated and radioactively labeled reagents. Cr 3.

AIM 621 Molecular Immunology Laboratory

In this laboratory course the student will purify, quantitate, and characterize human immunoglobulins utilizing a variety of biochemical techniques. Emphasis is on protein chemistry, with the student becoming familiar with precipitation techniques, methods of protein quantitation, chromatography (both high and low pressure), ELISA, radial immunodiffusion, several types of electrophoresis, Western blot and immunoassay. Introductory molecular biology lab pertinent to immunology is also included. Prerequisite: AIM 611 or permission of instructor. Cr 3.

AIM 630 Medical Immunology

This course stresses the medical relevance and application of immunology, both in the laboratory and in the clinic. Specific topics covered include assay formats and design, assay interpretation, new technology and instrumentation, the role of the immune system in protection, the interactions of the immune system with inflammation, as well as the diagnosis, pathologic mechanisms, and treatments of immunodeficiency, autoimmune, and lymphoproliferative diseases.

Cr 3.

AIM 631 Medical Immunology Laboratory

Cr 3.

AIM 690 Immunology Journal Club/Seminar

The Journal Club is intended to keep the participants current in immunology and to instruct them in the techniques of evaluating scientific literature critically and clearly presenting scientific information. The seminar, directed by faculty members responsible for the corresponding core course material and including outside lectures from among the affiliates as well as other academic institutions, will provide the student with an opportunity to discuss practical applications of the core lecture material.

Cr 1 per semester.

AIM 695 Externship

Cr var.

AIM 698 Thesis

Min. Cr 6.

Courses in Epidemiology and Applied Biostatistics

AMS 535 Introduction to Epidemiologic Research

This course is intended to give students a basic foundation in principles for the conduct and interpretation of population-based studies of the distribution, etiology, and control of disease. Topics will include randomized experiments, non-randomized cohort studies, case-control studies, cross-sectional and ecological studies, causal inference, sources of bias, and measures of effect. Recent publications from the epidemiologic and general medical literature will be used to illustrate the application of the concepts to specific epidemiologic issues.

Cr 3.

AMS 545 Applied Biostatistical Analysis

This course is intended to give students a working understanding of the major types of biostatistical analysis used in contemporary epidemiology and in other areas of public health research. Topics will include hypothesis testing, estimation, descriptive statistics, standardization of rates, crosstabulations and stratified analysis, life tables, multiple regression, and logistic regression. The course is designed primarily for students with little formal training in biostatistics, but may also prove valuable to other students who desire a course providing an integrated approach to diverse biostatistical techniques within an applied framework. Students will learn to manipulate datasets, analyze them, and interpret the results using the SAS software package.

Cr 3.

AMS 605 Principles of Clinical Epidemiology and Biostatistics

This course is intended for physicians and provides intensive discussion of important principles in designing, conducting, and analyzing clinical studies. Topics will include randomization, ethical issues, control of bias, analysis of cohort data, regression models, contingency tables, matched studies, and misuses of statistics. Students will present and discuss ongoing research projects.

Cr 1.

AMS 638 Practicum in Epidemiologic Research

This course is designed to provide students with direct experience in the formulation of epidemiologic hypotheses and the analysis and interpretation of data. Each student will frame a research question that can be addressed using a dataset available on campus or elsewhere in Maine. With guidance from faculty, each student will conduct data analyses and will write a report in the format of a journal article. Prerequisites: AMS 535 and 545 or equivalent.

Cr 4.

AMS 673 Epidemiology and Prevention of Cancer

This course provides a comprehensive review and synthesis of epidemiologic studies of the causes of several of the most common forms of cancer in humans. The role of genetics, diet, smoking, hormones, occupation, and other factors will be considered. The public health implications of interventions to alter behavior and to remove environmental risk factors will also be discussed, as will epidemiologic issues in the reduction of mortality through screening for cancer. Prerequisite: AMS 535.

Cr 3.

ENGINEERING GRADUATE OFFERINGS THROUGH THE UNIVERSITY OF MAINE

Center for Engineering Studies, University of Maine
Office at the University of Southern Maine (207) 780-4601

CIVIL ENGINEERING

Graduate Program Coordinator: Willem F. Brutsaert, University of Maine (207) 581-1219

Graduate courses in civil engineering are offered by the University of Maine in the subdisciplines of geotechnical engineering, structural engineering and environmental engineering. Sample courses might include thermal soil mechanics, retaining earth structures, deep foundations, hazardous and solid waste engineering, ground water control, design of wood structures and advanced structural steel design.

These regular graduate level classes are transmitted to USM via the interactive television system (ITV) and are scheduled in the late afternoon or during the evening to cater to the needs of practicing engineers. The courses may also be taken by non-degree candidates for personal or professional development.

Most students who want to obtain a graduate degree through ITV will wish to pursue a master of engineering (M.E.) degree. The graduate level course requirement for a M.E. degree is 30 credits without a thesis. For example, in geotechnical engineering, ITV courses can potentially fulfill 23 credits toward a degree. The remaining seven credits must be obtained through other related courses, but study on the Orono campus for one semester is desirable so that the student may take certain courses, such as the geotechnical laboratory course, CIE 661.

For those students wishing to obtain a master of science (M.S.) degree, the students will be required to take up to 24 credits of classwork and a minimum of six credits of thesis. In general, it is anticipated that many of the necessary courses, with the exception of laboratory courses, can be obtained through ITV. However, the thesis research will likely require a semester at Orono.

For additional information concerning future civil engineering course offerings consult either the Civil Engineering Department, at Orono, (207) 581-1217 or, locally, the Center for Engineering Studies at (207) 780-4601.

ELECTRICAL ENGINEERING

Graduate Program Coordinator: John F. Vetelino, University of Maine

Program Description

The University of Maine offers a graduate program in electrical engineering at USM. Two master's degree options are available: the master of science in electrical engineering (M.S.E.E.) and the master of engineering in electrical engineering (M.E.E.E.). The extended master's in electrical engineering program is designed principally for students on an industrial career path. The program is tailored for working students, and all courses are offered in the late afternoon or evenings. Courses may also be taken by non-degree candidates. Normally only 6 credit hours of graduate study may be transferred into the degree program. A degree is awarded only following formal admission to the program and the completion of a designed course of study.

Admissions

Application for admission as a degree candidate is made to the Graduate School at the University of Maine. Application forms may be obtained from the Office of the Dean of the Graduate School, 2 Winslow Hall, University of Maine, Orono, Maine 04469 (207-581-3218) or from the Office of Graduate Affairs, University of Southern Maine, 96 Falmouth Street, Portland, Maine 04103 (207-780-4386). The completed application should be sent to the Graduate School in Orono with a copy to the Office of Graduate Affairs in Portland.

Applicants should have an undergraduate degree in engineering or a related science. Applications should be submitted as early as possible, but at least six weeks before the beginning of the semester in which the student wishes to register.

The general and the engineering Graduate Record Examination should be taken and the scores sent to the Graduate School in Orono. Matriculation into the program is possible before the examinations are taken, but the examinations must be completed within a year of matriculation. For a complete description of Graduate School policies and regulations, the University of Maine graduate catalog should be consulted.

Program Requirements and Options

For a master of science in electrical engineering degree, the student must successfully complete at least 24 credit hours of coursework and at least 6 credit hours of thesis work. Whenever possible, the thesis will be employment-related. For the master of engineering in electrical engineering degree, the student must successfully complete at least 30 credit hours of coursework. For either degree, 6 credit hours of upper-level undergraduate courses may be included.

Students are expected to complete at least three of the following four core courses: Linear Systems Analysis, Electromagnetic Theory, Semiconductor Devices I, and Random Variables and Stochastic Processes. Selected courses are listed below. Courses consistent with the student's goals may be taken in other departments such as physics, mathematics, and computer science.

ELE	512	Linear Systems Analysis
ELE	514	Modern Control Systems
ELE	515	Random Variables and Stochastic Processes
ELE	521	High Voltage Engineering
ELE	523	Mathematical Methods in Electrical Engineering
ELE	533	Advanced Robotics
ELE	535	Computer Vision
ELE	550	Electromagnetic Theory
ELE	552	Wave Propagation
ELE	553	Microwave Circuits and Devices

ELE	562	Microwave Acoustics
ELE	563	Design & Fabrication of Surface Wave Devices
ELE	565	Semiconductor Devices I
ELE	566	Semiconductor Devices II
ELE	567	VLSI Devices and Technology
ELE	571	Advanced Microprocessor-Based Design
ELE	580	Communications Engineering III
ELE	598	Selected Advanced Topics in EE
ELE	699	Graduate Thesis

For further information, contact the Electrical Engineering Department at the University of Maine, Barrows Hall, Orono, Maine 04469, telephone 581-2223.

Electrical Engineering Graduate Courses

ELE 512 Linear Systems Analysis

Basic concept of a linear system. Methods for analyzing linear systems using transforms, convolution, and state variables. Prerequisites: ELE 314, MAT 262 or equivalent. Lec 3. Cr 3.

ELE 514 Modern Control Systems

Analysis and design of continuous and discrete control systems using modern control techniques. State and output feedback. Observer design. The separation principle. Linear algebraic design techniques. Tracking and disturbance rejection techniques. Quantitative feedback design techniques. Fundamentals of optimal control, robust control, and adaptive control. Applications to motion control systems. Prerequisite: ELE 512. Lec 3. Cr 3.

ELE 515 Random Variables and Stochastic Processes

Engineering applications of probability theory. Analysis of random variables, random processes, and stochastic models. Introduction to the analysis and optimization of linear systems with random inputs. Prerequisite: graduate standing, ELE 383 or equivalent. Lec 3. Cr 3.

ELE 521 High Voltage Engineering

High voltage generation and measurement techniques, field distribution, stress control, electrical breakdown of gases, solids, and liquids. Other topics covered include circuit breakers, surge arresters, lighting phenomena, and system insulation design. Prerequisite: ELE 323 or equivalent; EE seniors with permission. Lec 3. Cr 3.

ELE 523 Mathematical Methods in Electrical Engineering

Application of advanced mathematical methods to problems in electrical engineering. Topics include conformal mapping, calculus of variations, and difference equations. Prerequisite: ELE 512 or permission. Lec 3. Cr 3.

ELE 533 Advanced Robotics

The intelligent robot control system and programming will be introduced. Robot dynamical equations, path planning and trajectory generation, control system, off-line simulations, robot languages, and vision integration in robot applications will be discussed. Prerequisite: ELE 417. Lec 2, Lab 3. Cr 3.

ELE 535 Computer Vision

An introduction to computer vision and perception. Image generation, the physics of images and sensors, binary images, image processing and understanding, computational methods for recovery and representation of visual information, a general review of available vision systems and their applications in automation. Prerequisites: COS 215 or COS 220, and ELE 314 or equivalent. Lec 2, Lab 3. Cr 3.

ELE 550 Electromagnetic Theory

Review of Maxwell's equations and waves in dielectric and lossy media; Image Theory, Induction Theorem and Green's Functions; plane cylindrical and spherical wave functions; radiation and antennas; rectangular, cylindrical and spherical waveguides and cavities; perturbational and variational techniques; G. T. D. and moment methods. Prerequisite: ELE 351 or equivalent. Lec 3. Cr 3.

ELE 552 Wave Propagation

Theory of propagation of electromagnetic waves, sound waves and unbounded media considered. Theoretical techniques presented and their application to wave propagation in the ocean, ionosphere and the earth are treated. Prerequisite: ELE 453 or equivalent. Lec 3. Cr 3.

ELE 553 Microwave Circuits and Devices

Generation, transmission, control, and detection of energy at microwave frequencies. Active and passive microwave devices: klystrons, magnetrons, traveling wave tubes. Solid state devices: microwave semiconductor diodes, tunnel diode amplifiers, Gunn oscillators, IMPATT and Josephson junction devices. Microwave integrated circuits: filters, couplers, circulators and combiners. Prerequisite: ELE 550. Lec 3. Cr 3.

ELE 562 Microwave Acoustics

The theory of acoustic wave propagation in non-piezoelectric and piezoelectric media. Particular attention will be focused on bulk acoustic waves, surface acoustic waves, plate modes, pseudo surface acoustic waves and Bleustein-Gulyaev waves and how these waves may be utilized in microwave acoustic devices. Prerequisite: ELE 550 or permission. Lec 3. Cr 3.

ELE 563 Design and Fabrication of Surface Wave Devices

The design, fabrication, and measurement systems

for surface acoustic wave (SAW) devices. Basic design concepts for SAW devices, i.e. delay lines, filters, resonators, oscillators, convolvers, sensors. Planar fabrication technique for SAW: surface properties of piezoelectric crystals, photolithography, vacuum technologies for thin film deposition. Electronic measurement systems for phase and amplitude characteristics of SAW devices, impulse and frequency response, phase and group velocity, insertion loss, distortions, spurious effects. Prerequisites: ELE 550, ELE 562 or permission. Lec 3, Lab 3. Cr 3.

ELE 565 Semiconductor Devices I

Physical principles underlying device operation. Topics include elementary excitation in semiconductors such as phonons, photons, conduction holes and electrons, carrier trapping and recombination, effect of high doping, contacts. Prerequisite: ELE 463 or equivalent. Lec 3. Cr 3.

ELE 566 Semiconductor Devices II

Application of the principles of ELE 565 to specific devices. Prerequisite: ELE 565. Lec 3. Cr 3.

ELE 567 VLSI Devices and Technology

Fabrication techniques (crystal growth, oxidation, diffusion, ion implantation, microlithography) and their implications on device performance. Physical models for small structures, alternative device structures for VLSI. Prerequisite: ELE 464 or equivalent. Lec 3. Cr 3.

ELE 571 Advanced Microprocessor-Based Design

Techniques for developing the software and hardware for microprocessor-based systems. Computer-aided design using a multistation logic development system. Use of components commonly found in microprocessor-based systems. Prerequisite: ELE 471 or permission. Lec 2, Lab 3. Cr 3.

ELE 580 Communications Engineering III

Probability theory, random processes, optimum receivers, vector channels, matched filters, block orthogonal signaling, time-bandwidth product, channel capacity, and implementation of coded systems. Prerequisite: ELE 383 or equivalent. Lec 3, Cr 3.

ELE 595 Graduate Seminar

Detailed study from current technical literature of some aspect of electrical engineering and preparation of a paper or solution to a pertinent comprehensive problem. Cr 1-3.

ELE 598 Selected Advanced Topics in Electrical Engineering

Advanced topics not regularly covered in other courses. Content can be varied to suit current needs. Course may, with permission, be taken more than once. Prerequisite: permission of instructor. Cr 1-3.

ELE 699 Graduate Thesis

Selected research problems. Cr Ar.

MECHANICAL ENGINEERING

Graduate Program Coordinator: William C. Rivard, University of Maine

Graduate courses in mechanical engineering are offered by the University of Maine in the fields of thermal science and engineering mechanics. Graduate level classes are regularly transmitted from Orono to USM via the interactive television system (ITV) and are scheduled late in the afternoon or during the evening to cater to the needs of practicing engineers. The courses may be taken for personal and professional development by non-degree candidates as well.

The degrees of master of engineering (M.E.) and master of science (M.S.) are available. The M.E. degree requires 30 semester hours (10 courses) of coursework followed by a comprehensive examination which will review the coursework and evaluate the student's ability to apply his or her knowledge to the solution of advanced engineering problems. Normally only 6 credit hours of graduate study may be transferred into the M.E. degree program.

The M.S. degree requires 24 semester hours (8 courses) of coursework and a minimum of 6 credits of thesis. Although it is expected that most of the necessary courses can be obtained through ITV, the thesis research will likely require a semester at Orono. As with the M.E. program, normally only 6 credit hours of graduate study may be transferred into the M.S. degree program.

For additional information concerning these programs or possible future mechanical engineering course offerings contact the Mechanical Engineering Department, 571 Boardman Hall, Orono, Maine 04469-5711 by mail or call (207) 581-2120. Locally, information may be obtained from the Center for Engineering Studies at (207) 780-4601.

COLLEGE OF ARTS AND SCIENCES

MASTER OF ARTS IN AMERICAN AND NEW ENGLAND STUDIES

Director: Joseph Conforti

Professors: Conforti, Eastman, Grange, Maiman, Severens; *Associate Professors:* Cameron, Cassidy, Hamilton, Whitmore; *Assistant Professors:* Castiglia, Harrington

Program Description

New England has perhaps the richest cultural heritage of any American region. New England also has a special place in the American imagination; mythic New England embodies some of the most familiar American images. New England has even been called the national homeland. Though it is steeped in tradition, New England is nevertheless a region that has experienced dynamic change and progress. National developments such as nineteenth-century industrialization and mass immigration have frequently occurred first and had their greatest impact in New England.

The American and New England Studies Program is committed to studying the traditional, the mythic, and the modern New England. The program seeks:

- to offer college graduates a challenging interdisciplinary program focusing on the study of the New England region;
- to emphasize the critical role of the arts, humanities, and social sciences in understanding New England and in interpreting its distinctiveness to the public;
- to help meet the needs of institutions in the arts, humanities, education, government, and business for individuals trained in New England studies who can assume leadership roles in addressing important regional issues;
- to create new opportunities for exchanges among scholars, professionals, and graduate students with common interests in the study of New England.

Through courses, lectures, and conferences, the program explores New England's distinctiveness and examines the region's contributions to American culture as a whole.

Admission

Admission to the American and New England Studies Program is selective. The program seeks applicants who have a bachelor's degree with a record of academic achievement and who are committed to employing interdisciplinary approaches and materials in the study of New England's cultural heritage and distinctiveness. The program welcomes full-time and part-time students; courses are offered in the late afternoon and evening. All applications are reviewed by an admissions committee comprised of the director of the American and New England Studies and faculty who teach in the program. Interviews may be required at the discretion of the Admissions Committee.

Application Materials

In addition to the materials described in the Admissions chapter, applicants for this program must submit:

1. Official scores for the Miller Analogies Test (MAT) or Graduate Record Examination (GRE).
2. Three letters of recommendation on standard application forms or stationery.

Application Deadline

The application deadline is March 15 for fall semester (September) and October 1 for spring semester (January).

Applications received after these deadlines may be considered on a space-available basis. Early acceptance may be considered at the request of the applicant and at the discretion of the Admissions Committee.

Program Policies

In addition to the general policies described in the Academic Policies chapter, specific policies of this program are as follows:

Admissions Credit Students who have not been officially admitted to the program but who have applied may take courses for admissions credit. Normally, six admissions credits are the maximum allowed. The director of American and New England Studies must approve all requests for admissions credit.

Transfer Credit A student may transfer up to six credits into the American and New England Studies Program. To be considered for transfer credit, previous coursework must be interdisciplinary and must focus on New England. In addition, only coursework awarded a grade of B or better will be considered for transfer credit. The Admissions Committee will review all requests for transfer credit. Course materials should accompany these requests.

Time Limit Students must complete all requirements for the degree within six years from the date of first matriculation.

Program Requirements

The curriculum is unique; unlike other regional studies and interdisciplinary programs, the curriculum consists of courses that have been created specifically for the American and New England Studies master's degree and that integrate the arts, humanities, and social sciences. Students may pursue a 30-hour program that includes a thesis or project or they may follow a 36-hour track that does not include a thesis or project. Students who elect the non-thesis/project track must complete two research papers in elective courses.

Required Courses		30-Hour Program	Credit Hours
NES	601	Culture and Society in New England	3
NES	602	Approaches to the Study of New England	3
NES	625	Culture, Thought, and New England Literature, I	3
NES	675	Seminar in New England Studies	3
NES	690	Project or	
NES	695	Thesis	6
			18
Elective Courses			
Four courses chosen from NES offerings			12
			30
Required Courses		36-Hour Program	Credit Hours
NES	601	Culture and Society in New England	3
NES	602	Approaches to the Study of New England	3
NES	625	Culture, Thought, and New England Literature, I	3
			9
Elective Courses			
Nine courses chosen from NES offerings			27
			36

Both the 30-hour and the 36-hour program offer students opportunities to focus their coursework in particular areas: history, literature, material culture and the visual arts. In addition, the project and thesis offer students opportunities to demonstrate intellectual independence and creativity by developing programs of study that address individual interests.

NES 601 Culture and Society in New England
An analysis of the cultural and social development of New England with an emphasis on the ideas, values, myths, and institutions that have shaped the region's identity and distinctiveness. Cr 3.

NES 602 Approaches to the Study of New England
This required course is designed to introduce students to interdisciplinary approaches employed in the NES program. The course also examines concepts of culture and region and how they may be applied to New England. Each year the course focuses on a particular topic as a way of bringing coherence to the approaches and materials that are examined. The topic for 1992-93 is "New England and the Sea." Cr 3.

NES 625 Culture, Thought, and New England Literature I
A broad approach to New England letters that focuses on the region's intellectual, cultural, and literary traditions and on the importance of a sense of place in regional literature, from the Colonial era to the mid-19th century. Cr 3.

NES 626 Culture, Thought, and New England Literature II
A continuation of NES 625, this course focuses on local color writing, ethnic literature, and the shifting boundaries of New England identity in regional literature from the late nineteenth century to the present. Cr 3.

NES 628 Rural New England
An analysis of rural New England in the nineteenth and twentieth centuries. Emphasis will be placed on the economic and social life of rural farmers, artisans, preachers, peddlers, etc., as well as on the contested meanings of rural New England in American culture. Cr 3.

NES 629 The Factory in New England
This course will explore the factory as both symbol and system in New England society and culture. Topics include: the mill "girls"; the ecology of the mill town; fiction in the factory; immigrant operatives; de-industrialization; stories of struggle; working class culture; the union movement; mill iconography; sex-segregation at work; and female activism. Cr 3.

NES 631 Ethnicity in New England

This course will explore the meaning of ethnicity in the formation of New England society and culture. Emphasis will be placed on exploring various "ethnic" communities—including French-Canadian, Italian, Jewish, African-American, Native-American and Irish. The course will examine constructions of "ethnicity" including the invention of the "Anglo-Saxon," the "ignorant foreigner," and the New England "hill-billy;" produced in festivals, literature, art, iconography, films, and medical literature. Cr 3.

NES 632 New England Cultural Artifacts

This course will examine a variety of artifactual categories (vernacular architecture, landscape, public sculpture, home interiors, furniture, foodways, graphic images) and the diverse theories and methods for interpreting such artifacts as cultural evidence. It particularly focuses on how such artifacts shape New England society and culture and regional identity. Cr 3.

NES 635 Art and New England Culture

This course will explore New England painting, prints, and photography from the 17th to the 20th centuries. Students will examine style and subject matter and their relation to New England literature, thought, and social history. Central to this course is a consideration of how the region is "imagined" in the visual arts and how art shapes New England society and culture. Topics include: "reading" portraits as cultural artifacts; art and politics during the American Revolution; landscapes, seascapes, and the economy; and imaging the New England woman at the turn of the century. Cr 3.

NES 640 The Tourist's New England

An analysis of the development and promotion of tourism in the 19th and 20th centuries. The course will emphasize the social, cultural, and economic contexts in which tourism arose and expanded; change and continuity in the tourist appeal of the region; and the way in which tourism and the tourist industry have shaped the image and perception of New England. Cr 3.

NES 641 The New England Environment

This course examines how New Englanders related to and interacted with the region's physical environment. Beginning with the conflicting environmental ethics of Native Americans and English colonists, the course focuses on topics such as: the "commons" traditions in New England; the commercialization of regional agriculture; and the economic and environmental impact of forestry and extractive industries. Cr 3.

NES 644 Twentieth-Century New England Politics

This course examines the politics of New England since 1900, with emphasis on conflicts among the distinct subcultures (White Anglo Saxon Protestant, European-American, and African-American) which have given the region's politics its particular flavor. Special attention will be given to two dramatic political events—the Sacco-Vanzetti case and the Boston busing controversy—in which these conflicts played a significant role. Cr 3.

NES 649 Architecture and Landscape in New England

A study of the built, cultivated, and natural environment from colonial settlement to the twentieth century with emphasis on how architecture and landscape have shaped New England experience and are expressive of regional values and institutions. Cr 3.

NES 650 Topics in New England Studies

An in-depth study of a significant aspect of New England from an interdisciplinary perspective. Topics will vary from year to year. Cr 3.

NES 655 New England Historic Archaeology

A study of the theories and methods used by archaeologists with an emphasis on how archaeological data and artifacts help us understand the social, cultural, and material life of New England's past. Some attention will be paid to comparative regional archaeology. Cr 3.

NES 656 The New England Economy

Recent developments have underlined how New England functions as a regional economy. This course focuses on the regional economy during the industrial and post-industrial eras. The course examines the impact of industrialization on the region's land and people, the decline of old industry, and the shift to new manufacturing and service industries. Cr 3.

NES 660 New England Autobiography

An analysis of the origins, development, and variety of autobiographical expression in New England. The course will focus on autobiographies that illuminate broad aspects of regional history, culture, and identity. Cr 3.

NES 665 Banned in Boston: Sex and Gender in New England

The course will explore the relationship between sex and gender and the formation of New England culture and society. Topics include: gender construction and the Salem witch trials; female iconography and the Revolution; the new woman and the Boston marriage; men and the strenuous life; and the role of gender in the design of New England women's colleges. Cr 3.

NES 670 Museums and Cultural Institutions in New England

This course will examine the role of art museums, historical museums, and musical societies in the formation of New England culture. It will not simply survey the history of these institutions, but will analyze the politics and economics of such institutions and their patrons, as well as their place in shaping the construction of regional identity. This course will particularly focus on the relation of the Colonial Revival and the New Deal to collecting and the rise of cultural institutions in the region. Cr 3.

NES 672 Folklore and the Politics of Culture

A comparative analysis of regional folklore, this course will explore the lives of traditional people in the South and New England. Emphasis will be placed on problems of methodology and on the role of the "learned" in the construction of the "folk." Cr 3.

NES 675 Seminar in New England Studies
Research on topics in New England Studies with opportunities to share problems and results. Cr 3.

NES 685 Reading and Research
Open to advanced students with exceptional records in the program, this course offers opportunities for reading and research under the direction of a faculty member. The approval of the faculty member and the director is required. This course may be taken only once. Cr 3.

NES 690 Project
Completion of a two-semester project that may be an independent project or that may combine independent study and work in a historical society, a museum, a cultural organization, or other public or private institution. In consultation with an advisor, the student defines and develops the project in relation to his or her particular interest in New England Studies. Cr 6.

NES 695 Thesis
The product of original research, the thesis should embody an interdisciplinary combination of approaches and/or materials. Cr 6.

MASTER OF SCIENCE IN STATISTICS

Director: Bhisham C. Gupta

Professors: Guay, B.C. Gupta; *Associate Professor:* S.N. Gupta; *Assistant Professors:* El-Taha, Farris, Flagg, Kenyon, Narang, Uddin

Program Description

The master of science in statistics program is designed to offer a vigorous curriculum that will prepare graduates for careers in business, industry, and government or for advanced study in statistics, probability theory, operations research, or any one allied field.

Admission

A student wishing to enroll in the master's program in statistics must meet the following requirements:

1. possess a baccalaureate degree from a regionally accredited institution;
2. have completed the following USM prerequisite courses or their equivalent with an average of 3.0 or better on a 4.0 scale, or have demonstrated proficiency in the following courses:

MAT 153 Calculus B

MAT 295 Linear Algebra

MAT 381 Introduction to Probability and Statistics

Applicants who meet the entrance requirements for the master's degree in statistics may be granted regular admission status. Applicants who do not meet the entrance requirements of the program may be granted conditional admission status during which time the student must take courses indicated by the Graduate Admission Committee to fulfill the conditions for regular admission. These courses will carry no credit toward the master's degree and must be successfully completed prior to the completion of 12 hours of graduate coursework, after which the student may be granted regular admission status.

Application Materials

In addition to the materials described in the Admissions chapter, applicants for this program must submit 1) official scores for the Graduate Record Examination (GRE); and 2) three letters of recommendation attesting to the candidate's academic ability and professional accomplishments.

Application Deadline

The application deadline is April 15 for those who are applying for admission and assistantship and August 1 for those who are applying just for admission for fall semester (September). For those who are applying for spring semester (January) the deadlines are November 1 and December 1, respectively.

Program Policies

In addition to the general policies described in the Academic Policies chapter, specific policies of this program are as follows:

Transfer Credit A maximum of 6 credit hours of transfer credit may be used toward the degree.

Program Requirements

To earn a master of science degree in statistics, a student must complete at least 32 credits of which 26 are in graduate coursework and at least 17 credits are in statistics/operations research/mathematics courses at the 600-level. The required courses are Theory of Probability, Mathematical Statistics, Statistical Packages, and Consulting Techniques. Statistical Packages and Consulting Techniques are one credit courses each, while all other courses carry three credits. Recommended courses are Real Analysis, Functional Analysis, and Abstract Algebra. Students who intend eventually to pursue a Ph.D. in probability or statistics should take at least two of these courses.

No more than two of the following courses may be used to fulfill the graduate coursework requirement.

- OPR 561 Stochastic Models in Operations Research
- STA 582 Time Series I
- STA 584 Design and Analysis of Experiments I

No graduate credit will be given for any of these courses taken to fulfill undergraduate requirements.

Business or computer science-oriented students may take up to two graduate level courses from the School of Business, Economics and Management or the School of Applied Science to meet graduate requirements, subject to the approval of the advisor.

A student who has completed 26 credits in coursework will be considered eligible to proceed to fulfill other requirements of the degree. To fulfill the other requirements, the student must select one of the following options. For each of these options six credits will be given.

Option I THESIS: The students must write a master's thesis. (STA 690)

Option II PROJECT: The students will be required to undertake and complete a master's project which may be a practical problem in statistics/operations research related to his/her employment. (STA 690)

Option III EXAMINATION: The students must complete two additional 600-level courses in statistics/operations research/mathematics.

OPR 561 Stochastic Models in Operations Research

Applications of probabilistic analysis to models involving uncertainty. Queueing theory: exponential models and extensions, work and cost identities. Inventory theory: the economic order quantity model, continuous review model, stationary analysis. Reliability theory: structure function, failure rate function, computing system reliability, repair models. Elements of dynamic programming and Markov decision theory. Introduction to simulation analysis. Prerequisites: MAT 380 or MAT 381. Cr 3.

STA 582 Time Series I

Objectives, examples, and basic concepts; removing trend/seasonality; fitting ARIMA models to time series data; parameter estimation in time-domain; forecasting; introduction to frequency-domain analysis of time series. Prerequisites: MAT 380 or MAT 381. Cr 3.

STA 584 Design and Analysis of Experiments I

Quadratic forms and their distribution, general linear hypothesis, completely randomized and randomized block designs, two-way and higher-way layouts, latin-square and orthogonal latin-square designs, BIB designs, Youdeen square designs, random effects and mixed effect models, nested designs and split-plot designs. Prerequisites: MAT 295 and MAT 380 or MAT 381 or permission of the instructor. Cr 3.

MAT 680 Linear Algebra

Vector spaces, subspaces, basis, dimension, direct sum, linear transformation, representation of linear transformations by matrices, linear functionals, dual of a vector space, transpose of a linear transformation, determinants, bilinear and quadratic forms, symmetric and skew symmetric bilinear forms, canonical forms, generalized inverses, statistical applications. Prerequisite: MAT 295 or permission of instructor. Cr 3.

MAT 690 Abstract Algebra

Introduction to the concepts of basic algebraic structures, namely: group, ring, integral domain, field,

polynomial ring, module, vector space, linear transformation, etc. Prerequisite: MAT 395. Cr 3.

MAT 691 Real Analysis

Limits, continuity, differentiation and integration of functions of one or more real variables, Lebesgue measure and integration, Lebesgue-Stieltjes integral, general measure and integration theory, the Radon-Nikodym theorem. Prerequisite: MAT 352. Cr 3.

MAT 692 Functional Analysis

Topological groups and topological vector spaces, metrizable, locally convex spaces, Hahn-Banach and Krein-Milman theorems, dual spaces, Banach spaces, Hilbert spaces, Banach algebras. Prerequisite: MAT 691. Cr 3.

OPR 661 Operations Research I

Formulation and analysis of mathematical programming models in operations research, linear and nonlinear programming, classical optimization, network flow theory, integer programming, dynamic programming. Prerequisites: MAT 153, MAT 295. Cr 3.

OPR 662 Operations Research II

Stochastic modeling in operations research, introduction to queueing, reliability and inventory theory, Markov decision processes, stochastic dynamic programming. Prerequisites: MAT 380, MAT 381 or permission of instructor. Cr 3.

OPR 663 Network Optimization

Theory of, and algorithms for, network optimization, shortest paths, spanning trees, maximum flows and minimum cost circulations, matchings and coverings in graphs, introduction to matroids. Prerequisite: OPR 661. Cr 3.

OPR 665 Simulation

Random number generation, simulation languages, design of simulation experiments and statistical analysis of the output of simulations, applications to modeling stochastic systems in computer science and operations research. Prerequisites: MAT 380, MAT 381 or permission of instructor. Cr 3.

STA 601 Statistical Packages

Introduction to the use of some of the commonly used statistical packages. Prerequisites: MAT 380, MAT 381 or permission of instructor. Cr 1.

STA 602 Consulting Techniques

Designed to make students aware of some of the skills of consulting techniques and teach applications of various statistical methods. Prerequisites: MAT 380, MAT 381 or permission of instructor. Cr 1.

STA 641 Theory of Probability

Random events, axioms of probability, conditional probability, Bayes theorem, random variables, some discrete and continuous distributions, moment generating functions, characteristic functions, uniqueness theorem, central limit theorem, laws of large numbers, Markov chains. Prerequisites: MAT 380 or MAT 381 or permission of instructor. Cr 3.

STA 642 Mathematical Statistics

Sampling distributions such as chi-square, t and F, order statistics, distribution of largest and smallest elements in a sample, distribution of the sample range, theory of estimation, test of hypotheses, regression and correlation in n variables, some elements of sequential analysis. Prerequisites: MAT 380, MAT 381 or permission of instructor. Cr 3.

STA 651 Multivariate Analysis

Multivariate normal distribution, estimation of the mean vector and the covariance matrix, distribution of sample correlation coefficient, Hotelling's T statistic, Wishart distribution, testing the general linear hypothesis, MANOVA. Prerequisites: STA 642, MAT 295. Cr 3.

STA 652 Non-parametric Methods

Certain techniques of goodness of fit, order statistics, two treatment comparisons, several treatment comparisons, rank tests in randomized complete blocks. Prerequisite: MAT 381 or permission of instructor. Cr 3.

STA 660 Stochastic Processes

Random walk, discrete and continuous time, Markov chains, Poisson processes, renewal theory, examples drawn from the natural and engineering sciences. Prerequisite: MAT 380 or MAT 381. Cr 3.

STA 664/OPR 664 Queuing Theory

Queuing models based on the birth and death process, Markovian queues, the method of stages, embedded Markov chain techniques, networks of queues, priority queues, introduction to scheduling problems. Prerequisite: MAT 380 or MAT 381. Cr 3.

STA 670 Linear Models

Review of distributions and quadratic forms, simple regression model, general linear hypotheses, multiple regression model, simple application of the regression model, analysis of variance model. Prerequisites: MAT 382, MAT 295 or permission of instructor. Cr 3.

STA 672 Data and Regression Analysis

Certain concepts of data reduction, simple linear regression using matrices, residual analysis, certain techniques to select a best regression equation, multiple regression, analysis of variance and covariance, data analysis and computation using statistical package programs. Prerequisites: MAT 381, STA 601 or permission of instructor. Cr 3.

STA 674 Sampling Theory and Surveys

Simple random stratified, systematic, cluster and multi-stage sampling, PPS sampling, optimum sample size, use of auxiliary variables in sample surveys, ratio and regression estimates, double sampling, sources of error in surveys and ways of removing them, methods of collecting data. Prerequisites: MAT 380, MAT 381 or permission of instructor. Cr 3.

STA 675 Statistical Quality Control

Lot acceptance sampling plans by attributes: single, double, sequential, multiple and military standard 105D sampling plans; lot acceptance sampling plans by variables with known and unknown standard deviation and military standard 414, rectifying inspection plans, control charts: X, R, and P-Charts. Prerequisite: MAT 381 or permission of instructor. Cr 3.

STA 681 Topics in Applied Statistics

Variable topics in applied statistics depending upon the needs of the students. Cr 3.

STA 682 Time Series II

Basic concepts; introduction to Hilbert space theory; ARMA and ARIMA models; parameter estimation; asymptotic properties of parameter estimates; forecasting; spectral density estimates; special topics. Prerequisites: STA 582 or STA 641 or permission of instructor. Cr 3.

STA 684 Design and Analysis of Experiments II

Factorial experiments, fractional replications in factorial experiments, BIB and PBIB designs, response surface methodology. Prerequisites: STA 584, STA 601 or permission of instructor. Cr 3.

STA 690 Master's Thesis/Project

Option I Project or Option III Thesis.

STA 699 Independent Studies

SCHOOL OF BUSINESS, ECONOMICS AND MANAGEMENT

Dean: Robert A. Patton

Associate Dean: Gary A. Lombardo

Assistant to the Dean: Sally M. Paterson

MASTER OF BUSINESS ADMINISTRATION

Director of Graduate Programs: John J. Voyer

Professors: Greene, Houlihan, Neveu, Sturner; *Associate Professors:* Andrews, Boyle, Clarey, Goldstein, Grover, Hillard, Hodson, Lombardo, McMahon, Medley, Parsons, Violette, Voyer; *Assistant Professors:* Artz, Gallo, Sanders

Program Description

Established in 1964, the master of business administration program at the University of Southern Maine is designed to prepare students for executive positions in business, industry, and nonprofit organizations in both the private and public sectors. It emphasizes development of a broad perspective, interpersonal skills, and analytical tools of general management. Students are encouraged to apply regardless of their undergraduate academic specialization. Those applicants whose previous educational background does not include the appropriate coursework (or their equivalents) will be required to complete the designated foundation courses in order to gain the academic background required for the MBA core courses.

The School of Business, Economics and Management has an enrollment of approximately 2,300 students in its undergraduate and graduate programs. Over 90 percent of the MBA students are employed in full-time business, managerial, and professional positions, completing their MBA courses on a part-time basis. The MBA program is tailored for working students with all courses offered in the late afternoon or evenings.

The School of Business, Economics and Management also houses two outreach centers which provide business research, training, and counseling services. Descriptions of the Center for Business and Economic Research and the Small Business Development Center are provided after the MBA course descriptions.

Admission

At the University of Southern Maine, several factors are evaluated in determining a candidate's admissibility to the MBA program. Included in the assessment of a candidate's potential to perform satisfactorily in the MBA program are the undergraduate grade point average (GPA), the rigor of the undergraduate field of study, the reputation of the institution awarding the baccalaureate degree, academic performance in any previous graduate coursework taken, the Graduate Management Admission Test (GMAT) score, three letters of recommendation, and a candidate's record of successful business or professional experience. Admitted students must have a formula score of 1050 or higher. (The formula is: undergraduate GPA x 200, plus the GMAT score.) For the purposes of computing this score, all undergraduate-level coursework, including courses taken after receipt of the bachelor's degree, is counted. Admitted students should have a minimum GMAT score of 500. Exceptions may be made for students whose overall background indicates that they show high promise as graduate students. During the 1991-1992 academic year, the average GMAT score among students given admission into the MBA program was 574.

Admitted students whose educational background is lacking the foundation courses listed under Program Requirements will have to complete satisfactorily each of these courses or their equivalents as stipulated in their letter of acceptance.

Application Material

In addition to the materials described in the Admissions chapter, applicants for this program must submit:

1. Official scores from the Graduate Management Admission Test (GMAT). (*Note:* Candidates with Ph.D., J.D., L.L.M., LL.D., M.D., D.D.S., D.M.D., or Ed.D. degrees normally are not required to take the GMAT.)
2. Three letters of recommendation.
3. Test of English as a Foreign Language (TOEFL) score of at least 550 for students whose native language is not English.

Application materials may be obtained from the USM Office of Graduate Affairs. All applications should be returned to the USM Office of Graduate Affairs.

Application Deadline

The application deadlines are March 15 (for the following fall) and October 15 (for the following spring)

Program Policies

In addition to the general policies described in the Academic Policies chapter, specific policies of this program are as follows.

Deferred Admission An applicant admitted for full-time or part-time study must register for that semester for which he or she has been admitted. In certain circumstances, with a written request received prior to the start of the semester in which the student has been admitted, deferred admission will be granted to regularly admitted applicants upon the approval of the MBA director. In the event that no written request is received, a student is considered to have withdrawn from the program.

Transfer Credit A student admitted to the MBA program may apply to have graduate credits transferred from other regionally accredited institutions of higher education. In order to apply, a student must have earned nine hours of graduate credits from the University of Southern Maine. A grade of B (3.00) or better must be received in each course requested for transfer credit. To be accepted, the course also must be judged applicable to a student's program of study. A maximum of 15 semester hours of transfer credit may be accepted from AACSB-accredited programs. Up to nine semester hours of transfer credit may be accepted from a regionally accredited program. When possible, students should ascertain whether or not transfer credit will be granted by the School of Business, Economics and Management before enrolling in a course at another institution.

First Enrollment An applicant admitted for full-time or part-time study must register in that semester for which he or she has been admitted.

Time Limit In order to be counted toward the MBA core and elective requirements, graduate coursework must be completed within six years of the date a student enrolls in his or her first course numbered MBA 610 or higher. Otherwise, coursework must be repeated.

Admissions Credit Individuals who are in the process of submitting their credentials for possible admission into the MBA program may be offered special student status for one semester only. To be considered for special student status, the student must have submitted an application, undergraduate transcript(s), and GMAT score(s). Special students may be allowed to register for up to nine credits of MBA coursework during this single semester. If a special student is not admitted before the next admissions period (fall, spring, summer), these MBA courses will not apply toward fulfillment of any degree requirements. Applications for special student admission are available from the MBA Office. Evidence of satisfactory fulfillment of specific course prerequisites must be submitted prior to the start of the course. If special student admission is granted, enrollment is on a space-available basis and requires approval of the Director of Graduate Programs in the School of Business, Economics and Management.

Transient Student Status A student enrolled in a graduate program in business or administration at another university, who has demonstrated that he or she is in good standing at that university, and whose qualifications meet the entrance requirements of the USM MBA program, may enroll in graduate courses within the School of Business, Economics and Management as a transient student. A student matriculating in an MBA program not requiring a GMAT score will be required to submit written evidence to determine comparability. Enrollment is on a space-available basis and requires evidence of satisfactory fulfillment of specific course prerequisites in addition to approval from the Director of Graduate Programs in the School of Business, Economics and Management.

Grade Policy All graduate courses numbered lower than MBA 610 must be completed with a minimum grade of C (2.00) in order to carry graduate degree credit. All graduate courses numbered MBA 610 or higher must be completed with a minimum grade of C- (1.67) in order to carry graduate degree credit. If a student receives a grade of D+ (1.33) or D (1.0) in a required course numbered MBA 610 or higher, the student must repeat the course. When a student repeats a course numbered MBA 610 or higher, all grades received in that course are included in the student's grade point average. A student who receives two grades of D (1.0) or D+ (1.67) or one grade of F (0.0) in courses numbered MBA 610 or higher will be dismissed from the program by the program director.

A student whose grade point average falls below 3.00 will be placed on probation. The student will have 12 semester hours in which to bring the grade point average back to at least a 3.00. Students who fail to do this may be dismissed by the program director. Any student may appeal any dismissal decision in writing to the MBA Admissions Committee.

A student who has completed the program of study must have a cumulative grade point average of 3.00 to receive the MBA degree. If a student has completed all requisite courses with a cumulative grade point average below a 3.00, a maximum of six additional credits of 600-level courses may be attempted in order to raise the cumulative grade point average to at least a 3.00.

Readmission A student who is dismissed from the MBA program may not be readmitted.

Special Policies Students matriculated in other graduate programs at the University of Southern Maine may enroll in MBA-level courses on a space-available basis providing that appropriate course prerequisites or other equivalents, as approved by the director of Graduate Programs, have been satisfied.

Either a minimum grade of C (2.00) from a regionally accredited institution of higher education or successful completion of an equivalent CLEP exam or departmental exam (if available) is needed to meet a sub-610 course requirement. Coursework from non-accredited institutions will be evaluated on an individual basis.

In order to receive graduate credit toward the MBA degree, a student must be registered in a graduate course as a graduate student. If a student has earned another graduate degree prior to admission to the MBA program, no more than nine credits used to fulfill requirements for that degree may be applied toward completion of the MBA degree.

Program Requirements

Foundation Courses Credit Hours
0-12

MBA courses numbered below MBA 610 are not applicable toward the 45 credits needed for graduation. These courses are required for students whose previous undergraduate education has not included the equivalent content. Grades earned in these courses are included in the student's grade point average. However, any of these sub-610 courses in which a student earns less than a C grade (2.0) must be repeated.

MBA 601 Economic Analysis	1.5
A. An intensive survey of microeconomic theory	1.5
B. An intensive survey of macroeconomic theory	1.5
MBA 602 Fundamentals of Accounting	
A. An intensive survey of financial accounting	1.5
B. An intensive survey of management accounting	1.5
MBA 603 Linear Algebra and Calculus for Business	
An introduction to linear algebra and calculus applications	3.0
MBA 604 Probability and Statistics for Business Decision Making	3.0

Computer applications skills All students must demonstrate computer skills. This may be done in one of three ways:

1. A grade of C (2.0) from a regionally accredited institution of higher education in a computer skills course.
2. Successful completion of a computer applications skills exemption exam.
3. A grade of C (2.0) in ABU 190, Introduction to Computers in Business.

MBA Core 33

These courses are required of all MBA students regardless of their previous undergraduate education.

MBA 610 Economics and the Business Environment	3.0
MBA 615 Social Responsibility	3.0
MBA 620 Financial Management	3.0
MBA 630 Managerial Accounting	3.0
MBA 640 Management Theory	3.0
MBA 642 Managerial Behavior	3.0
MBA 645 International Business	3.0
MBA 660 Marketing Management	3.0
MBA 670 Operations Research	3.0
MBA 675 Production Operations Management	3.0
MBA 680 Organizational Strategy and Planning	3.0

MBA Electives 12.0

Students select graduate courses in business, economics, or administration from the following list, although courses outside the School of Business, Economics and Management may be taken with approval of the Graduate Program Director.

MBA 613 Macroeconomic Analysis and Forecasting	3.0
MBA 627 Investment Management	3.0
MBA 633 Taxes and Management Decisions	3.0
MBA 643 Organizational Change and Development	3.0
MBA 648 Advanced Organizational Analysis	3.0
MBA 651 Human Resource Management	3.0
MBA 653 Collective Bargaining	3.0
MBA 665 Marketing for Nonprofit, Service, and Public Sector Organizations	3.0
MBA 666 Consumer Behavior	3.0
MBA 667 Market Research and Analysis	3.0
MBA 685 Entrepreneurship and Business Formation	3.0
MBA 690 Information Systems Management	3.0
MBA 691 Independent Study	1.0-3.0
MBA 699 Special Topics	1.0-3.0

The minimum number of credits required for the MBA degree (core and electives) is 45.

The program attempts to offer each foundation and core course once per academic year. However, listed courses are offered neither every academic year (September to May) nor during the Summer Session.

MBA 601 Economic Analysis

Two independent modules which provide an intensive survey of (A) microeconomic theory and (B) macroeconomic theory. Economic problems such as price and output decisions, resource allocations, inflation, and unemployment are analyzed. Cr 1.5 per module.

MBA 602 Fundamentals of Accounting

Two individual modules which provide an intensive survey of the fundamentals of financial and management accounting. Includes an appreciation and understanding of (A) generally accepted accounting principles and their application in the preparation and analysis of financial statements; and (B) the theory and tools used to evaluate situations in various business and not-for-profit environments. Cr 1.5 per module.

MBA 603 Linear Algebra and Calculus for Business

An introduction to the use and concepts of linear algebra and calculus as mathematical tools in business and management problem solving. Cr 3.

MBA 604 Probability and Statistics for Business Decision Making

An introduction to the concepts and use of probability and statistics as tools for business decision making. Prerequisite: MBA 603. Cr 3.

MBA 610 The Economic Environment and Business Decisions

A study of the effects of the economic environment on business decision making. Designed to develop the ability to understand the important economic concepts, issues, tools, and policies relevant to making decisions within a business firm. Prerequisites: MBA 601 A & B. Cr 3.

MBA 613 Macroeconomic Analysis and Forecasting

The first part of the course examines forecasting techniques that are important to managers. The second part of the course develops the analytic framework of macroeconomic analysis. This framework is applied in examining the major economic problems of inflation, unemployment, cyclical fluctuations, and economic growth. Alternative stabilization policies and instruments will be explored. The recent performance of the U.S. economy is examined. Prerequisites: MBA 601 A & B, MBA 604. Cr 3.

MBA 615 Social Responsibility

Examines legal issues confronting today's manager, including such topics as drug testing in the workplace, employee's right to privacy, sexual harassment, and the rights and responsibilities of officers and directors. This course also examines business ethics and attempts to develop practical solutions to ethical issues which confront today's managers. Prerequisites: MBA 601 A & B. Cr 3.

MBA 620 Financial Management

An intensive presentation of the traditional and modern approaches to the theory and practice of managerial finance. The management of capital sources and uses within the context of shareholder wealth maximization is presented using lectures, problems, cases, and supplementary readings. Prerequisites: MBA 601A, MBA 602 A & B, MBA 603, MBA 604, and computer application skills. Cr 3.

MBA 623 International Finance

This course deals heavily in the theory of foreign exchange movements utilizing standard macroeconomic principles, and application of theory in how to hedge foreign exchange exposure through use of forward, future, and option instruments; how to forecast foreign exchange rates; and how to measure foreign exchange exposure. Further topics include: the issues of fixed vs. floating exchange rates; the gold standard; the Eurocurrency market; import/export financing; international capital budgeting, the cost of capital and capital structure; transfer pricing; international taxation; international cash management techniques; and the third world debt crisis. Cr 3.

MBA 627 Investment Management

A systematic and in-depth treatment of security analysis and portfolio management. The security analysis segment develops E-I-C methodology augmented by deterministic valuation models. A major empirical analysis is carried out in conjunction with the theoretical developments. The portfolio management segment develops Markowitz efficient sets and the subsequent developments as contained in Sharpe-Lintner-Mossin theory. Related readings in Fama-Roberts market efficiency tests are assigned as needed. The empirical analysis component of this segment revolves around generating Markowitz efficient portfolios and measuring beta coefficients. Prerequisite: MBA 620. Cr 3.

MBA 630 Managerial Accounting

Development, analysis, and interpretation of accounting data and financial statements for managerial control, coordination, and decision-making; emphasis upon accounting as a tool of management. Topics are developed by utilization of case studies, problems, and reference material. Prerequisites: MBA 601 A & B, MBA 602 A & B. Cr 3.

MBA 633 Taxes and Management Decisions

Implications of current federal income tax laws and policies for business management decisions. Recognition of tax traps and potential tax savings. Prerequisite: MBA 602. Cr 3.

MBA 640 Management Theory

This course analyzes the tasks and responsibilities confronting administrators in complex organizations. It focuses on the issues involved and the problems encountered in designing the organizational structure, in establishing the decision-making processes, and in integrating the diverse sub-system in order to achieve the organizational goals. Within a systemic framework a contingency approach is utilized to present theoret-

ical concepts, practical applications, and managerial experiences. Cr 3.

MBA 642 Managerial Behavior

Emphasis on the importance of the influence process, motivational settings, and the structural backgrounds of organizational status and social relations. Analysis through case discussion, readings, and experiential exercises will develop a conceptual framework for improving individual decision-making ability with respect to individual, group, and intergroup problems. Cr 3.

MBA 643 Organizational Change and Development

The design and application of change strategies to improve organizational effectiveness. The planned, systematic and long-range efforts to change "how an organization operates," focus on various aspects of an organization's culture and its human and social processes. Diagnosis of such processes as cultural norms and values; power, competition, and collaboration; expectations and both formal and informal reward systems; social interaction and feedback patterns; conflict resolution; the structure and process of work; people development; and goal setting, planning and evaluation systems. Simulations, case studies, experiential exercises, and applied strategies for changing and improving organizations, using an array of behavioral science approaches. Cr 3.

MBA 645 International Business

A study of the business firm in the international environment using the model of the multinational firm. It focuses on the application of international trade and investment theory to the management operations of the multinational firm through use of computer simulation gaming, case studies, and experiential exercises. Prerequisites: MBA 601 A & B, MBA 602 A & B. Cr 3.

MBA 648 Advanced Organizational Analysis

Focuses on understanding organizations through different images. Each image draws attention to different aspects of organizing, and leads to different understandings of, and ways of managing, the organizing process. Shows how organization members can use these images as tools for informing and guiding action. Cr 3.

MBA 651 Human Resource Management

This course offers an applications-oriented overview of the fundamental issues involved in the practice of human resource management. Human resource productivity and quality of work life are the principal foci of this course. Strategies to enhance productivity and quality of work life comprise the content of the course. Topics covered include: human resource planning, staffing, performance appraisal, compensation and reward system design, training and development, employee rights, employee-management relations, and the international dimension of personnel and human resource management. Prerequisite: MBA 642 or permission of instructor. Cr 3.

MBA 653 Collective Bargaining

Discusses the major issues and problems in the

collective-bargaining process. Provides the business manager with the knowledge of sound collective bargaining attitudes and techniques necessary to achieve a responsible and mature attitude in his relationship with employee representatives. To this end, major focus is on the changing nature of public policy toward collective bargaining, including strikes, lockouts, grievance procedures, arbitration, mediation, and bargaining strategies and techniques. Cr 3.

MBA 660 Marketing Management

This course focuses on the major decisions that marketing executives face in their efforts to harmonize the objectives and resources of the organization with the needs and opportunities in the marketplace. Emphasis will be placed on the planning, analysis, implementation, and control of marketing programs designed to reflect changing environmental and competitive conditions. A marketing simulation game will provide the focal point of activity in the course and selected case studies and current readings will be discussed. Prerequisites: MBA 601 A & B, MBA 602 A & B, and computer application skills. Cr 3.

MBA 665 Marketing for Nonprofit, Service, and Public Sector Organizations

An introduction to the application of marketing concepts to nonprofit, non-business, public sector, and service organizations. The course combines lectures, case studies, readings, and field research experiences in developing an understanding of the marketing management function in nonprofit organizations. Prerequisite: MBA 660 or permission of the instructor. Cr 3.

MBA 666 Consumer Behavior

This course examines three aspects of consumer behavior: 1) cultural, sociological, and psychological influences on consumer motivation, 2) consumer acquisition of product information and formation of attitudes, and 3) the process consumers use to make consumption decisions. Implications for marketing strategy and segmentation will be discussed and students will apply marketing research techniques to analyze consumer behavior. Prerequisite: MBA 660 or permission of instructor. Cr 3.

MBA 667 Market Research and Analysis

A study of the procedure and applications of market research. Such areas as the organization and operation of a research department, survey methods, experimentation, measurement of potential demand, and the analysis of distribution costs are considered. Emphasis on developing the student's ability to apply these and other techniques toward the solution of marketing problems. Prerequisites: MBA 604, MBA 660. Cr 3.

MBA 670 Operations Research

A survey of commonly used models and analytical techniques in sophisticated quantitative-management-decision-making. Mathematical models are developed and applied, with the computer's aid, in a wide range of real-world business situations. Topics include: queuing theory, decision analysis, inventory theory, simulation, Markov analysis, classical optimization, math-

emational programming, forecasting, and network analysis. Prerequisites: MBA 603 and MBA 604. Cr 3.

MBA 675 Production Operations Management

An in-depth examination of the topics and problems associated with the management of production operations and the delivery of services. Emphasis is placed upon the design of model-based planning and control systems. Computer-based quantitative tools and techniques are heavily utilized. Prerequisite: MBA 670. Cr 3.

MBA 680 Organizational Strategy and Planning

Administrative practice at the higher levels of business management, with major emphasis on long-range executive planning of profit, sales, production, social goals, and objectives, and of strategies and policies to achieve these objectives. Coordinates all executive activities viewed as tools for use in developing administrative competence in the formulation of business policies at the decision-making level. Prerequisites: MBA 610, MBA 615, MBA 620, MBA 640, MBA 642, MBA 645, MBA 660. Cr 3.

MBA 685 Entrepreneurship and Business Formation

The entrepreneur's role in a technological society, with emphasis on the techniques and problems implicit in the launching of new enterprises or in their evaluation by investors. This course is designed for aspiring entrepreneurs and for the professionals or institutions with whom they interface when starting a business. Students are expected to have basic communication skills, a background (educational or experiential) in accounting and marketing, and a grasp of economics and the principles of management. Attention will be

paid to emerging opportunities in Maine. Materials are discussed by the instructor or invited experts in a seminar format that requires student participation and assignments calling for research, report writing, and presentation. Cr 3.

MBA 690 Information Systems Management

Frameworks and practical approaches for effectively managing information systems technology within business organizations. Students completing this course will be able to analyze complex information systems activities, evaluate their effectiveness, identify underlying causes of problems, and make reasonable recommendations for improving the situation. This course covers the major topics of: planning, organization, new technology, project management, management control, organizational culture and leadership as they relate to effective information systems. The content of this course is developed through a series of "real world" case studies and in-class discussion emphasizing a practical managerial perspective. Prerequisite: computer application skills. Cr 3.

MBA 691 Independent Study

Selected topics in the areas of Business and/or Administration may be studied and researched on an independent basis. Prerequisites: permission of the instructor and the director of Graduate Programs. Cr 1-3.

MBA 699 Special Topics

Enables students to take a variety of topics under the same course number. The specific title of each offering and the credit earned will be listed on the student's transcript. Prerequisites: graduate status and permission of the instructor. Cr 3.

CENTER FOR BUSINESS AND ECONOMIC RESEARCH

Director: Richard J. Clarey

Research Associates: B. Andrews, R. McMahon, D.B. Hodson;

The Center for Business and Economic Research (formally the New Enterprise Institute) was formed in 1974 as a business development and research project. It is the oldest University public service operation devoted to assisting small businesses in the state. Supported by both public and private sources, the Center for Business and Economic Research (CBER) operates a Technical Assistance Center that provides technical and other types of assistance to jurisdictions and organizations in the state. CBER also engages in applied research activities directed to support local, regional, and state economic development strategies, with recent emphasis on development and testing of new ways to assist businesses and people. Persons interested in additional information may contact the Center for Business and Economic Research, University of Southern Maine, 96 Falmouth Street, Portland, ME 04103, (207) 780-4187.

SMALL BUSINESS DEVELOPMENT CENTER

Director: Charles F. Davis

The Small Business Development Center (SBDC) was established in 1977 to help strengthen the economy of Maine by providing assistance to small businesses through the development and implementation of counseling, training, and information services. Services are available through a statewide network of seven SBDC subcenters. One-on-one counseling for small business owners and 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 and managers. A comprehensive business reference library is staffed with a full-time information specialist to provide business information services. 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 Economic and Community Development Office, the University of Southern Maine, and local sponsoring organizations. Persons interested in additional information may contact the Small Business Development Center, University of Southern Maine, 96 Falmouth Street, Portland, ME 04103, (207) 780-4420.

COLLEGE OF EDUCATION

Acting Dean: Richard E. Barnes

Director of Professional Development Center: George C. Lyons

Director of Center for Applied Research and Evaluation: David L. Silvernail

Office of Graduate Education, 118 Bailey Hall, Gorham, Maine 04038, Telephone: (207) 780-5306

Professional Development Center, 305 Bailey Hall, Gorham, Maine 04038, Telephone: (207) 780-5326

Center for Applied Research and Evaluation, 118 Bailey Hall, Gorham, Maine 04038, Telephone: (207) 780-5044

Education today takes place in a dynamic and demanding arena with many external pressures—financial constraints, public concern about the quality of life and learning in schools, changes in family lifestyles, demands for services to meet the needs of various populations. For professionals in schools and human service agencies, this context calls for a unique combination of initiative and responsiveness as well as careful reflection on purposes and strategies. Such a setting highlights the importance of the professional as a lifelong learner.

Since the introduction of graduate courses in 1964, the College of Education has been engaged in developing programs of study that respond to the needs of educators and other human service professionals. Benefitting from the expertise and advice of professionals across the state, these ongoing efforts to present state-of-the-art knowledge and skills have produced programs for a broad range of practitioners. Most recent developments include: 1) an extended teacher preparation program; 2) a program in school psychology; and 3) a joint USM/UM doctoral program in educational administration.

Continuing efforts to strengthen graduate offerings are guided by five priorities which reflect commitments of the College of Education:

Principles of Adult Learning: building on prior learning and experience to enable professionals to shape a program of study that contributes to their long-range career plans;

Community Building: encouraging teamwork and collaboration in problem solving;

Skill Development: integrating selected conceptual, technical, and interpersonal skills;

Inquiry: emphasizing the importance of asking the right questions and drawing on a variety of disciplines and perspectives to strengthen skills in analysis and decision making;

Field Study and Services: using case studies, field projects, and practicum experiences to illustrate the interplay between theory and practice, action and reflection; providing outreach to local systems through the Professional Development Center which offers courses, workshops, and conferences, as well as technical assistance for program planning.

These priorities provide the basis for planning and development activities in the College of Education. They help to create a rich and dynamic environment for professionals committed to lifelong learning and quality service in schools, agencies, and other educational settings.

Graduate Degrees

The College of Education offers the following degrees:

Master of Science in Education with concentrations in:

Counselor Education

Educational Administration

Industrial Education

Instructional Leadership

Literacy Education

Master of Science in Adult Education

Master of Science in Exceptionality

Master of Science in School Psychology

Graduate Education Programs

Within the College of Education, the Department of Professional Education and the Department of Human Resource Development offer the following graduate programs:

Department of Professional Education

Educational Administration Program: a focus on the school principalship with an optional concentration in special education administration

Exceptionality Program: concentrations in elementary special education, secondary special education, gifted and talented education

Extended Teacher Education Program: preservice teacher preparation program, levels K-12, leading to master of science in education

Industrial Education Program: develops professional competency in education and technology

Instructional Leadership Program: prepares educators for leadership activities and permits a variety of concentrations

Literacy Education Program: a focus on instruction in reading and writing at all levels

Department of Human Resource Development

Adult Education Program: concentrations in training and development, educational gerontology, English as a second language, community education, adult public school education, and counseling

Counselor Education Program: specialties in school counseling, mental health counseling (professional counseling, substance abuse counseling, clinical counseling), rehabilitation counseling, and psychosocial rehabilitation counseling

School Psychology: prepares the student to be licensed as a psychological examiner

Admission

Graduate programs seek candidates whose baccalaureate degree program, scholastic achievement, interest, motivation, and personal recommendations are indicative of success in graduate education studies and the chosen profession.

To be eligible for admission to a graduate education program, an applicant must meet the following requirements:

1. hold a baccalaureate degree from an accredited institution;
2. have earned a cumulative grade point average of 2.5 (on a 4.0 scale) in a baccalaureate degree program;
3. have earned a score of 40 points or above on the Miller Analogies Test, or 900 or above combined verbal and quantitative scores on the Graduate Record Examination (requirement waived for applicants already holding a graduate degree);
4. Test of English as a Foreign Language (TOEFL) score of at least 550 for students whose native language is not English.

Applicants who fail to meet the standards for #2 or #3 must enclose a letter asking for special consideration, in which they give evidence of ability to complete graduate studies successfully. Without such a letter, applications which fail to meet eligibility requirements may be automatically rejected.

Special admission requirements are listed for educational administration, exceptionality, instructional leadership, counselor education, adult education, and school psychology.

Interviews are required for all candidates applying for literacy education, counselor education, adult education, and school psychology. Other programs may require interviews and/or writing samples as part of the application process.

Please consult the following pages for details.

Application Materials

Candidates for admission must file a complete application, including test scores, with the Office of Graduate Education prior to the deadlines defined below.

A complete application contains the following items:

1. One completed copy of the application form.
2. Official transcripts of all previous college or university work (a transcript is official only if sent directly from the awarding institution).
3. Three letters of recommendation. These should be from persons in a position to judge the applicant's academic preparation and ability to pursue graduate and professional work. Recommendations should be returned directly to the Office of Graduate Education, 118 Bailey Hall, Gorham, Maine 04038.
4. Official scores on the Miller Analogies Test or the Graduate Record Examination, taken within five years of application (scores are official only when sent directly from the testing service).
5. An application fee of \$25.00 (nonrefundable).

Application Deadline

The application deadline is February 1 for summer (May) or fall (September) admission and September 15 for spring (January) admission, for most programs. There is one deadline for the school psychology program and the Extended Teacher Education Program: February 1, for fall admission.

It is the applicant's responsibility to ensure that all application materials, including test scores, are received

by the Office of Graduate Education prior to the application deadline. All materials relating to an application become the property of the University of Southern Maine.

All eligible applications are reviewed by a graduate education admissions committee which holds final responsibility for admission decisions. Applicants are notified by mail of admission decisions by the program or the Office of Graduate Education.

Admissions Appeals

Applicants may appeal an admissions decision by submitting a written appeal to the department chair for the appropriate program within 30 days of notification of rejection.

The appeal will be reviewed by the appropriate program faculty and the chair will notify the applicant of action taken on the appeal.

Information that will be considered in an admission appeal may include, but will not be limited to, the following:

1. grades earned in graduate coursework from an accredited institution;
2. evidence of professional achievements that substantiate potential for success with graduate education studies;
3. extenuating circumstances (e.g., non-native English speaking individuals).

The quality of the organization of information will also be considered in the review of appeals.

Should the applicant wish to pursue the appeal process further, a written appeal should be submitted to the dean of the College of Education. Further appeals may be made to the director of Graduate Affairs and the provost.

Graduate Assistantships

A limited number of assistantships are available for graduate education students. Assistants must carry a minimum of 6 credit hours per semester. Duties may involve teaching, research, advising, office administration, and supervision of student teachers.

Applications for assistantships are available from the Office of Graduate Education, 118 Bailey Hall. The recommended application deadline is April 1, 1993.

Program Policies

In addition to the general policies described in the Academic Policies chapter, specific policies for education programs are as follows:

Transfer Credit Up to a total of six credit hours may be approved as transfer credit, provided these credits were earned no more than three years prior to matriculation. Additional credit may be approved by the appropriate program chair in unusual circumstances.

Admission Credit A maximum of six credit hours may be approved by the appropriate department chair for admissions credit. These are in addition to transfer credits. In exceptional cases, students may petition to have additional credits accepted, upon admission to a program.

Undergraduate Credits Graduate credit will not be given for courses taken to fulfill undergraduate requirements. Any other 300 - 400-level courses must be approved in advance by appropriate College of Education graduate faculty if those credits are to be applied to fulfill graduate program requirements.

Course Waivers Should a student wish to waive course requirements or request course substitutions, he or she must contact the appropriate department chairperson to work out program changes. No more than 6 hours of academic credit may be waived or substituted.

Comprehensive Examination/Portfolio/Practicum/Project All degree students must complete a comprehensive examination/portfolio/practicum/project that will assess the student's breadth and depth of knowledge of the program field. Please consult each program of study for the specific information regarding comprehensives, portfolios, practica, or projects.

Degree students will have an opportunity to receive an examination briefing at least two weeks prior to the examination date, and the criteria to be used in evaluating the examination will be available in written form. In addition, students have the right to receive an explanation of the examination results.

Comprehensive examinations will be graded as pass with honors, pass, or fail. A student may take the examination no more than twice; two failures will result in the student's being withdrawn from the program.

Information on examination dates and comprehensive examination/portfolio/practicum registration forms are available from the Office of Graduate Education.

Master's Thesis A degree student may earn up to six credit hours for completing a master's thesis. Students are encouraged to consult with their faculty advisor regarding thesis requirements.

Teacher Education Program Policy The faculty of the College of Education reserves the right of retaining only those students who, in the judgment of the faculty, satisfy the requirements of scholarship, maturity, and personal suitability for teaching.

DEPARTMENT OF PROFESSIONAL EDUCATION

Chair: Charles M. Lyons

Professors: Cohen, Miller, O'Donnell, Wood; *Associate Professors:* Amoroso, Austin, Barnes, Broyles, Capelluti, Curry, Goldsberry, Kimball, Kissen, Kulawiec, Lyons, Major, Nannay, Silvermail, Smith, Zaner; *Assistant Professors:* Bazinet, Howick, Rees

Educational Administration Program

The master of science in education degree in educational administration focuses on the preparation of leaders for educational settings as building principals and special education administrators. The program of study is designed to develop general leadership perspectives and specific technical skills, drawing on the humanities as well as the social and administrative sciences. Courses include those knowledge area requirements for certification of K-12 principals in Maine.

Completion of the educational administration program should provide for the development of perspectives and skills that will enable each graduate to:

1. assume a school-wide and district-wide, as opposed to a classroom, perspective on matters related to schools and schooling;
2. develop concepts of effective teaching, effective school administration, and effective schools;
3. understand the norms, values, and ethics of school administration;
4. understand and utilize research findings and relevant research techniques and procedures;
5. influence and empower people as individuals, role holders, and members of groups and organizations;
6. identify, grasp, and use theories, models, and conceptual constructs basic to leadership;
7. be proficient in skills of communication and group facilitation;
8. work for the provision of equal opportunity for all clients;
9. develop and use a technical core of skills related to school administration;
10. reflect on their own beliefs and practices as school administrators and educational leaders.

Special Admission Requirements

Admission to the educational administration program is on a selective basis. Only those candidates who offer the prospect of successful study and practice in the field of educational administration are admitted. Several factors are considered: the applicant's overall undergraduate performance and the reputation of the institution awarding the degree, scores on the Miller Analogies Test or Graduate Record Examination, professional experience (with preference given to those candidates with three or more years of teaching and evidence of successful leadership experience in school settings), the candidate's personal statement, recommendations from persons able to comment from direct knowledge on the applicant's potential for success as a building administrator, and other related academic or professional experiences. Interviews may be required as part of the application process.

Program of Study

Every student admitted to graduate study in educational administration progresses through a cycle of courses and experiences that (1) provide an introduction to the field of school administration and promote socialization into the profession; (2) develop understandings of the foundations and conceptual frameworks that underpin the study of leadership and administration; (3) develop a technical core of skills and functions for school administration; and, (4) allow for the application of knowledge and skills in school settings. The program requires thirty-six (36) credits for completion. Each student progresses through the following blocks of courses:

Entry Block (6 credits)

EDU 670 Introduction to Administration
EDU 600 Research Methods and Techniques

Foundations/Functions Block

Foundations (6 credits)
EDU 671 Organizational Behavior
EDU 672 Political Basis for Decision Making

Functions (15 credits)
EDU 603 Analysis of Teaching
EDU 604 Curriculum Development
EDU 678 School Law
EDU 679 Evaluation and Supervision
EDU 680 Staff Development

Application Block (9 credits)

EDU 677 Seminar in School Management
EDU 685 Internship in Educational Administration
EDU 698 Applied Research Project in Educational Administration

Entry Block

The entry block includes an introductory course and a course in research. The introductory course is designed to introduce students to the profession of educational administration and to develop a familiarity with notions about the cultural and organizational dimensions of leadership in general and school leadership in particular.

The research course provides an understanding of the type of thinking and problem solving that is reflected in educational scholarship and introduces students to research methodologies, the educational literature, and the skills necessary to locate and use research resources.

Foundation/Functions Block

This block combines work in the foundations of educational administration and the functions and skills directly related to the jobs of educational administrators. The foundations portion focuses on groups, organizations, and politics, and helps students gain familiarity with the contributions of the behavioral sciences and humanities to leadership development.

The functions portion of the block is designed to develop a technical core of skills, behaviors, and methods of analysis that effective practicing administrators use on the job. Coursework in the models of teaching, curriculum development, school law, evaluation and supervision, and school improvement/staff development provide degree candidates with many of the skills they will need in entry level positions and beyond.

Application Block and Applied Research Project

Comprised of three courses taken in sequence, the application block is designed to provide “real life” experiences in school administration within a context that supports reflection and considered action. The Seminar in School Management engages degree candidates in a series of case studies and simulations designed to provide students with information on daily management practices and issues facing the principal. The Internship provides the opportunity for candidates to work closely with a field supervisor, or mentor, in a specific job situation. The Internship encourages reflective practice and provides the arena for testing skills and perspectives learned throughout the program. As part of the internship experience, the student will design and implement a thorough and thoughtful investigation of an educational problem of professional importance in an organizational setting.

The Applied Research Project in Educational Administration provides a culmination of the internship experience by engaging the student in an action research project. This project, written up in the Project Report, documents the student’s attempt to synthesize and apply major learnings from the program through the identification of a problem pertaining to educational administration in organizational setting. Review of pertinent literature and other germane resources, an examination of site-specific factors that influence the problem or its resolution, the formulation of a strategy to address the selected problem, the application of at least the first steps of the strategy, and the documentation and critical assessment of the applied steps are to be included in the report. The written Project Report will be verbally defended.

Note: Students in the concentration in Special Education Administration will complete a portfolio. See the description of portfolio requirements as listed for the Exceptionality Program below.

Special Education Administration Concentration

Entry Block (6 credits)

- EDU 670 Introduction to Administration
- EDU 600 Research Methods and Techniques

Foundations/Functions Block

Foundations (6 credits)

- EDU 671 Organizational Behavior
- EDU 672 Political Basis for Decision Making

Functions (15 credits)

- EDU 604 Curriculum Development
- EDU 679 Evaluation and Supervision
- EDU 680 Staff Development
- EXE 682 Special Education Law
- EXE 684 Administration of Special Education

Application Block (9 credits)

- EXE 699 Directed Study
- EXE 688 Internship in Exceptionality

Exceptionality Program

The master of science in exceptionality degree provides intermediate and advanced-level training for individuals who wish to work in the area of special education and who have had previous experience in education or human services. Cross categorical preparation is offered at two levels: elementary education and secondary education. In addition, there is a specialty program in gifted child education. There is also a course sequence in special education administration offered for those individuals matriculated into the educational administration program. The master of science in exceptionality degree requires 39 credits of coursework.

Graduates will develop a range of intermediate and advanced skills related to children and youth who are exceptional. Specifically, graduates will be able to describe and/or demonstrate:

1. educational and behavioral characteristics, needs, and services available for children and youth who are exceptional, including appropriate state and federal laws, regulations, and guidelines;
2. methods of assessing academic, behavioral, social, pre-vocational, and vocational strengths and weaknesses of students who are exceptional;
3. methods, materials, and procedures for organizing, conducting, and evaluating individualized educational programs based on assessed strengths and weaknesses;
4. methods of managing disruptive and inappropriate student behavior and fostering pro-social behavior;
5. processes of consultation and program planning with parents, teachers, and other professionals, including interpersonal skills and techniques associated with effective consultation;
6. principles of organizing and administering special education programs as well as the supervision of teachers, aides, and other professionals who deliver services to individuals who are exceptional.

Program of Study

A. Elementary Special Education

Core (15 credits)

EDU	600	Research Methods and Techniques
EXE	611	Nature and Needs of Learners Who Are Exceptional
EXE	653	Assessment in Special Education
EXE	685	Advanced Seminar in Special Education
EXE	699	Directed Study

Skills (12 credits)

EXE	613	Curriculum and Instruction for Children with Learning and Behavior Problems
EXE	687	Technology in Special Education
EXE	615	Classroom and Behavior Management for Learners Who Are Exceptional
EXE	617	Assessment for Instruction
EDU	621	Literacy Problems: Assessment and Instruction
EXE	643	Including Students Who are Deaf or Hard of Hearing in Public Schools
EXE	679	Consulting for the Resource Teacher

Management of Special Education (6 credits)

EXE	669	Technical Assistance Systems
EXE	684	Administration in Special Education
EXE	682	Special Education Law: Conflict and Resolution
EXE	692	Transitional Planning and Programming for Students Who Are Exceptional

Electives (6 credits, selected with the consent of the advisor)

B. Secondary Special Education

Core (15 credits)

EDU	600	Research Methods and Techniques
EXE	611	Nature and Needs of Learners Who Are Exceptional
EXE	653	Assessment in Special Education
EXE	685	Advanced Seminar in Special Education
EXE	699	Directed Study

Specialization (15-21 credits)

EXE	679	Consulting for the Resource Teacher
EXE	688	Internship in Exceptionality
EXE	690	Psychology of Adolescents with Disabilities
EXE	692	Transitional Planning and Programming for Secondary Students
EXE	693	Prevocational and Vocational Assessment
EXE	694	Vocational Education for Students with Special Needs
EXE	695	Curriculum and Instruction-Secondary

Electives (3-9 credits, selected with the consent of the advisor)

C. Education of the Gifted/Talented

Core (12 credits)

EDU	600	Research Methods and Techniques
EXE	611	Nature and Needs of Learners Who Are Exceptional
EXE	653	Assessment in Special Education
EXE	699	Directed Study or EDU 699 Independent Study

Specialization (12 credits)

EXE	659	Education of the Gifted/Talented
EXE	660	Curriculum and Methods for Teaching the Gifted
EXE	662	Creativity and the Gifted/Talented
EXE	663	Management in Education of the Gifted

Electives (15 credits, selected with the consent of the advisor)	
EXE 550	Teaching Gifted Students in the Regular Classroom
EXE 661	Advanced Curriculum and Methods for Teaching the Gifted
EXE 664	Gifted Students in Special Populations
EXE 665	Institute for Program Planners in Education of the Gifted/Talented
EXE 666	Models in Education of the Gifted
EXE 667	Social/Emotional Needs of the Gifted
EXE 668	Seminar in Education of Gifted/Talented
EXE 669	Technical Assistance System
EXE 670	Secondary Programs for the Gifted and Talented
EXE 679	Consulting for the Resource Teacher

Other electives may be selected in consultation with the advisor.

D. Special Education Administration (open only to students matriculated in the educational administration program). See section on Educational Administration program for specific requirements.

Portfolio

All students in the exceptionality program, including those concentrating in special education administration, must complete a professional portfolio. The purpose of the portfolio is to provide an opportunity for students to reflect upon the knowledge they have gained in the program. It is expected that the portfolio responses will demonstrate the integration of knowledge, an understanding of the principles of one's specialty area, the application of knowledge to practice, an understanding of research methodology, and the ability to communicate well. Students are encouraged to discuss the portfolio process in more detail with their advisors.

Extended Teacher Education Program

The task of preparing teachers to meet the needs of learners in the 21st century is a complex and demanding one. The College of Education offers an extended teacher preparation program based on the premise that teachers best develop through building on related experiences over time. The full-time, year-long, post-baccalaureate phase will augment undergraduate coursework and life experiences.

Students will be admitted to the College of Education at the post-baccalaureate level only. Admission to the teacher preparation program will be highly selective and based on excellence in the completion of a bachelor's degree in an academic discipline, experiences in education, self-knowledge and maturity, and commitment to teaching as a career. The application process will center on the candidate's presentation of credentials demonstrating knowledge of self, the learner and the learning process, academic competencies, and educational experiences.

The post-baccalaureate year will be a cohesive, integrated program of site-based seminars, coursework, and experiences focusing on the acquisition and application of learning principles and practices. Upon completion of USM's extended teacher preparation program graduates will be certified to teach within the state of Maine. Coursework pursued at the graduate level may be applicable to graduate degrees offered by the College of Education. Students will be admitted for preparation to teach at the elementary, middle school, or secondary levels.

Please contact the Office of Graduate Education for more information about this program, admissions requirements, and guidelines for application materials, including portfolio development.

Industrial Education Program

Students will be admitted to the industrial/technology education program as a cohort group for the three-year cycle of coursework. For information about the next program cycle, please contact the coordinator of Technology Education, Department of Technology, USM, Gorham, Maine 04038, telephone 780-5450.

The primary purpose of the master of science in education degree in industrial education is to develop the professional and personal competencies of industrial arts/technology education and vocational/occupational (trade and industry) teachers so they may successfully progress in their chosen field. Program experiences are designed to assist students in becoming change agents committed to improving the quality of education and life for the citizens of today and tomorrow.

The industrial education graduate program at the University of Southern Maine is concerned with the development of professional competencies in education and technology. Specifically, upon graduation, the students will be able to:

1. exhibit an acceptable degree of professional competence and proficiency essential for meeting educational, social, and technological challenges;
2. explain how industrial/technology education affects the development of learners in a contemporary technological culture;
3. analyze and evaluate recent issues and innovations in industry and technology and initiate curriculum revision accordingly;

- interpret and initiate scholarly research in industrial/technology education and utilize the results of research for professional development;
- explain the historical development, cultural impact, and projected future implications of technology on society.

Program of Study

The industrial education program requires a minimum of 36 credit hours of study. The program of study includes the following:

Core Courses (21 credit hours)

EDU	600	Research Methods and Techniques
ITE	650	Technology: Its Evolution and Social Impact
ITE	651	Curriculum Trends in Industrial/Technology Education
ITE	652	Computer Applications in Industrial/Technology Education
ITE	653A&B	Contemporary Problems/Technical Developments in Selected Technologies (Directed Study)
ITE	654	Measurement and Evaluation in Industrial/Technology Education

Electives (9 credit hours)

Students will take a minimum of 9 graduate credit hours in coursework selected from professional education programs with the consent of their advisors.

Capstone Experience (6 credit hours)

Students will complete a minimum of 6 credit hours through ITE 655 Practicum/Seminar or through a master's thesis.

Admission Requirements

The requirements stated in the Academic Policies chapter and those identified under the College of Education section will apply to all industrial education graduate students. A candidate's undergraduate background should be in the field of industrial education. Those seeking admission with a degree in another discipline will be considered on an individual basis by the Department of Technology graduate faculty.

Instructional Leadership Program

The master of science in education degree in instructional leadership is designed for experienced educators who wish to further develop their effectiveness as teachers and leaders within their educational communities. The 39-credit program consists of three major components: the core (15-18 credits), the concentration (15-18 credits), and the practicum (6 credits). Five themes help shape each of these components: 1) emphasizing the development of the relationship between educational purposes and practices; 2) focusing on finding and framing problems, evaluating aims, and enhancing existing goals and practices; 3) experiencing and valuing collaborative group work; 4) developing and experiencing effective interpersonal and professional communication; and 5) experiencing and valuing action research, examining actual practice, and assessing its success in meeting stated aims and its overall educational merit. These themes combine to create a program clearly focused on the importance of informed and reflective practice as the essence of educational leadership.

The teaching mission of the instructional leadership program is to model an educational program that:

- develops knowledge and skills useful for the reflective practice of designing, implementing, and evaluating environments conducive to learning;
- relates theory and research pertaining to education and to leadership directly to the practices of teaching and other forms of instructional leadership both by reason and by example;
- establishes clear and ambitious expectations for learners and evaluates success in attaining these expectations;
- develops functional leadership behaviors in each participant in the program; and
- examines the needs and progress of each learner so that adaptations supportive of both the mission and the learner can be made.

In addition to their teaching mission, the faculty of the instructional leadership program are committed to model educational leadership both through teaching excellence and through continuing their own scholarly efforts which include ongoing research and service to the schools of Maine, to the University, and to the academic community.

Special Admission Requirements

In addition to the general requirements of the College, the following requirements apply:

- the three letters of recommendation must address the applicant's potential for success in the program and as an instructional leader; and
- applicants must have a GPA of 3.0 or better on all previous undergraduate and graduate work.

Applicants not meeting the GPA requirement may be granted conditional admission status during which time students must successfully complete designated courses with a grade of B or better. Upon successful completion of the designated courses students may be granted regular admission status.

The admission process may require a formal interview. During the interview, issues related to the following topics will be covered: potential for leadership, commitment to the education of children and youth, and skills and experiences in working with others. A spontaneous writing sample on an instructional leadership topic may be required and if so, would be administered as part of the interview process.

Program of Study

Core

The 15-18 credit instructional leadership core is designed to provide learners with a solid foundation in curriculum, contextual considerations, and the dynamics of leadership in educational settings. It is recommended that students take these courses in the sequence shown.

EDU	610	Critical Issues in Teaching and Learning
EDU	600	Research Methods and Techniques
EDU	604	Curriculum Development
EDU	603	Analysis of Teaching
EDU	601	Naturalistic Inquiry and Qualitative Methods

A sixth course will be required for students selecting a 15 credit concentration.

Concentration

A concentration is an organized block of 15-18 credits that has both demonstrable thematic consistency and relates to the broader theme of educational leadership. Students may either select one of the four established concentrations or, after acceptance into the program, petition faculty to accept a self-designed program concentration.

Established program concentrations are:

American and New England Studies Concentration (18 credits)

NES	601	Culture and Society in New England
NES	602	Approaches to the Study of New England
3 credit seminar on development of interdisciplinary curriculum		
Plus 3 courses from the New England Studies graduate program selected with advisor's approval.		

Curriculum Coordination Concentration (18 credits)

EDU	606	Learners and Learning
EDU	614	Educational Leadership
EDU	671	Organizational Behavior
EDU	679	Evaluation and Supervision of School Personnel
EDU	680	Staff Development
EDU	605	Curriculum Inquiry or
HRD	665	Measurement and Evaluation

Middle Level Concentration (18 credits)

EDU	514	Reading and Writing in Content Areas
EDUX	615	Middle Level Curriculum and Organization
EDUX	617	Teaching in the Middle Level School
EDUX	619	Special Topics in Middle Level Education
EDU	689	Peer and Clinical Supervision
HRD	669	Adolescent Development

Organizational Leadership Concentration (15 credits)

EDU	671	Organizational Behavior
EDU	679	Evaluation and Supervision of School Personnel
EDU	680	Staff Development
Plus 2 EDU or HRD graduate level electives approved by advisor		

Teacher/Leader Emphasis Concentration (15 credits)

EDU	611	Contexts for Teaching and Learning
EDU	679	Evaluation and Supervision of School Personnel
EDU	680	Staff Development
Plus 2 EDU or HRD graduate level electives approved by advisor		

Practicum

The EDU 612 Practicum/Seminar and its major project, the Practicum Report, constitute the culminating project (comprehensive examination) of the program. The Practicum Report documents the student's attempt to synthesize and apply major learnings from the program through the identification of a problem pertaining to educational leadership in a field setting, a review of pertinent literature and other relevant resources, an examination of site-specific factors that influence the problem or its resolution, the formulation of a leadership strategy to address the selected problem, the application of at least the first steps of the strategy, and

the documentation and critical assessment of the applied leadership steps. A presentation of the procedures, findings, and conclusions of the practicum study culminates the program.

Literacy Education Program

The master of science in education degree in literacy education provides students with a sound theoretical and empirical knowledge base relating to literacy acquisition. The purpose of the program is to enable students to become informed decision makers who are capable of designing and implementing appropriate up-to-date instruction in reading and writing at all levels. Participants will acquire the knowledge and skills necessary to become effective advocates for improving literacy instruction in their schools. The program is designed for classroom teachers, literacy specialists, and other experienced educators whose primary responsibility is helping students to become competent language users. The master of science in education in literacy education requires 33 hours of coursework and successful completion of the comprehensive examination. Students' performance in coursework and practica is reviewed prior to enrollment in the clinical experience, EDU 529. A positive evaluation by faculty is a prerequisite to enrollment in this final phase of the program.

Program of Study

Required Core Courses (30 credit hours), in recommended sequence:

EDU	620	Foundations of Literacy Instruction
EDU	510	Development of the Composition Process
EDU	607	Research Design in Literacy
EDU	511	Children's Literature or
EDU	513	Adolescent Literature
EDU	514	Teaching Reading in the Content Areas
EDU	622	Language and Literacy for Young Children or
EDU	630	Organizing for Literacy Instruction
EDU	621	Literacy Problems: Assessment and Instruction
EDU	529	Reading and Writing Workshop
EDU	634	Seminar in Literacy Research

Electives (3 credits, selected with the consent of the advisor)

EDU	524	Supervised Practicum in Literacy
EDU	633	Special Applications in Literacy

Literacy Education Program, ESL Concentration

The master of science in education degree in literacy education with a concentration in English as a second language provides students with the theoretical and empirical knowledge base related to language acquisition for limited English proficient (LEP) learners. The emphasis is on literacy development in the second language and is designed to provide classroom practitioners with the skills to assess language deficiencies properly and implement instruction to improve learner proficiency for competent second language use.

Program of Study

Required Core Courses (24 credits)

EDU	600	Research Methods and Techniques
EDU	620	Foundations of Literacy Instruction*
EDU	510	Development of the Composition Process*
EDU	514	Teaching Reading in the Content Areas
EDU	560	ESL Classroom Teaching Practices*
EDU	561	Aspects of the English Language*
EDU	636	Supervised Practicum in ESL
EDU	635	Seminar in Second Language Literacy

ESL Electives (9 credits)

EDU	562	The Multicultural Classroom*
EDU	564	Second Language Curriculum Design*
EDU	563	Language Testing and Assessment*

Other electives can be selected from the literacy education program course offerings described in this catalog.

State endorsement in ESL requires professional teacher certification as well as coursework in ESL instruction. The starred (*) courses above meet state requirements and should be selected with the guidance of an advisor. Further information on the ESL concentration and courses may be obtained from the program coordinator.

EDU 501 Introduction to Computer Application

This course is designed to orient the pre-service and in-service teacher to terminology, operation, evaluation, and applications of microcomputers, hardware and software, as related to our educational system. Additionally, the course will deal with other more traditional electronic media related to modern learning processes. Cr 3.

EDU 510 Development of the Composition Process

This course in language arts emphasizes the development of writing proficiencies through a process approach. Writing growth and its relationship to reading and oral language development is examined. A thorough study of current research and theory relating to the composition process leads to the development of instructional programs that will foster students' growth as writers. Students gain experience with the writing process through participation in an ongoing, in-class writing workshop. Appropriate for elementary teachers; most secondary teachers can be accommodated. Cr 3.

EDU 511 Children's Literature

Designed for teachers who wish to develop a deeper understanding of the literature written for children ages 4-12, and who want to become competent and creative catalysts in bringing children to books. Attention is given to standards of selection, curriculum implications, and methods of using books to individualize reading instruction. Students are expected to read widely in juvenile collections in order to establish a basis for selecting appropriate literary fare. Cr 3.

EDU 513 Adolescent Literature

This course is designed for the middle or secondary teacher who wishes to develop a deeper understanding of literature for adolescents and who needs to learn how to help young people read widely. Attention will be given to the dynamics of adolescence, individualizing reading, standards of selection, and creative methods of introducing books. Cr 3.

EDU 514 Teaching Reading in Content Areas

This course explores techniques and processes that can be applied by content teachers to improve reading ability. Emphasis is on competencies that students use in content areas and strategies for teaching them how to apply them—a process of integrating the teaching of reading/study skills while teaching a subject matter. The course has practical application for all classroom teachers in grades 4 through 12. Cr 3.

EDU 515 Teaching Writing: Middle/Secondary Levels

This course is designed for teachers of grades five through twelve in language arts and other content areas. Focus is on writing as a process. Topics include using writing for promoting content learning as well as testing knowledge. Cr 3.

EDU 524 Supervised Practicum in Literacy

This experience is given in conjunction with the Literacy Center or the Reading and Writing Workshop.

Working under supervision, students use selected assessment instruments with adults/children who have learning and reading difficulties. Testing sessions will be unique and geared to specific diagnostic needs perceived by instructors. Cr 1-6.

EDU 529 Reading and Writing Workshop

This course requires the application of strategies for planning and implementing literacy programs for students at different stages of reading progress. Tutoring experiences are augmented and related to the professional literature and research through frequent opportunities to explain and defend observations in seminars. Extensive reading from basic texts, current references, and periodicals are stressed. Emphasis is on the appropriate application of research-validated teaching and diagnostic techniques in supervised settings. Prerequisites: completion of core courses and instructor permission. Cr 6.

EDU 560 ESL Classroom Teaching Practices

This course explores current methods and practices of English as a second language (ESL) at various age and proficiency levels with an examination of the underlying assumptions about language and language learning; the role of the teacher; the role of learners; the nature of learning experiences; and the role of instructional materials. Emphasis will be on evolving a thoughtful approach to meaningful ESL classroom instruction. Cr 3.

EDU 561 Aspects of the English Language

This is a survey course examining the elements of English and their relevance in second language acquisition. The course will analyze the phonetic, morphological, syntactic, and semantic structure of English; the social aspects such as variation, change, and register; and the communicative aspects such as pragmatics, psycholinguistics, and acquisition. Application of these language aspects will be accomplished through problem solving and discussion activities integrating the aspects of English within the second language classroom context. Cr 3.

EDU 600 Research Methods and Techniques

This course studies the concepts, principles, and techniques of educational research with an emphasis on scientific inquiry and problem solving, designed for both the producer and consumer of educational research. Individual research proposals and reports are completed. Prerequisite: open to matriculated students only. Cr 3.

EDU 601 Naturalistic Inquiry/Qualitative Methods

This course introduces students to an approach to educational research that studies schools as natural settings. Depending largely on qualitative methods, students will learn the assumptions underlying field research and will develop the ability to read qualitative/naturalist studies critically and to do small site-based research projects. Prerequisite: EDU 600. Cr 3.

EDU 602 Philosophy and the Teacher

During this course, several educational philosophies will be examined and the individual will analyze the

function of the teacher within those frameworks. There will be an investigation of problems in education and schooling from the perspective of the philosophies studied so as to promote understanding of educational thought and practice. Cr 3.

EDU 603 Analysis of Teaching

This course provides an opportunity to view teaching from the perspective of selected conceptual frameworks and research findings in the theory and practice of teaching. Analysis of individual teaching behavior is an important aspect of this course. Cr 3.

EDU 604 Curriculum Development

This curriculum course will provide students with an understanding of what curriculum and curriculum development are. Using a collaborative approach, teachers and administrators will plan the design of a curriculum consistent with personal ideals and a given context. Students will analyze the curriculum in terms of knowledge, skills, learning processes, and affective dimensions. Special emphasis will be given to the processes of curriculum implementation and curriculum evaluation. Prerequisite: teaching experience or permission of instructor. Cr 3.

EDU 605 Curriculum Inquiry

This advanced curriculum course will allow students to take a personal inquiry perspective that will focus on curriculum renewal by looking at the realities of present classroom conditions but pushing for new concepts and processes that will envision meaning for all students. This emphasis will require access to teaching/learning settings for analysis. This course will provide an opportunity to relate broad curriculum issues to specific areas of the disciplines, to stages of human development, and to the theoretical bases of learning. Cr 3.

EDU 606 Learning and Learners

This course explores learning theories, the developmental characteristics of learners, and learning in the context of teaching. Critical issues in learning are explored while reflection on and analysis of the student's own learning base is utilized. The course is designed for anyone involved in the learning process. Cr 3.

EDU 607 Research Design in Literacy

This course is designed to enable students to become both knowledgeable consumers of the research of others and generators of new knowledge through their own classroom-based research and inquiry. Students will be presented with various research paradigms and will learn and practice techniques of data collection and analysis. Each student will select a problem, design a research study, collect and analyze sample data, and summarize findings or revisions needed to improve the study. Prerequisites: EDU 620, EDU 510. Prerequisites for teachers who are non-matriculated students may be waived by the instructor. Cr 3.

EDU 610 Critical Issues in Teaching and Learning

This course provides grounding and direction for a spiral of learning to continue throughout the program. It draws on direct and observed experience of participants, as well as on the literature of theory, re-

search, and practice, to explore critical issues in teaching and learning. It aims to provide students with a process of inquiry useful for identifying, classifying, and analyzing instructional problems and the skill in making decisions about curriculum and pedagogy. Prerequisite: matriculation or permission of instructor. Cr 3.

EDU 611 Contexts for Teaching and Learning

This course will develop each student's inquiry processes—ways to identify, classify, and analyze problems and to create alternatives for them. This course develops another aspect of inquiry—the analysis, understanding and creation of teaching and learning settings (contexts). These contexts constitute the focus of this course. Cr 3.

EDU 612 Practicum/Seminar

For experienced teachers in the instructional leadership program, the practicum/seminar is a two-semester field-based project and concurrent seminar requiring a culminating activity in which the student utilizes the major learnings from the program in identifying and applying problem-solving strategies to a specific area of concern in a field setting. A written practicum report will be verbally defended. Cr 6. (3 credits each semester)

EDU 614 Educational Leadership

This course examines theoretical and practical issues surrounding educational leadership, with particular emphasis on teacher leadership. The course is intended for practicing teachers who (1) have assumed or are interested in assuming leadership roles in their schools or (2) are interested in applying leadership theory to classroom teaching. The course engages class members in close reading of primary texts, experiential or collaborative activities, and the preparation of "exhibitions of mastery" for each topic under study. Prerequisite: matriculation or permission of instructor. Cr 3.

EDU 615 Cohort Seminar

The seminar offers students in the instructional leadership program a structured setting for the exploration and issues related to the preparation or activities of educational leaders. Participants will help focus the seminar on topics of current interest and personal concern. Prerequisite: permission of instructor. Cr 1.

EDU 620 Foundations of Literacy Instruction

In this course the development of literacy is traced, and conditions which foster its growth are examined. Topics are related to major stages of literacy development and include: preschool influences on literacy, initial reading, the development of fluency, vocabulary development, comprehension, study skills, and refinement of reading. Informal diagnostic techniques are demonstrated and practiced. The invariant nature of literacy acquisition among students of all ages is stressed. Cr 3.

EDU 621 Literacy Problems: Assessment and Instruction

This course conceptualizes reading diagnosis as a

process of becoming informed about a learner. Heavy emphasis on developing diagnostic insights and corrective strategies for disabled readers of all ages. Updates traditional approaches and elaborates on current trends from research and practice. Stresses case studies and in-class practice to help teachers implement diagnostic corrective procedures in the classroom. Prerequisite: EDU 620 or equivalent. Cr 3.

EDU 622 Language and Literacy for Young Children

The focus of the course is the development of language (both oral and written) in children three through eight years of age. Content includes the characteristics of language learners, the conditions that promote emergent literacy, and organization and management of literacy instruction in the primary grades. Cr 3.

EDU 630 Organizing for Literacy Instruction

The course identifies and explores the components of effective literacy programs at the upper elementary and middle school levels. Emphasis is on the design and implementation of literature-based instruction and management of self-selected reading. Prerequisite: EDU 620. Cr 3.

EDU 633 Special Applications in Literacy

Independent study opportunities to apply course experiences in field-based situations are encouraged. Considerable latitude is possible in pursuing options of professional interest with approval of advisor. Examples of activities include: writing project (meeting standards of professional journals), intensive clinical experiences, educational consultation and research. Independent options must be approved in writing by the Program Coordinator. Cr 1-6.

EDU 634 Seminar in Literacy Research

The course provides an overview of basic principles of assessment, comparison of research methodologies (quantitative and qualitative), and current research trends in reading theory and practice. Students will review and analyze contemporary research. Prerequisite: EDU 620 or permission of the instructor. Cr 3.

EDU 641 Creating Environments for Young Children

Early childhood educators will explore the philosophical differences between a traditional classroom and a developmental environment. They will come to understand the characteristics of young children, how children learn, and the elements necessary for an environment that promotes active learning. Students will demonstrate their knowledge through a presentation that reflects and supports developmental practice grounded in Piagetian theory. Cr 3.

EDU 670 Introduction to Administration

This is the required first course for all master's degree candidates in educational administration. The course introduces theories of administration and provides each student with diagnostic data to conduct a needs assessment as the basis for planning a personalized program of study. Cr 3.

EDU 671 Organizational Behavior

A systems approach to understanding and predicting human behavior within organizations is studied. The course emphasizes analytical means to 1) reveal forces which affect decision-making and leadership behavior, and 2) identify implications for managerial functions. Basic concepts such as authority, influence, motivation, communication, conflict, pattern maintenance and tension management are discussed and applied. Cr 3.

EDU 672 Political Basis of Decision Making

Educational leaders must be influential beyond the school system as well as within it. Distribution of power and influence across interrelated social systems is seldom equal leading to competition for bases of influence. This course examines the ramifications of this social circumstance for education with emphasis on administrative decision making. Cr 3.

EDU 674 Strategies for School Improvement

This course is designed primarily for students in administration and instructional leadership and examines the theory and practice of school improvement. Schools are analyzed as unique social settings and the roles of teachers, administrators, and other role groups are explored as a basis for understanding the process of school improvement. Different approaches to school improvement are studied and current research in the area is read and discussed. Students in the class complete a final project that applies course learning to their own school setting. Cr 3.

EDU 676 Systems Approach to Educational Planning

Students participate in simulated and real experiences involving programming, planning, evaluating, managing, budgeting, forecasting, and decision making. Topics for discussion and skill development will include flow charting, PERTing, needs assessment, curriculum analysis and evaluation, expenditure analysis and accounting, the Delphi Technique, Kepner-Tregoe method, Cost Benefit Analysis and Discrepancy Evaluation. Cr 3.

EDU 677 Seminar in School Management

This course emphasizes the skills needed to survive and succeed during one's first year as a principal. The course, through the use of case studies, simulations, readings and interactions with practicing administrators will focus on students: (1) learning the nuts and bolts needed for daily management, (2) examining current issues facing the principalship and (3) learning strategies for managing and understanding oneself within the principal's role. Prerequisite: instructor's permission. Cr 3.

EDU 678 School Law

The purpose of this course is to acquaint students with general principles of school law as found in the interpretation of constitutional and statutory provisions by the higher courts. Laws governing pupils, teaching personnel and boards of education will be stressed with particular emphasis on Maine school law. Cr 3.

EDU 679 Evaluation and Supervision of School Personnel

The course considers the underlying concepts and principles of evaluating school personnel. Readings, lectures, discussions, and simulated activities focus on a variety of evaluation models and strategies which facilitate the appraisal of administrators, teachers, and supporting staff. Attention is directed to how personnel evaluation affects program evaluation. Cr 3.

EDU 680 Staff Development

This course is designed for students in administration and instructional leadership and examines the theory and practice of staff development in schools and other human service settings. Building on current research on adult development, organizational analysis, and school improvement, students will develop an understanding about the structure and process of staff development planning, programming, implementation, and evaluation. A final project applying class learnings to a work setting will be required. Cr 3.

EDU 683 School Finance

This course will trace the historical background and development of the present Maine School Finance Administration. A detailed examination of the interest and the underlying concepts and relationships of the Act will be studied. Local budget and expenditure practices will be reviewed. Emphasis will be placed on helping the student develop a clear conceptual understanding of the overall system by which state aid is provided to Maine school systems. Cr 3.

EDU 685 Internship in Educational Administration

A one-semester, field-based, 120-hour internship in a school setting designed jointly by the student, the internship supervisor and a school-based field supervisor. It is designed to encourage application of formal coursework to the management issues that face school leaders in the workplace. Field experience will be supplemented with class work in areas of school finance, school support services, student personnel administration and the development of a proposal for a long-term practicum project in school leadership. Prerequisite: EDU 677 or permission of the instructor. Cr 3.

EDU 689 Peer and Clinical Supervision

This course focuses upon skills and techniques for observing classroom teaching and providing constructive and collaborative consultation for the improvement of teaching. Self-evaluation, and approaches for promoting it, are emphasized. Cr 3.

EDU 698 Applied Research Project in Educational Administration

The applied research project in educational administration is designed to follow the internship segment of the applications block. The semester-long activity focuses on the student's leadership role in designing, implementing and assessing a project that addresses an important educational problem in an organizational setting. Each student will be required to produce a written report on the practicum project,

which is formulated during the student's internship, and to defend it verbally at the conclusion of the practicum. Prerequisites: EDU 685 and permission of instructor. Cr 3.

EDU 699 Independent Study

This course provides an opportunity for students to pursue a topic of interest on an independent basis. The specific content and evaluation procedures are arranged with an instructor. Permission of supervising instructor and the department chair is required on forms obtained in the Graduate Education Office. Cr var.

EDU 562 The Multicultural Classroom

This course examines cross-cultural communication and the effects on thinking and assumptions. Perception, stereotyping, prejudice, ethnocentrism, culture shock, and nonverbal communication are among the topics to be studied. Specific emphasis is on the relevance of cultural diversity in classroom interaction and learning. Cr 3.

EDU 563 ESL Testing and Assessment

This course examines the variety of test types, formats, and procedures for evaluating ESL proficiency in the classroom. Participants will develop appropriate approaches to testing and evaluation as an integral part of the language teaching/learning process. Cr 3.

EDU 564 ESL Curriculum Design and Development

This course focuses on curriculum design and implementation and syllabus construction based on needs assessment of the learner of English as a second language. There will be an examination of language acquisition from the perspective of oral proficiency to literacy instruction and the considerations involved in the design of these materials. There will also be an examination of commercially produced materials and methods by which teachers can prepare materials. Cr 3.

EDU 635 Seminar in Second Language Literacy

This course integrates the knowledge base acquired in core first and second language literacy courses by focusing on the characteristics of a fluent L2 reader and writer. There will be an analysis of first language reading models and their relevance to literacy acquisition in ESL. The impact of variables such as native language proficiency, perception, lexical knowledge, cognition, metacognition, and culture will be examined. Prerequisites: completion of all core literacy and ESL courses, except the practicum, and permission of instructor. Cr 3.

EDU 636 Supervised Practicum in ESL

Application of ESL theory and methodology in the classroom setting is the focus of this course. Instructional experiences are observed and related to the professional literature through follow-up seminars. Emphasis is on the appropriate application of methodology combined with an assessment of the teacher/learner role in the learning process. Prerequisites: completion of all core literacy and ESL

courses, except the seminar, and permission of instructor. Cr 3.

EXE 550 Teaching Gifted Students in the Regular Classroom

This course is for teachers who serve gifted/talented students within the structure of the regular classroom. Topics will include adapting the “required” curriculum to meet the needs of students; teaching/facilitating independent/small group activities; using learning centers, task cards, student contracts; working successfully with parents, resource teachers, administrators; and considering current issues in gifted child education specific to the regular classroom environment. Cr 3.

EXE 611 Nature and Needs of Learners Who Are Exceptional

This course focuses on the unique characteristics and educational and social/emotional needs of children and youth who display a range of learning and behavioral difficulties including learning disabilities, mild forms of developmental delay, and mild to moderate forms of behavioral and adjustment problems. Cr 3.

EXE 613 Curriculum and Instruction for Children with Learning and Behavior Problems

In this course students will undertake a systematic exploration of effective instructional practices for mildly handicapped children. Topics will include direct instruction, cooperative learning, cognitive approaches to learning problems, as well as a review of exemplary curricular approaches. Students are expected to conduct a variety of classroom application projects and make an in-depth study to several specific approaches. Cr 3.

EXE 615 Classroom and Behavior Management for Learners Who Are Exceptional

This course examines a variety of strategies for promoting positive behavior. Topics include preventing misbehavior through classroom organization strategies, responding to misbehavior in constructive ways, and designing strategies to help children develop appropriate social skills. Students are expected to conduct several classroom application projects. Cr 3.

EXE 617 Assessment for Instruction

In this course, students examine a variety of informal procedures for use in the assessment of the instructional needs of exceptional learners. Students will learn how to develop and conduct interviews, observations, and continuous and periodic assessments of instruction. Recordkeeping procedures will also be examined. Students are expected to develop several in-depth projects. Prerequisite: EXE 653. Cr 3.

EXE 640 Communication and Deafness

The course will describe the full range of communication modes currently used with hearing impaired children in the United States, and the presuppositions behind the various approaches, including: oral/aural, American sign language, manual English, cued

speech, fingerspelling, etc. The relationship between communication and language and the role of vision and residual hearing in language acquisition will be studied. Factors associated with the selection of a particular mode of communication over the other modes will be examined. Cr 3.

EXE 643 Including Students Who are Deaf or Hard of Hearing in Public Schools

This course is for educators who work with students who are deaf or hard of hearing in public schools. The course explains the impact of a hearing loss on a school-age child. Different approaches to the education of deaf and hard of hearing children will be explored and individuals will reflect upon their roles and responsibilities as educators working with students, their families, and the deaf community. Cr 3.

EXE 646 Audiology/Aural Habilitation

This course will offer an overview of audiology and aural habilitation for teachers of hearing impaired children. The anatomy, physiology, and pathologies of the ear will be explained. Students will be taught the physics of sound and principles of pure tone audiometry. Auditory training equipment, including hearing aids and other assistive devices will be introduced. Students will explore the implications of hearing loss on speech acquisition and development. Cr 3.

EXE 653 Assessment in Special Education

Numerous tests in the areas of intelligence, achievement, perceptual motor skills, adaptive behavior, and behavior will be examined. Students will work with children in their area of specialization. The course emphasizes assessment, teaching, and development of educational programs and strategies. Cr 3.

EXE 656 Summer Institute

These institutes are designed to provide in-depth coverage of specialized areas in the education of the hearing impaired. Topics to be covered include: parents of hearing impaired children; language and curriculum development; speech, speech reading and auditory training; mainstreaming hearing impaired children in regular educational settings; multiple handicapped hearing impaired; classroom organization and behavior management techniques for teachers of the hearing impaired; and reading instructions for the hearing impaired. Cr 3.

EXE 659 Education of Gifted and Talented

This course is for individuals responsible for initiating, mainstreaming, and/or extending services for gifted/talented students. Topics for study will include: (1) identification procedures, (2) curriculum development and implementation, (3) administration and classroom management, (4) staff development and community involvement, and (5) evaluation of student growth and program effectiveness. Cr 3.

EXE 660 Curriculum and Methods for Teaching the Gifted

This course is for individuals responsible for (1) developing or modifying learning experiences for gifted/talented students at the elementary or second

dary school level, (2) implementing differentiated learning experiences within the regular classroom or through a special grouping arrangement, and/or (3) creating/selecting instructional materials to support the implementation of differentiated learning experiences. Cr 3.

EXE 661 Advanced Curriculum and Methods for Teaching the Gifted

This course is for teachers, consultants, coordinators, and directors who work in programs for gifted/talented who are responsible for developing and implementing a curricular scope and sequence plan for the program, articulating services between grade levels and among content/skill areas within a district, coordinating the use of instructional materials within a program, and assisting others in utilizing, adapting, and creating learning activities for gifted/talented students. Cr 3.

EXE 662 Creativity and the Gifted/Talented

This course is for individuals responsible for (1) identifying creative potential within students, (2) planning and implementing learning experiences for nurturing creative thinking, (3) selecting or developing instructional materials for enhancing creativity, (4) establishing learning environments conducive to creativity, and/or (5) evaluating program effectiveness and student growth in creativity training. Cr 3.

EXE 663 Management in Education of the Gifted

This course is for individuals responsible for coordinating services for gifted and talented students within a district. Topics for study will include program administration, program evaluation, personal interaction skills, and group dynamics. Cr 3.

EXE 664 Gifted Students in Special Populations

This course is for individuals responsible for identifying and serving gifted students from special populations. These populations include underachievers, females, culturally diverse and/or economically deprived, rurally isolated, bilingual, artistic, creative, impaired, and highly gifted. Cr 3.

EXE 665 Institute for Program Planners

This course is for individuals and teams of individuals responsible for planning district-wide programs for gifted and talented students. Participants will develop a procedural written plan of action for guiding the development and the implementation of programs. Planning areas will include: (1) identification, (2) curriculum, (3) administration, (4) staff development, and (5) evaluation. Cr 3.

EXE 666 Models in Education of the Gifted

This course is for individuals responsible for choosing, adapting, or designing a model to serve gifted/talented students. Selected models prominent in the field will be reviewed and critiqued. Prerequisite: EXE 659 or EXE 660 or permission of instructor. Cr 3.

EXE 667 Social/Emotional Needs of the Gifted

This course is designed for classroom teachers, program coordinators, parents, and other individuals who

interact with gifted and talented students. Topics for examination will include: (1) factors affecting social and emotional development, (2) achievement and underachievement, (3) curriculum and the affective domain and, (4) resources/strategies for responding to the needs of the gifted/talented. Cr 3.

EXE 668 Seminar in Education of the Gifted/Talented

This course is for students who have completed at least four courses in education of gifted/talented students. The seminar will focus on a critical issue related to the field. Participants will collect and critically analyze information relating to the issue. Prerequisite: completion of four courses in Gifted Child Education. Cr 1.

EXE 669 Technical Assistance Systems

This course is for administrators, consultants, program coordinators, teachers, and other individuals responsible for initiating, maintaining, or extending educational programs. Topics for study include assessing resources and needs, relating with client systems, diagnosing relationships and situations, acquiring resources, choosing and supporting solutions, and stabilizing innovations. Prerequisite: advisor's permission. Cr 3.

EXE 670 Secondary Programs for the Gifted and Talented

This course is for administrators, program coordinators, and teachers who are responsible for planning, implementing, maintaining, and/or extending programs for gifted and talented students at the secondary school level. Cr 3.

EXE 679 Consulting for the Resource Teacher

This course is for individuals who are responsible for the planning and the coordination of programs for exceptional learners. The focus of the course will be on utilizing a non-categorical, process-oriented approach to providing services for students. Cr 3.

EXE 682 Special Education Law: Conflict and Resolution

Laws relating to the education of exceptional students and recent judicial decisions will be discussed. Methods of conflict resolution, including mediation, will be presented. Prerequisite: EXE 611 or permission of instructor. Cr 3.

EXE 683 Topical Seminar

This is an advanced course that covers selected topics in exceptionality. Several current issues will be examined in-depth each semester. Individual and group presentations will be required. Cr 3.

EXE 684 Administration in Special Education

A field-based course designed to offer experience in administering special education programs. The course emphasizes the organization and administration of special education programs. Prerequisite: EXE 611 or permission of instructor. Cr 3.

EXE 685 Advanced Seminar in Special Education

This is an advanced course that will integrate and

synthesize research and practices across disciplines in exceptionality. Individual and group presentations will be required as well as a major paper. Prerequisite: completion of three core courses or advisor's permission. Cr 3.

EXE 687 Technology in Special Education

This course introduces students to the use of technology in the education and rehabilitation of individuals with special needs. A range of technological systems will be examined from "low tech" devices such as simple switches to computers, adaptive devices, and software appropriate for handicapped individuals. A variety of equipment, materials, hardware, and software will be available for demonstration and student use. Methods and techniques for evaluation and determination of appropriate and inappropriate use of technology will be stressed. Cr 3.

EXE 688 Internship in Exceptionality

This course is designed to provide experiences in practical and applied aspects of special education administration. Students will be expected to focus on one or two major projects developed in conjunction with the course instructor. Prerequisite: completion of four courses in special education administration. Cr Var.

EXE 690 Psychology of Adolescents with Disabilities

This course examines the growth and development of disabled adolescents within a social context. Society's historical treatment of disabled people and the effect social attitudes have on development will be addressed. Developmental theory presented through classwork and readings will be supplemented by research and interviews with adolescents and their teachers and families. Cr 3.

EXE 692 Transitional Planning and Programming for Secondary Students

The purpose of this course is to introduce participants to the concept of transition from school to work and community living for disabled secondary students. Students will develop skills in interdisciplinary team planning and an awareness of community resources necessary to aid exceptional students in achieving career goals and a satisfactory adjustment to adult life. Cr 3.

EXE 693 Pre-Vocational and Vocational Assessment

This class will cover the fundamentals of pre-vocational and vocational assessment tools, including definitions, purposes, and components. Types of assessment tools to be covered are psychometric testing, work sampling, situational assessment, job analysis, and behavioral observations. Participants will learn to interpret results and assess the implications for secondary level curriculum. Prerequisite: EXE 653 or permission of instructor. Cr 3.

EXE 694 Vocational Education for Special Needs Students

This course will provide an in-depth study of appropriate vocations for disabled secondary school stu-

dents. The skills to be taught are job analysis, job development, and job search and placement. Students will examine regional job opportunities and identify potential training sites, work sites, and employer needs. Cr 3.

EXE 695 Curriculum and Instruction-Secondary

This course is designed for teachers of secondary students with mild to moderate learning handicaps. Participants will examine the major service delivery components: 1) curriculum development, 2) instructional strategies, and 3) case management. Service delivery models, development of IEPs, and specific instructional techniques for secondary learners will be included. Cr 3.

EXE 699 Directed Study

This course is an opportunity to gain, apply, and integrate knowledge and skill in exceptionality by planning and conducting a project. The project must be intellectually sound, have direct applicability to the student, and produce a high quality product. Specific content and methods of evaluation will be determined in conjunction with faculty supervisor. Prerequisite: completion of three courses or advisor's permission. Cr var.

ITE 650 Technology: Its Evolution and Social Impact

This course will concentrate on an anthropological study of industry and technology over the millennia. Emphasis will be placed on the examination of the great technological innovations and inventions that have impacted on civilization throughout history. National and global ramifications of civilization's technological progress will be analyzed. Cr 3.

ITE 651 Curriculum Trends in Industrial/Technology Education

This course is geared toward acquainting the industrial arts/technology education and vocational education teacher with the rapid curriculum changes that are occurring in the profession: the transition from a traditional industrial content base to that associated with modern industry and technology. Emphasis will be placed upon the analysis of contemporary technology education curriculum models, career education and occupational training, instructional strategies, delivery systems, and the development of appropriate technology learning activities applicable to the K-12 curriculum. Cr 3.

ITE 652 Computer Applications in Industrial/Technology Education

This course is designed to orientate teachers of technology-related subjects to the application of the computer in classroom/laboratory management, instructional strategies, and learning activities. Topics will include basic computer operation; hardware/software selection, evaluation, and implementation; and a review of current applications of the computer for teacher and student, as well as those used in industrial-related activities. Emphasis will be on development, selection, and application processes in a variety of technical subject areas. Cr 3.

ITE 653A & 653B Contemporary Problems/ Technical Developments in Selected Technologies

This directed studies course focuses on contemporary developments in and problems associated with student-selected areas of material processing, energy/power, and technical communications technologies. The course provides an opportunity to study recent technological developments and to analyze their impacts on society and the environment. Specific topics will be identified through a formal proposal process and will be studied independently. The group will meet on a regular basis to discuss study progress and will present their findings and conclusions in formal oral and written presentations. Both ITE 653A and 653B are required; 3 credits for each course.

ITE 654 Measurement and Evaluation in Industrial/Technology Education

This course focuses on the preparation and use of teacher-made written achievement and performance tests and rating scales and basic statistical procedures and evaluation techniques for the industrial arts/technology education and vocational/occupational (trade and industry) educator. Cr 3.

ITE 655 Practicum/Seminar

The ITE 655 Practicum/Seminar and its major project, the Practicum Report, constitute the culminating project of the program. The Practicum Report documents the student's attempt to synthesize and apply learning from the program through the identification of a problem pertaining to industrial/technology education in a field setting. The written Practicum Report will be verbally defended. Cr 6.

DEPARTMENT OF HUMAN RESOURCE DEVELOPMENT

Chair: Willard D. Callender, Jr.

Professors: Brady, Callender, Southworth, Sutton; *Associate Professors:* Atkinson, Davis, Moore, Steege, Stevens, Van Zandt, Vess

The purpose of the Department of Human Resource Development is to improve the individual practices of human services professionals, and to enhance school, community, organizational, and agency practices through education, research, and public service.

Three graduate programs are offered by the Department: adult education, counselor education, and school psychology. The adult education program offers concentrations in training and development, educational gerontology, community education, English as a second language, and counseling. The counselor education program offers specialties in school counseling; rehabilitation counseling; psychosocial rehabilitation counseling; and mental health counseling with sub-specialties in professional counseling, substance abuse counseling, and clinical counseling. The Department also has the responsibility of teaching all graduate and undergraduate courses related to human development and the family.

Coursework is offered on the Gorham campus. Summer institutes and other professional development activities are offered on a regular basis.

Admission Requirements

Consideration for admission to the Department of Human Resource Development will be given to applicants who hold a baccalaureate degree, and who present evidence of probable success in graduate work in their chosen field.

Evidence in support of admission shall include:

1. Transcripts of all previous work.
2. Results of the Miller Analogies Test or the Graduate Record Examination (must be taken within five years of the application deadline date).
3. Three letters of recommendation addressing your potential for success in the program and as a counselor, adult educator, or school psychological examiner.
4. A personal narrative. The narrative, preferably typed, will be evaluated in terms of clarity of expression, grammatical construction, and other facets of English composition, as well as the quality of responses. For the *Adult Education and School Psychology Programs*, the narrative should address the following subjects:
 - a. relevant educational and experiential background;
 - b. reasons for desiring to be in the helping professions;
 - c. commitment to pursuing a career in adult education or school psychology;
 - d. reasons for seeking admission to the program;
 - e. a statement of personal philosophy;
 - f. a statement of personal strengths and weaknesses.

For the *Counselor Education Program*, the applicant shall submit an autobiography that relates to interest in counseling and application to the counselor education program. It should be limited to three (3) typewritten, double-spaced pages.

5. The interview. The admissions process requires a formal interview. Candidates to be interviewed will be selected on the basis of the above information.

Adult Education and School Psychology Programs

During the interview, issues relating to the following topics will also be covered: a) self-awareness; b) awareness of social issues; c) awareness of others as persons; d) communication skills; and e) commitment to the field.

Counselor Education Program

Candidates to be interviewed will be rated on three areas of personal criteria: a) understanding of and commitment to the counseling field; b) self-awareness; and c) thinking skills/decision making.

In the final phase of the process, the Department faculty will discuss the results and select the final candidates. All data collected during the admission process will be used to make a final decision regarding acceptance into the counselor education, adult education, or school psychology programs.

Applications are considered twice each year, with the exception of school psychology. The application deadlines are September 15 and February 1 and an application must be complete as of that date to be considered. Applications to the school psychology program will only be considered once each year and must be complete by the February 1 deadline. **Students must take responsibility to ensure that all admissions materials are submitted prior to the deadlines.** All materials sent in support of an application become the property of the Office of Graduate Education and will not be returned to the student.

Candidates approved for admission during the fall will matriculate in January while candidates approved for admission during the spring may choose to matriculate in May or September. Candidates approved for admission must register for at least one course in the semester in which they have been matriculated. Exceptions to this policy must be approved by the Department chairperson.

The Department of Human Resource Development will not admit applicants on a conditional basis.

All graduate students must successfully complete a comprehensive examination/portfolio. Please refer to the Department's student handbook for details.

Transfer Policy

A graduate student in a master's level program in adult education, counselor education, and/or school psychology at another university may transfer into our program, bringing all of their credits with them, under the following minimum conditions:

1. The program they are transferring from is an approved program from an accredited university.
2. They are in good standing and come with the recommendation of the program coordinator.
3. They undergo a successful interview process with our faculty.
4. They agree to take their final 21 hours, including the internship requirement, in the counselor education or school psychology program, or the final 12 hours, including directed study or internship and graduate seminar, in the adult education program.

Adult Education Program

The master of science in adult education, started in 1972, is the only graduate program of its kind in northern New England. Originally established to meet the region's need for trained public school administrators of adult education, the program today prepares educators for a variety of human resource development roles in all types of organizational and community settings. Today's students are also educators in non-school settings—hospitals, recreation agencies, business, human service organizations. Most seek professional competence and recognition for a position currently held. Usually, the student already is a professional with credentials in a specified field such as nursing, social work, counseling, criminal justice, or education and now practices that profession through an adult educator role. These vary as a trainer, teacher, staff development specialist, program designer, or organizational change agent. Others are contemplating career change or entry and see adult education as a versatile field with strong growth potential.

Program Requirements

Required Courses (12 credits)	Credits
HRD 600 Adult Education and Human Resource Development	3
EDU 600 Research Methods and Techniques	3
HRD 661 Life Span Development II	3
or	
HRD 631 The Adult Learner	
HRD 649 Seminar in Adult Education and Human Resource Development	3
	<hr/>
	12

Middle Core (12 hours required)	Credits
HRD 661 Life Span Development II	3
Choice of one of the following counseling courses:	
HRD 620 Fundamentals of Counseling Skills	3
HRD 621 Fundamentals of Counseling Theories	
HRD 626 Group Process and Procedures	
HRD 631 The Adult Learner	3
HRD 632 Program Development in Adult Education and Human Resource Development	3
HRD 633 Managing Adult Education and Human Resource Development	3
HRD 667 Action Research and Evaluation Methodologies	<u>3</u>
	12

(A course such as 661 or 631 can be used only once to meet a program requirement.)

Self-Designed Courses

- HRD 687 Internship in Adult Education and Human Resource Development
- HRD 698 Directed Study in Human Resource Development
- HRD 699 Independent Study in Human Resource Development

Three credits of either HRD 687 or HRD 698 are required. A maximum of nine credits in self-designed course-work may be counted toward this degree.

3
27

Electives or Concentrations

Total Program Credit Hours

9
36

Concentrations (3 courses, 9 credit-hours)

1. Training and Development

- HRD 635 Training and Staff Development
- HRD 640 Human Resource Development in Organizational Settings
- EDU 671 Organizational Behavior
- HRD 644 Organization Development

2. Educational Gerontology

- HRD 550 Social and Public Policy in Aging
- HRD 551 Older Person as Learner
- HRD 552 Current and Long Term Issues in Long Term Care
- HRD 553 Aging, Work, and Retirement
- HRD 554 Institute in Educational Gerontology (summer intensive)
 - (A) Aging, Death and Bereavement
 - (B) Aging and Life Review

3. Community Education

- HRD 637 Community Education
- HRD 641 Human Resource Development in Community Settings (HRD 631 and HRD 632 are required from the Middle Core for this concentration)
- HRDX 646 International Adult Education

4. Counseling

- HRD 620 Fundamentals of Counseling Skills
- HRD 621 Fundamentals of Counseling Theories
- HRD 626 Group Process and Procedures
- HRD 628 Introduction to Marriage and Family Counseling
- HRD 690 Individual Counseling Practicum

5. Autobiographical Learning

- HRD 554(B) Aging and Life Review
- HRD 664 Culture, Tradition, and the Life Cycle
- HRD 693 Life Stories and Personal Mythmaking

6. English as a Second Language

- EDU 560 ESL Classroom Teaching Practices
- EDU 561 Aspects of the English Language
- EDU 620 Foundations of Literacy Instruction
- EDU 562 The Multicultural Classroom

If a concentration is not desired, students may select a number of elective courses from the Department offerings or from other graduate offerings at the University of Southern Maine. Advisor approval is required.

Minimum number of credit hours required for the degree: 36

Special Note: Students in the Adult Education Program are required to complete three credits (300 on-site hours) of HRD 687 (Internship in Adult Education and Human Resource Development) or HRD 698 (Directed Study in Human Resource Development). HRD 687 is designed to provide professional experience in the student's selected area of concern. HRD 698 is designed to provide the opportunity to pursue a field-based project independently, planning and exploring an area of interest within the field of adult education. Students also have the option of pursuing an independent study project as a program elective. HRD 699 (Independent Study in Human Resource Development) provides students with the opportunity to pursue a library-based project independently, planning and exploring a topic of interest within the field of adult education.

Counselor Education Program

Over the past 25 years, the program has provided the state of Maine with several hundred qualified counselors in school, rehabilitation, and mental health settings. In addition, the program has provided courses and other services to several thousand professionals throughout the state. Through its faculty, alumni, and students, this program continues to provide leadership in the counseling profession throughout the Northeast.

The master of science in education degree in counselor education provides its graduates with the counseling knowledge and skills used in school, mental health, and rehabilitation settings. Students study human development and behavior, individual counseling theory, group theory and dynamics, research methodology, and psychological measurement and evaluation, in addition to courses in individual specialties—school counseling, rehabilitation counseling, psychosocial rehabilitation counseling, and mental health counseling (professional counseling, substance abuse counseling, and clinical counseling).

A basic belief of the counselor education program is that every human being changes and grows, a process which continues throughout one's life. From time to time, individuals need help in this struggle for positive growth. Counseling and guidance services provide highly professional helpers who can facilitate growth and development effectively. In addition to teaching counseling skills, the counselor education program promotes personal growth in students by encouraging them to develop attitudes, values, and beliefs which will enhance and facilitate the helping process. Recognizing emotional biases is the first step in realizing change. The program facilitates the conceptualization of a professional role flexible enough to grow as new developments in the field occur.

The Counselor Education Program is designed to foster the following:

- A. An understanding of theories and techniques related to individual and group counseling.
- B. Knowledge of psychological measurement and evaluation and its applications.
- C. An understanding of the means used for obtaining and applying information from appropriate research sources.
- D. An understanding of the history, philosophy, and practice of the specialty area.
- E. An awareness of individual strengths, weaknesses, and biases especially in relation to clients, colleagues, and family.
- F. Knowledge of human development and behavior.
- G. An integration of the academic and applied knowledge through a combination of practicum and internship experiences.

The rehabilitation counseling specialty holds accreditation from the Council on Rehabilitation Education (CORE). Graduates of this specialty are eligible to sit for the Certified Rehabilitation Counseling examination. The school counseling specialty holds accreditation from the Council for the Accreditation of Counseling and Related Education Programs (CACREP), a specialized accrediting body recognized by the Council on Post-Secondary Accreditation (COPA). Graduates of this specialty are eligible to sit for the National Certification examination.

Program Requirements

Required Core Courses for All Specialties			Credit Hours
HRD	620	Fundamentals of Counseling Skills	3
HRD	621	Fundamentals of Counseling Theories	3
HRD	626	Group Process and Procedures	3
HRD	665	Psychological Measurement and Evaluation	3
HRD	690	Individual Counseling Practicum	3
EDU	600	Research Methods and Techniques	3
			18

Additional Courses Required for Specific Specialties

*School Counseling**

HRD	603	Consultation	3
HRD	607	School Guidance Programs and Services	3
HRD	608	Career Development	3

HRD 622	Counseling Young Children	3
HRD 627	Group Counseling	3
HRD 660	Life Span Development I	3
HRD 664	Tradition, Culture and the Life Cycle	3
HRD 686	Internship in Counselor Education	6
Electives		3
		48

Total credit hours

*As of September 1, 1992, students applying for certification as school counselors must show successful completion of an approved course in exceptionalty. One recommended course is HRD 602, Counseling Services for Students with Exceptional Needs.

Rehabilitation Counseling

HRD 610	Intro to Rehabilitation Services	3
HRD 611	Medical Aspects of Disability	3
HRD 612	Psychological Aspects of Disability	3
HRD 615	Vocational Aspects of Disability/Placement in Rehabilitation	3
HRD 641	HRD in Community Settings	3
HRD 661	Life Span Development II	3
HRD 686	Internship in Counselor Education	6
HRD 692	Advanced Individual Practicum	3
Electives		3
		48

Total credit hours

Psychosocial Rehabilitation Counseling

HRD 610	Introduction to Rehabilitation Services	3
HRD 611	Medical Aspects of Disability	3
HRD 612	Psychological Aspects of Disability	3
HRDX 614	Psychosocial Rehabilitation	3
HRD 615	Vocational Aspects of Disability/Placement in Rehabilitation	3
HRD 641	HRD in Community Settings	3
HRD 661	Life Span Development II	3
HRD 686	Internship in Counselor Education	6
HRD 692	Advanced Individual Practicum	3
		48

Total credit hours

Mental Health Counseling

Professional Counseling Specialty		
HRD 608	Career Development or	3
HRD 615	Vocational Aspects of Disability	3
HRD 627	Group Counseling or	
HRD 692	Advanced Individual Practicum	3
HRD 641	HRD in Community Settings	3
HRD 660	Life Span Development I	3
HRD 664	Tradition, Culture and the Life Cycle	3
HRD 686	Internship in Counselor Education	6
Electives		9
		48

Total credit hours

Substance Abuse Counseling Specialty		
HRD 616	Physiological Aspects of Substance Abuse	3
HRD 617	Crisis Intervention	3
HRD 618	Perspectives in Chemical Dependency	3
HRD 627	Group Counseling	3
HRD 628	Introduction to Marriage & Family Counseling	3
HRD 641	Human Resource Development in Community Settings	3
HRD 660	Life Span Development I	3
HRD 664	Tradition, Culture and the Life Cycle	3
HRD 686	Internship in Counselor Education	6
		48

Total credit hours

Clinical Counseling Specialty		
HRD 608	Career Development or	3
HRD 615	Vocational Aspects of Disability	
HRD 617	Crisis Intervention	3
HRD 627	Group Counseling	3
HRD 641	HRD in Community Settings	3
HRD 655	Diagnosis and Treatment Planning	3
HRD 660	Life Span Development I	3
HRD 664	Tradition, Culture and the Life Cycle	3
HRD 671	Physical Bases of Behavior	3
HRD 674	Abnormal Psychology	3
HRD 686	Internship in Counselor Education (1200 hours)	6
Electives		<u>9</u>
Total credit hours		60

Electives Graduate students in the Counselor Education Program may select electives in the fields of rehabilitation, mental health, school counseling, or substance abuse. A variety of electives are offered each semester.

Special Note: Students in the Counselor Education Program are required to complete six credits (600 on-site hours) of HRD 686 (Internship in Counselor Education). HRD 686 is designed to provide students with an opportunity to integrate formal coursework with on-the-job experience in selected helping institutions. A Department application must be completed at least one semester prior to a student's taking HRD 690. A Department application must also be completed at least one semester prior to each semester the student plans to take HRD 686.

Students may pursue a directed study or independent study project. HRD 698 (Directed Study in Human Resource Development) provides students with the opportunity to pursue a field-based project independently, planning and exploring an area of interest within the field of counselor education. Students also have the option of pursuing an independent study project as a program elective. HRD 699 (Independent Study in Human Resource Development) provides students with the opportunity to pursue a library-based project independently, planning and exploring a topic of interest within the field of counselor education. Both opportunities are available for students who want to investigate knowledge that cannot be obtained by enrollment in the normal HRD curriculum.

School Psychology Program

The master of science in school psychology offers the student comprehensive studies that integrate general psychological content, methodology, and research with educational principles and practitioner skills. It is oriented toward acquisition of those technical and communication skills necessary for effective functioning as a school psychological examiner, as well as meeting Maine state certification requirements. Through practicum training students are introduced to children's cognitive, social, and emotional behavior; instructional models and teaching styles; and the differential effects of teacher-student interactions and classroom climate. During the final portion of the program, students participate in a 1,500 clock hour internship in the public schools, working under the supervision of a licensed school psychologist. Individuals graduating from this program are eligible to sit for the examination leading to licensure as a psychological examiner by the Maine Board of Examiners of Psychologists and to be certified by the Maine Department of Education as a school psychological examiner.

Program Requirements *

<i>Psychological Foundations</i>		<i>Credit Hours</i>
HRD 660	Life Span Development I	3
HRD 664	Culture, Tradition, and the Life Cycle	3
HRD 671	Physical Bases of Behavior	3
HRD 674	Abnormal Psychology	3
HRD 676	Cognitive-Affective Bases of Behavior	<u>3</u>
		15
<i>Educational Foundations</i>		
EXE 601	Educational Programming for Exceptional Children	3
Elective within Graduate Professional Education		<u>3</u>
		6
<i>Assessment</i>		
HRD 677	Cognitive and Psychoeducational Assessment	6
HRD 678	Personality and Behavioral Assessment	<u>6</u>
		12

<i>Intervention</i>			
HRD	603	Consultation	3
HRD	622	Counseling Young Children	3
HRD	626	Group Process & Procedures	3
EXE	615	Classroom & Behavior Management for Children Who Are Exceptional	3
			<hr/> 12
<i>Research</i>			
EDU	600	Research Methods & Techniques	3
<i>Professional School Psychology</i>			
HRD	670	Seminar in School Psychology	3
EXE	682	Special Education Law: Conflict and Resolution	3
HRD	688	Internship in School Psychology: Assessment & Intervention	8
			<hr/> 14
Total Program Credit Hours			62

*A course in tests and measurement must be taken prior to graduation (no credit toward degree).

HRD 500 Human Interaction Skills

This introductory course in selected communication skills is appropriate for persons considering careers in the helping professions, individuals in positions with personal responsibility, or for those otherwise concerned with developing effective communication. Literature from the human relations field will be the source of basic interaction skill; these skills will be practiced by students using video vignettes, simulations, and communication decoding activities. Application of the skills to various human interaction settings will be addressed. This course may not be taken in lieu of HRD 620 for students matriculated in the Counselor Education master's program. Cr 3.

HRD 501 Strategies and Techniques in Classroom Management

This course will consist of a variety of strategies, techniques, and philosophical issues related to adult-child relationships. The focus of the course provides both a theoretical base and practical experience for dealing with classroom and school-related issues. Cr 3.

HRD 502 The Family: Implications for Educators

This course is designed to review selected topics in the area of family life that are relevant to educators. The course will provide a multi-disciplinary overview of major theories of family behavior, precursors to marital and family life, and the variability of family life across the life span. Consideration will be given to such issues as parenting styles, sibling relationships, effects of divorce, single-parent families, blended families, family violence, and substance use, abuse, and dependence within the family. Cr 3.

HRD 504 Women's Issues in Counseling

This course examines the impact of sex roles and sex role stereotypes on the development, understanding, and treatment of psychological problems. Biases in psychological theories and attitudes of professionals have often reflected the sexism of society at large, and these explanations of human motivation and behavior may not sufficiently describe mental health problems today. Thus, the course focuses on the role of human services professionals in promoting and understanding these concepts. Cr 3.

HRD 530 Death, Dying and Bereavement

This course examines the phenomenon of death in modern society. Issues such as the meaning of death, the dying process, survivorship, suicide and how death affects individuals of various ages are treated. Special attention is paid to the role of the professional in death education. Cr 3.

HRD 550 Social and Public Policy in Aging

This course examines the development of American social and public policy in aging from an historical perspective culminating in an analysis of the consequences of a "greying society." An organizing principle of the course will be to review policies as they affect an older person's ability to achieve access to full rights, benefits, opportunities, and protections of society. The process of social and policy development will be examined with particular attention to policies about age discrimination, health care, income maintenance, employment, education, and housing. Cr 3.

HRD 551 The Older Person as a Learner

This course examines the capabilities, interests, limitations, and needs of older persons as learners. After seeking to establish current fact from fiction, the course attempts to look at the realistic prospects for adult education later in life as the length of life is extended. Particular attention is given to the conditions under which older persons can best benefit from the contributions to adult education opportunities. Program development possibilities are examined in a number of settings and situations. Cr 3.

HRD 552 Current and Long-term Issues in Long-term Care

This course explores the organization, financing, and delivery of long-term care services. The rapid aging of America's population and increased independent living among persons with physical and developmental disabilities point to the need to expand and improve long-term care services. The overriding question is the extent to which a coordinated system of long-term care can be designed to meet the needs of disabled and chronically ill Americans. The course will examine who receives long-term care, who provides these services, the quality of these services,

and who pays for long-term care. Research results will be integrated with practical experiences expressed in current literature to provide a comprehensive view of long-term care and its challenges. Cr 3.

HRD 553 Aging, Work and Retirement

This course examines major social gerontological theories and trends as they relate to work and retirement. The meaning of work, characteristics of older workers, job modification, retirement planning, and life after work will be explored. Strategies that facilitate adult development and learning will be examined. Cr 3.

HRD 554(A) Summer Institute in Educational Gerontology: Aging, Death and Bereavement

This course examines the phenomenon of death in modern society, with a special emphasis on implications for older persons. Issues such as the meaning of death, the dying process, survivorship, and suicide are treated. Special attention is paid to the role of the professional in death education. Cr 3.

HRD 554(B) Summer Institute in Educational Gerontology: Aging and Life Review

This course examines the process of life review and its role in human aging. The phenomena of memory, imagination, and identity in later age will be examined. Participants will develop practical methods of facilitating life review of themselves and older clients. Cr 3.

HRD 600 Adult Education and Human Resource Development

This is the mandatory first course in the master's program in adult education. The course introduces the student to adult education, continuing education, and human resource development, including its history, philosophy, and trends in the United States and worldwide. The course also introduces the student to the graduate program and to the network of current students and program graduates. Particular attention is given to career and educational planning, including the assessment of prior experience, the beginning of a professional portfolio, the development of a career plan to be sought through the program, and the development of an educational plan for the completion of the program. Cr 3.

HRD 602 Counseling Services for Students with Exceptional Needs

This course focuses on the role of the counselor in working with students who have special learning needs. Content will include an overview of the historical development of special education laws and regulations, methods for assessing and identifying students with exceptional needs, guidance and counseling interventions and responsibilities, and parent consultation and community resource services. Cr 3.

HRD 603 Consultation

This course is designed to introduce students to consultation skills that can be utilized for evaluating organizational structure and individual client management. A variety of theoretical approaches to the role of the consultant will be offered, including

focus on behavioral observation, organizational development, relating to staff people as a consultant and communicating the results of a consultation. Prerequisites: HRD 686 and HRD 690, or permission of the supervising professor. Cr 3.

HRD 607 School Guidance Programs and Services

This is a practical course for those intending to enter the field of school guidance and counseling. It is designed to consider the theoretical basis for guidance practices in elementary and secondary schools (K-12). This includes working collaboratively with the home, school, and community to meet the personal, educational, and career concerns of students. Historical and social contexts along with philosophical issues and emerging directions of guidance will also be discussed. Prerequisite: open to matriculated students only. Cr 3.

HRD 608 Career Development

This course will focus on the process of career development. Work will be addressed as an activity which has a primary impact on our lives. Career development will be examined as a process which continues throughout the life span. Different theories of vocational choice will be examined and various methods of assessing vocational interests and aptitudes will be explored. Special populations such as: disabled, displaced homemakers, and elderly will be discussed. The overall emphasis of the course will be to explore, with participants, career development strategies used in school and community settings. Cr 3.

HRD 609 Seminar in School Counseling

The seminar will afford students and practicing counselors an opportunity for intensive study of current problems and issues in the field of guidance. This course is restricted to those nearing the completion of a master's program in school counseling. Prerequisite: permission of the instructor. Cr 3.

HRD 610 Introduction to Rehabilitation Services

This course includes basic concepts in rehabilitation/habilitation, evolution or rehabilitation, related legislation, exposure to rehabilitation agencies and facilities in Maine, and an overview of the rehabilitation process. Consultants are used to present rehabilitation from the perspective of the client, counselor, and agency. Cr 3.

HRD 611 Medical Aspects of Disability

This course focuses on disabilities common in the rehabilitation field—their causes, diagnostic methodology, prognosis, and treatment, as well as employment and "maximum potential" implications. Cr 3.

HRD 612 Psychological Aspects of Disability

This course provides students with an understanding of the psychological elements related to the disability experience. The course considers adjustment to disability from an individual's perspective, with attention given to the impact of society and culture on this process. Cr 3.

HRD 613 Legal Issues in Counseling

This course provides the framework to understand the rights and resources available to all individuals with emphasis on the handicapped. The course covers the pertinent federal and state legislation detailing the rights, responsibility and enforcement available under the law. Negotiation and mediation skills are also discussed. Cr 3.

**HRD 615 Vocational Aspects of Disability/
Placement in Rehabilitation**

This course involves the practical application of job selection, analysis, modification, and development for the counselor of handicapped persons. The role, function and technique of the rehabilitation counselor in job placement of severely disabled persons will be examined. Employer and/or industry site visits may be arranged. Cr 3.

**HRD 616 Physiological Aspects of
Substance Abuse**

This course will focus on the biological effects of mind-altering drugs. A general overview of the major organ systems and the impact of drugs on those systems will be followed by study of the biological bases of behavior. The effects of these drugs on the central nervous system's structure and function will be correlated with psychological/emotional and behavioral changes. Cr 3.

HRD 617 Crisis Intervention

This course is designed to introduce participants to the theory and practice of crisis intervention. A theoretical examination of the emotional crisis will be undertaken. Research regarding the common elements of emotional crisis and their evolution and resolution will be studied. Various types of emotional crises will be reviewed with specific strategies for effective counselor intervention. Particular focus will be placed on the practical application of crisis theory to various crisis situations. Prerequisite: HRD 620 or permission of the instructor. Cr 3.

HRD 618 Perspectives on Chemical Dependency

This course will focus on the overall dynamics of chemical dependency and will serve as an introduction to understanding the various stages, processes, and effects of such addictions. Specific topics will include social and psychological dynamics of chemical dependence and co-dependency, including family, peers and co-workers. The roles which professional educators, human service workers, and other social helpers play in prevention, early intervention, and the various approaches to recovery and aftercare will be considered in depth. Cr 3.

HRD 619 Seminar in Rehabilitation

This course is designed for advanced students in rehabilitation and for practicing rehabilitation counselors. The seminar provides an overview of rehabilitation practice, with an emphasis on problematical issues. Topics may include casework management, vocational evaluation, administrative issues, and utilization of community resources. Prerequisite: permission of the instructor. Cr 3.

HRD 620 Fundamentals of Counseling Skills

This course emphasizes the development of fundamental counseling skills such as attending behavior, listening, reflection of feeling, paraphrasing, and questioning. The course examines the process and content of the counseling interview as well as verbal and non-verbal factors which influence the interactions within the counseling relationship. Primary focus will be to help the student develop greater self-knowledge and skills in interpersonal communication within the counseling relationship. Prerequisite: open to matriculated graduate students only. Cr 3.

HRD 621 Fundamentals of Counseling Theories

A seminar for those who are or will be engaged in psychological counseling in an educational or mental health type setting. Selected theories and techniques are closely examined. The research literature which has a bearing on the effectiveness or non-effectiveness of counseling is reviewed. Cr 3.

HRD 622 Counseling Young Children

This course is designed to review theories, techniques, and strategies used in counseling young children. Attention will be given to the examination of the counselor's role, the goals of counseling and developing relationships with children. In addition, students will be given the opportunity to explore the uses and techniques of non-verbal languages of counseling including play, dramatics, movement, art and music, and how they relate to child growth and development. Prerequisite: successful completion of HRD 620 or permission of the instructor. Cr 3.

HRD 624 Cognitive Therapy

This is an advanced course dealing with both theoretical and practical aspects of cognitive behavioral psychology and psychotherapy. Particular emphasis will be placed on the relationship between mood states and various patterns of thinking and behavior that precede them. Part of the didactic process will be live interviews to illustrate various cognitive strategies and techniques. The role of various cognitive distortions or thinking errors will be illustrated as well as the active problem-solving nature of cognitive therapy. Prerequisite: HRD 690 or permission of the instructor. Cr 3.

HRD 625 Counseling the Elderly

This course will cover such topics as: "the aging network," the aging process, needs of the elderly with special emphasis on needs of elderly women, individual counseling with the elderly, group work, consulting with service providers, independent living and support systems, and advocacy, death, dying, and grieving and how those problems might be addressed through counseling. Cr 3.

HRD 626 Group Process and Procedures

The course focuses on the understanding of basic principles of group development and the recognition of the dynamics of group interaction. It also focuses on the improvement of personal interaction processes and their application to other group settings. Prerequisite: open to matriculated graduate students only. Cr 3.

HRD 627 Group Counseling

This course is an extension of basic knowledge and practice in the fundamentals of group dynamics. Emphasis will be on the development of concepts, attitudes, and skills necessary to understand and lead counseling groups in a variety of settings and on the development of a deeper sense of how each participant intervenes in a group. Prerequisite: HRD 626 or equivalent. Cr 3.

HRD 628 Introduction to Marriage and Family Counseling

This course is an introduction to the structure and dynamics of the family, as well as methods of family intervention and counseling. The relevance of understanding and skill in the area of rehabilitation counselors and school counselors is emphasized. Methods of instruction include lecture, group discussion, role playing, and audio/video programs. Prerequisite: HRD 690 or permission of the instructor. Cr 3.

HRD 629 Human Sexuality for Counselors

The aim of this course is to provide information about human sexuality, to heighten an individual's awareness of his/her own sexuality and of sexual issues, and to integrate this knowledge to improve the overall effectiveness of counseling skills. The course is designed to explore a wide spectrum of sexual behaviors and to examine the relationship between sexuality, self-esteem, sex roles and life styles. Emphasis is placed on developing an awareness of personal values associated with human sexuality. Prerequisite: HRD 620 or its equivalent. Cr 3.

HRD 631 The Adult Learner

This course examines the social, psychological, economic, and cultural situation of the variety of adults served by adult education programs today. The aim of the course is to develop a theory of learning which is applicable to adults in diverse circumstances and with diverse goals, needs, and styles of learning. Attention is given to stages of adult growth, the development of learning goals, learning environments, and to a variety of theories on learning. Cr 3.

HRD 632 Program Development in Adult Education and Human Resource Development

This course presents the models, techniques, and practices of constructing curricula and developing programs for adult learners as individuals, groups, and community organizations. The course covers both educational and training programs and emphasizes practice, skill acquisition, and competence in curriculum development for adults with diverse needs and in diverse learning environments. Prerequisite: HRD 631 or permission of the instructor. Cr 3.

HRD 633 Managing Adult Education and Human Resource Development

This course examines the administrative and leadership skills necessary for the development and management of units such as adult education centers, continuing education offices, and training and staff development departments in profit and nonprofit organizations. Particular attention is given to the de-

velopment of mission statements, the use of advisory boards, community needs assessment approaches, developing goals and objectives, program development, personnel management, and the development of a management style. Cr 3.

HRD 634 Materials and Methods in Adult Education

This course acquaints the student with current instructional packages available for adult education and human resource development programming. Special attention is given to adult basic education materials, High School Equivalency Diploma programs, and English as a second language programs. However, each student is enabled to identify, access, use, and evaluate the types of materials most useful in the specialty field. Cr 3.

HRD 635 Training and Staff Development

This course acquaints the student with the organization, staffing, functions, methods and techniques of training and staff development units in modern work organizations. Attention is given to the development of in-service training programs for key levels of staff such as supervisors, managers, front-line workers, and support staff. Special emphasis is given to the systematic relationship of the training office to other human resource development functions in contributing toward an effective organization and a supportive climate in which to work. Cr 3.

HRD 636 Continuing Education for the Professions

This course enables the student to develop pertinent, quality continuing education programs for professionals in such fields as education, nursing, medicine, social work, law, psychology, allied health, and other helping professions. After a shared process of studying the social, historical, and political forces which shape professions, students examine in-depth and current context, needs, constraints, methodologies, credentialing systems, and instructional packages pertaining to a particular profession of interest to them. Students gain a broad understanding of professional education in general and a specific competence in at least one professional field. Cr 3.

HRD 637 Community Education

Community Education is concerned with major issues and trends affecting the lives of citizens of a community. It measures well-being by the extent to which people have the opportunity to learn all they need to survive and flourish. It is a philosophy, a movement, an approach to school organization and mode of community development. Community education is examined in such forms for relevance to improved practice of educators and other community human resource developers. The course begins with societal trends bearing upon the quality of community life as context for analysis of community and community change; then, moves to community education process, program, and skills of delivery as studied in specific community settings. Cr 3.

HRD 638 Counseling the Adult Learner

This course is designed for counselors, teachers,

administrators, and others in the helping professions who work with adults seeking personal/educational growth. The course will examine the process and content of the counseling interview, explore the problems/needs of adult learners and provide opportunity for application of counseling skills to problem areas. Cr 3.

HRD 640 Human Resource Development in Organizational Settings

Personnel directors, trainers, personnel counselors, career counselors, job designers, employment forecasters, collective bargaining, performance evaluators, and unit managers are among the many organizational members who "develop" the human resources of a work organization. This course examines the theories of human development explicitly or implicitly held by holders of such positions, how divergent or compatible these views are, and the probable effects on employees. The course particularly centers on approaches and tools managers use to develop the human resources of an organization in a conceptually consistent, effective, and humane way. A companion course is Human Resource Development in Community Settings, which looks at the interface between community organizations and their clients, this course focuses on the intersection between organizations and their employees. Cr 3.

HRD 641 Human Resource Development in Community Settings

Schools, hospitals, employment agencies, welfare offices, home health agencies, rehabilitation centers, and social services agencies are among the various community-based organizations whose work is helping people. The course examines the needs of people in urban and rural communities, the views of human need and development held by helping organizations, and problems organizations pragmatically encounter in helping people, and the consequences of these problems for citizen/client groups. Attention is given to inter-professional, and inter-organizational approaches to improving community programs drawing from literature in similar fields. A companion course to Human Resource Development in Organizational Settings, which looks at the interface between organizations and their employees, this course focuses on the interface between organizations and clients, the citizens of a community. Cr 3.

HRD 644 Organization Development

This course introduces the student to the theory, concepts, practices, skills, and tools of organizational development. A variety of intervention strategies and techniques are explored. Emphasis is placed on the facilitator role in successful organizational interventions. Cr 3.

HRD 649 Seminar in Adult Education and Human Resource Development

This seminar addresses current issues, problems and topics in adult education and human resource development. Participants are to select, develop and present topics of interest to them as well as benefit from presentations prepared by the instructor. Usually taken toward the end of the program, this seminar is an opportunity to apply knowledge and skill to

problems of current interest in the field of adult education. Cr 3.

HRD 655 Diagnosis and Treatment Planning

This course will focus on the current diagnostic systems and their use. The development of treatment plans and the use of related services will be reviewed. The role of assessment, intake interviews and reports will be examined. Prerequisite: HRD 674 and HRD 690 or permission of the instructor. Cr 3.

HRD 660 Life Span Development I

This course examines the process underlying growth, development and behavioral changes of humans from conception through adolescence. The interaction of biological, cognitive, and psychological development during these earlier stages of the life span is described. Cr 3.

HRD 661 Life Span Development II

This course examines the processes underlying growth, development, and behavioral changes of humans from young adulthood through old age to death. The interaction of biological, cognitive, and psychosocial development in adulthood is described. Cr 3.

HRD 662 Theories of Human Development

This course is designed to provide an understanding of the nature and needs of individuals at all developmental levels. It will examine major theoretical perspectives on life span development and the philosophical and historical bases of these approaches. This examination will include an overview of cognitive developmental theories, personality theories, learning theories, the ethological perspective, humanistic theories, and theories of adult development. Cr 2.

HRD 663 Child and Adolescent Development

This course is designed to provide an understanding of the nature and needs of individuals at all developmental levels. It will examine the processes underlying growth, development and behavioral changes from conception through adolescence. The interaction of biological and environmental factors will be considered in studying physical cognitive, social and emotional development during these early stages of the life span. Prerequisite: HRD 662 or permission of the instructor. Cr 2.

HRD 664 Culture, Tradition and the Life Cycle

This course focuses on developing multicultural awareness and on understanding the cultural foundations of human growth and development. The theoretical and research emphasis will be on adulthood and aging, while developmental issues covered will focus on the role of cultural values and traditions across the entire life span. The course considers specific ethnic groups of northern New England to see how traditions might influence attitudes toward growth potential. Cr 3.

HRD 665 Psychological Measurement and Evaluation

This course focuses on tests and related measurement techniques. The course content will include a review of the history of testing, current issues, fundamen-

tal statistics for understanding, evaluating and using tests, including selected aptitude, intelligence, achievement, interest, and personality tests. A variety of standardized and non-standardized evaluation measures will be reviewed. Cr 3.

HRD 666 Individual Assessment: A Holistic Approach

The design of this course is to explore the principles, purposes, and application of individual assessment. The course content includes instrument selection and evaluation, data interpretation, and intervention strategies in the following areas: academic skills, intellectual functioning, psychomotor performance, medical and family history, and social development. A case study format is used. Emphasis is placed on a holistic approach to data collection, interpretation and intervention. This is a basic orientation course for educators and others involved in planning specialized programs for individuals. It is not intended to produce skills in test administration. Prerequisites: HRD 665 and EDU 600 or equivalents. Cr 3.

HRD 667 Action Research and Evaluation Methodologies

This course will provide an overview of the role of research and evaluation within organizations and community settings. Techniques in survey development and evaluation strategies will be emphasized. A number of methodologies will be presented, such as: the nominal group, the Delphi technique, assessment centers, performance appraisal, interviews and observation. Cr 3.

HRD 670 Seminar in School Psychology

This course examines professional issues and concerns confronting the school psychology practitioner, including certification and licensure requirements, legal and ethical issues, roles and responsibilities, and relationships to general and special education. Prerequisite: permission of instructor. Cr 3.

HRD 671 Physical Bases of Behavior

This is an examination of neurological, sensory, and muscular disorders. Consideration is given to health problems of school-aged children. Cr 3.

HRD 674 Abnormal Psychology

This is an overview of normal and abnormal personality development and functioning. Emphasis is on symptom patterns, etiology, and treatment of developmental and behavioral disorders from early childhood through adulthood. Cr 3.

HRD 676 Cognitive-Affective Bases of Behavior

This is an introduction to concepts and principles underlying learning, behaving and communicating. This course integrates the social/affective and linguistic aspects of behavior with learning and problem solving. Cr 3.

HRD 677 Cognitive and Psycho-educational Assessment

This is an examination of the historical and theoretical bases of individual differences and intellectual

and psycho-educational testing. Supervised practice in administration, scoring, interpretation, and reporting assessment results. Prerequisite: open to school psychology majors with permission of instructor. Cr 6.

HRD 678 Personality and Behavioral Assessment

This course examines projective and non-projective techniques of evaluating personality characteristics and behavioral patterns of school-aged children. The course includes integration of evaluation results into a comprehensive diagnostic and descriptive personality profile. Prerequisites: HRD 677 and permission of instructor. Cr 6.

HRD 680 Institute in Group Counseling

The course is an extension of basic knowledge and practice in the fundamentals of group dynamics and leadership. Emphasis is on the development of concepts, attitudes, and skills necessary to understand and use counseling groups within a variety of settings. Course time will be spent as a group participant, as well as in didactic instruction. Prerequisites: HRD 626 or equivalent and permission of the instructor. Cr 3.

HRD 686 Internship in Counselor Education

This course provides an opportunity for the student to integrate formal coursework with on-the-job experience in selected helping institutions. The course may be taken for 1 to 12 credit hours and is a post-practicum (HRD 690) experience. Prerequisite: approval of the supervising professor. Cr 1-12.

HRD 687 Internship in Adult Education

Designed to provide professional experience in the student's selected area of concern. A plan for the internship is presented for approval to the student's advisor. On approval, the intern completes his/her planned program under the supervision and evaluation of a responsible person for the internship assignment. Cr 1-9.

HRD 688 Internship in School Psychology

The 1,500-clock hour internship is a full-time, supervised experience within a public school system. The internship provides the student with specific skills and competencies in the role and function of the school psychological examiner. Prerequisite: permission of instructor. Cr 8.

HRD 690 Individual Counseling Practicum

This course is an intensive supervised experience in applying professional knowledge and skills to the practice of counseling with individuals. Role playing, videotapes, audio tapes and demonstrations are used in helping each student develop an integrated counseling style. Prerequisite: approval of the supervising professor. Cr 3.

HRD 691 Group Counseling Practicum

This course is designed to be an intensive supervised experience in applying professional knowledge and skills to the practice of counseling with groups. Role playing, videotapes, audio tapes and demonstrations are used in helping each student develop an integrated

leadership style in working with groups. Available only to students who have completed a practicum in individual counseling. Prerequisite: approval of the supervising professor. Cr 3.

HRD 692 Advanced Individual Practicum

This is the advanced course in counseling practicum. Emphasis will be placed on the structural analysis of typical client problems and the use of appropriate strategies of intervention. Other emphases will include the staffing of actual cases and a knowledge of community resources available to the counseling clientele. Prerequisite: HRD 690. Cr 3.

HRD 696 Counselor Supervision

The course is designed to assist human services workers who are responsible for the supervision of counselors in various settings. Both clinical and program/administrative supervision will be addressed. Competencies will focus on the knowledge base, intervention techniques, and human skills needed to provide quality supervision. Cr 3.

HRD 698 Directed Study in Human Resource Development

This course provides students the opportunity to pursue a project independently, planning and exploring an area of interest within the field of human resource development. The project must be field-based, intellectually sound and reflect a high caliber of performance. Specific content and methods of evaluation are determined in conjunction with the faculty supervisor. An approved proposal is a necessary prerequisite to registration. Cr 1-6.

HRD 699 Independent Study in Human Resource Development

This course provides students the opportunity to pursue a project independently, planning and exploring a topic of interest within the field of human resource development. The project must be library-based, intellectually sound and reflect a high caliber of performance. Specific content and methods of evaluation will be determined in collaboration with the instructor. An approved proposal is a necessary prerequisite to registration. Cr 1-6.

SCHOOL OF LAW

Dean: Donald N. Zillman; *Associate Dean:* Colleen Khoury

Professors: Cluchey, Delogu, Friedman, Gregory, Kandoian, Lang, Loper, Potter, Rogoff, Ward, Wroth, Zarr; *Associate Professors:* Khoury, Mullane, Rieser, Wells; *Adjunct Professors:* Godfrey, Petruccelli, Wernick; *Lecturers:* Hunt, Kaminski, McGaughey, Munch, Plimpton, Priest, Thorne, Wheeler

The University of Maine School of Law is a small school that offers legal education to a carefully selected student body. The Law 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, as the only law school in the state, 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 offers a three-year, full-time program leading to the juris doctor degree. It has no evening division. The Law School has a limited part-time program to accommodate those whose physical handicap, extreme financial hardship, or other similar exigent circumstances prevents them from engaging in full-time study.

The School's faculty consists of 16 full-time instructors who have received their formal legal training at leading national law schools. Most faculty members also have experience gained in judicial clerkships, private practice, or government service. The faculty is drawn from many specialities and represents a diversity of backgrounds and interests. There is a highly favorable student-faculty ratio of under 15 to 1. Faculty members are engaged in a wide variety of professional activities which assures freshness and relevance in their classroom teaching. Some members of the faculty are active scholars, publishing frequently in legal periodicals. Many serve as advisors to various legislative and professional committees or as members of governmental commissions. Faculty members also participate in public interest litigation and play active roles in policy formation.

The Donald L. Garbrecht Law Library, named for the law librarian who served the school from 1963 to 1979, contains approximately 250,000 volumes, a sound working collection of legal and collateral materials. The law library supports law school curricular needs, as well as in-depth student and faculty legal research and writing.

The School averages 75-80 students per class, of whom nearly 50 percent are women; the number of students in the School is about 260, making it one of the smallest in the country. The student body is remarkably varied in age, professional and academic experience, and background. Students are drawn from a large number of colleges and universities throughout the nation. The academic quality of entering students has been improving steadily. Classes entering in recent years had a median score on the Law School Admission Test of between 35 and 37, and a median undergraduate average of B plus.

Admission to the Law School is based primarily on criteria that measure the applicant's promise of law school and professional success. The applicant's entire record is reviewed. Many factors are considered: the applicant's overall college and graduate performance; Law School Admission Test (LSAT) and other test scores; extracurricular activities; work experience; and cultural, physical, or social conditions which the applicant has experienced. The Law School seeks to assure a diverse and representative student body as a part of, and consistent with, its public, educational, and professional responsibilities. Only those applicants who offer the prospect of success in the study and practice of law are admitted. To be considered for admission as a candidate for the J.D. degree, an applicant is required to hold a bachelor's degree from a college or university accredited by one of the regional associations of colleges. Beginning students are admitted to commence their studies only at the opening of the fall semester in September.

For more information on the Law School, contact the Office of the Assistant Dean, University of Maine School of Law, 246 Deering Avenue, Portland, Maine 04102 (207) 780-4345.

THE 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, issues affecting coastal zone management including analysis of the adequacy of federal and state coastal resource laws and regulations to effectively manage coastal development pressures.

The Institute is a component of the University of Maine School of Law. Its policy research and educational projects are supported by grants and contracts from government agencies and private foundations. The Institute's quarterly research publication, *Territorial Sea*, is partially supported by subscribers.

SCHOOL OF NURSING

Dean: Patricia A. Geary

Interim Associate Dean: Janet Z. Burson

Chair: Janice L. Thompson

MASTER OF SCIENCE IN NURSING

Professor: MacPherson; *Associate Professors:* Healy, Johnson, Peake-Godin, Skoner, Thompson

Program Description

The master of science program is designed to prepare nurses for advanced practice in community health, adult health, and mental health nursing in a variety of settings and locations. In addition to these clinical concentrations, students choose role preparation in either nursing management or clinical specialization. Leadership, management, and teaching skills are incorporated throughout the curriculum. Coursework builds on the baccalaureate degree in nursing and is based on theory and research in nursing and related disciplines. The program provides the foundation for continued professional development and for doctoral study.

Students are prepared to provide leadership and initiate collaborative relationships with others for the purposes of improving nursing and health care and influencing health policy. Research is an integral part of the program and students acquire skills in identifying researchable problems, participating in research studies, and promoting the use of research findings in nursing practice.

Four components of the program are:

1. Core
2. Research
3. Clinical Concentration: Advanced Community Health, Advanced Adult Health, or Advanced Mental Health Nursing
4. Role:
 - a. Nursing Management
 - b. Clinical Specialization

The curriculum prepares students to:

1. critically analyze and use theoretical and empirical knowledge from nursing, the physical sciences, the social sciences, and the humanities in advanced nursing practice;
2. demonstrate competence at an advanced level of clinical nursing practice in a variety of settings in a multicultural, diverse society;
3. synthesize and apply ethical understanding in advanced nursing practice;
4. demonstrate and utilize principles of leadership, management, and teaching to influence nursing practice;
5. identify researchable nursing problems and participate in research studies to improve nursing practice;
6. collaborate with health care providers and consumers to improve the delivery of health care and to influence health policy;
7. identify and demonstrate the need for life-long learning.

Admission

Admission to the master of science degree program in nursing is on a competitive basis. The graduate program in nursing seeks candidates whose baccalaureate preparation, scholastic achievement, professional experience, interest, motivation, and references are predictive of successful graduate study.

Each student applying for full admission must meet the following requirements:

1. A baccalaureate degree with a major in nursing from a degree program accredited by the National League for Nursing.
2. A minimum undergraduate cumulative grade point average of 3.0 on a 4.0 scale, or a B average.
3. A course in introductory statistics which includes descriptive and inferential statistics.
4. A recent course in total health assessment.

A personal interview with graduate faculty of the School of Nursing may be scheduled following a preliminary review of all required admission materials. Individual consideration will be given to each applicant based upon the total profile presented.

Application Material

In addition to the materials described in the Admissions chapter, applicants for this program must submit:

1. A score of 45 points or above on the Miller Analogy Test or combined aptitude scores of 1,000 (V.Q.)/1500 (V.Q.A.) or above on the Graduate Record Examination taken within the past 5 years.
2. Three letters of reference reflecting professional practice and academic achievement.
3. Evidence (photocopy) of current licensure as a registered professional nurse in Maine.

Application Deadline

The application deadline is April 1 for fall (September) admission and October 1 for spring (January) admission.

Health Requirements

Students must comply with the University's immunization requirements. In addition, students must comply with the following School of Nursing health policy requirements and any additional requirements of those health care agencies to which they are assigned for clinical practice.

PPD

Lab test (titer) proving immunity to:

Rubella

Rubeola

Chicken Pox

Tetanus & Diphtheria

Hepatitis Vaccine (3 doses)

Hepatitis titer

In order to reduce the cost of meeting the health requirement, the Student Nurse Organization (SNO) sponsors clinics at appropriate times during the school year.

R.N. to Master of Science Degree Option for Registered Nurses

The R.N. to master of science option at the University of Southern Maine School of Nursing has been created specifically for registered nurses whose career goals will be enhanced through graduate study. The design facilitates and supports educational mobility and strengthens the leadership abilities of nurses who already have a foundation of professional experience. When the required undergraduate courses have been completed, students in this program proceed directly into the master's program, bypassing the baccalaureate degree.

This option is designed so that students may complete the required junior and senior undergraduate nursing courses in one full-time year, beginning in May and ending the following May. Part-time study is also possible. The R.N. is offered both courses in new areas of content and assessment of prior learning in areas of previously attained knowledge and skill.

The R.N. to master's option is built upon prerequisites to the nursing major that include courses in the physical and behavioral sciences, humanities, fine arts, and core courses required of all undergraduate students at USM.

Credits-by-Examination

Credits-by-examination may be earned in both undergraduate nursing and non-nursing courses. Non-nursing undergraduate courses open to credit by examination include English composition, general psychology and sociology, growth and development, human anatomy and physiology, pathophysiology, and human nutrition. Prior learning assessment examinations can earn up to 34 credits for non-nursing required courses. Call Kathie Blinick, director of Prior Learning Assessment, 780-4067, for an appointment or information.

Courses within the B.S. program that must be taken

*NUR	302	Pharmacology	3 credits
NUR	304	Transition Course	5 credits
*NUR	309	Health Assessment	3 credits
*NUR	314	Nursing Process Credit Options	20 credits
*BIO	345	Pathophysiology	3 credits
NUR	410	Mental Health Nursing	2 credits
NUR	415	Concepts in Community Health	2 credits
NUR	416	Community Health Nursing Lab I	2 credits
NUR	417	Community Health Nursing Lab II	2 credits

*Courses available for credit-by-examination. Up to 31 credits can be earned by passing prior learning assessment examinations.

Sequencing of Courses

Some courses and credits-by-examination have prerequisites which must be completed prior to enrollment or taking the challenge exam. Some prerequisites may transfer into USM from another accredited institution; others may be taken at USM.

Upon completion of the undergraduate courses the R.N. to master of science student enrolls in graduate courses. All graduate courses are required and earn a total of 36 or 38 credits.

Admission Requirements

Admission to the R.N. to master of science option for registered nurses is on a competitive basis. Each student applying for full admission must meet the following requirements:

1. An associate degree in nursing or a diploma from a program accredited by the National League for Nursing.
2. Evidence (photocopy) of current licensure as a registered professional nurse in Maine.

3. Three letters of reference reflecting professional practice and academic achievement.
4. A score of 45 points or above on the Miller Analogy Test taken within the past 5 years.
5. Transcripts from a diploma school or an associate degree program. A 3.0 GPA (B average) is required.

Option for Non-Nurses with Baccalaureate Degrees

This option, initiated in 1990 as a pilot project, allows students who hold a baccalaureate degree in another field to earn a master's degree in nursing in 3 years. Students taking this option build their undergraduate and graduate nursing courses upon previous academic and life experiences.

Students complete upper-division courses with regularly enrolled baccalaureate nursing students. In the fall of the second year, students begin graduate non-clinical nursing courses with regularly enrolled master's students as they complete the undergraduate requirements. Upon completion of the graduate courses, an MS in nursing is conferred and students sit for the State Board Examination (NCLEX-RN) to become licensed as Registered Nurses.

Employment Opportunities

Graduates of this program are prepared to work in variety of health care settings, including public health and community health agencies, hospitals, long-term care facilities, ambulatory settings, health promotion centers, and educational institutions.

Admission to the Option

Admission is competitive and limited. This accelerated program requires full-time enrollment in the planned sequence of study. Some scholarship monies are available. Individual consideration will be given to each applicant based upon the total profile presented. Deadline for submitting completed applications is December 1. If space allows, late applications will be considered until April 1.

Requirements

1. A baccalaureate degree from an accredited college or university.
2. A minimum undergraduate cumulative grade point average of 3.0 on a 4.0 scale, or a B average.
3. A score of 45 or above on the Miller Analogy Test or combined aptitude scores of 1,000 (V.Q.)/1,500 (V.Q.A.) or above on the Graduate Record Exam, taken within the last five years.
4. Three letters of reference.
5. A personal interview may be required.

Prerequisite Course Requirements

1. Completion of a course in pathophysiology with a grade of C or above.
2. Completion of a course in introductory statistics (applied statistics is recommended), including descriptive and inferential statistics, with a grade of C or above (must be taken prior to NUR 604 Graduate Research).
3. Completion of a course in Anatomy and Physiology is highly recommended.
4. The Graduate Admissions Committee will review each individual's undergraduate coursework and make individual prerequisite requirements if any one or more areas are significantly under represented. For instance, an individual whose major includes no social sciences may be required to take sociology/psychology courses).

Prerequisites

Pathophysiology (BIO 345 offered spring semester and Summer Session)
 Statistics (prior to NUR 604)

SUMMER I			Credits
NUR	209/210	Health Assessment/Lab	3
NUR	299	Options Transition Course	<u>2</u>
			Total credits 5
FALL I			
NUR	299	Options Transition Course	1
NUR	324	Older Adult Health Nursing	2
NUR	325	Older Adult Health Nursing Lab	2
NUR	320	Introduction to Adult Health	2
NUR	321	Introduction to Adult Health Lab	2
NUR	302	Pharmacology	<u>3</u>
			Total credits 12
SPRING I			
NUR	315	Child Health Nursing	2
NUR	316	Child Health Nursing Lab	2
NUR	310	Reproductive and Sexual Health Nursing	2
NUR	311	Reproductive and Sexual Health Nursing Lab	2

NUR	402	Adult Health Nursing	2
NUR	403	Adult Health Nursing Lab	<u>2</u>
		Total credits	12
FALL II			
NUR	410	Mental Health Nursing	2
NUR	411	Mental Health Nursing Lab	2
NUR	415	Concepts in Community Health	2
NUR	416	Concepts in Community Health Lab	2
NUR	603	Nursing Theory and Knowledge Development	3
NUR	606	Health Policy, Ethics and Change	<u>3</u>
		Total credits	14
SPRING II			
NUR	605	Role and Leadership	3
NUR	604	Nursing Research	3
NUR	651	Advanced Community Health: Theory and Practice I	
		or	
NUR	661	Advanced Adult Health: Theory and Practice I	
		or	
NUR	671	Advanced Mental Health Nursing: Theory and Practice I: (Individuals)	<u>5</u>
		Total credits	11
FALL III			
NUR	652	Advanced Community Health: Theory and Practice II	
		or	
NUR	662	Advanced Adult Health: Theory and Practice II	
		or	
NUR	672	Advanced Mental Health Nursing: Theory and Practice II: (Families & Groups)	5
		and	
NUR	619	Concepts in Nursing Management	
		or	
NUR	611	Concepts in Advanced Clinical Role *Research Elective	3
		or	
NUR	692	Thesis	<u>1-5</u>
		Total credits	9-13
SPRING III			
NUR	620	Practicum in Management	
		or	
NUR	612	Practicum in Clinical Specialization *Elective	5
NUR	699	Thesis Continuation	<u>1-5</u>
		Total credits	6-10

Credits: 43 Undergraduate Credits
36-38 Graduate Credits
TOTAL: 79-81 Credits

*One elective must be taken in the School of Nursing. Only one elective is required if a 5 credit thesis is chosen.

Joint Degrees Program in Nursing and Public Policy Option

The joint degrees program in nursing and public policy is based on the premise that many of the courses offered in each of the programs are legitimate areas of study for students of the other discipline. The number of credits required for the completion of the master's degree in nursing is 38, the number required for completion of the master's in public policy and management is 45. A student undertaking each program independently would be required to complete a total of 83 credits. The number of credits required to complete both master's degrees under the joint degrees program is reduced to 65, with the eliminated 21 credits deemed satisfied by virtue of completion of all other requirements of each program.

The credit reduction for the joint degrees in nursing and public policy is accomplished through each program accepting several common curriculum courses as satisfying their own program requirements and the remaining credits being accepted by one program from the other, thereby reducing its own total credit requirement. The "cross-over" courses are counted by joint degree students as fulfilling both degree programs' requirements.

Required Nursing Courses

			Credits
Core			
NUR	603	Nursing Theory and Knowledge Development	3
NUR	605	Nursing Role and Leadership	3
NUR	606	Health Policy, Ethics and Change	3
Research			
NUR	604	Nursing Research	3
NUR	692	Thesis*	2
Clinical			
NUR	651	Advanced Community Health I	5
NUR	652	Advanced Community Health II	5
		or	
NUR	661	Advanced Adult Health I	5
NUR	662	Advanced Adult Health II	5
		or	
NUR	671	Advanced Mental Health I	5
NUR	672	Advanced Mental Health II	5
Role			
NUR	619	Concepts in Nursing Management	3
NUR	620	Practicum in Nursing Management	5
			32

*Additional 3 credits of Research Project is included under PP/M capstone.

Required Public Policy and Management Courses

			Credits
Core			
PPM	601	Applied Statistics for Public Policy Workshop in Computing Fundamentals	3
PPM	610	Politics, Management & Policymaking (I & II)	6
PPM	611	Economics and Public Policy	3
PPM	613	Law and Public Policy	3
PPM	615	Managing the Human Organization	3
PPM	640	Public Budgeting and Finance	3
Track			
PPM	620-629	Policy Analysis	9
		or	
PPM	630-639	Public Management	9
Capstone			
PPM	699	Capstone*	3
			33

*Will be added to NUR 693 for a total of 5 research project credits.

Thesis/Capstone Project

Joint degrees candidates in nursing and public policy will form a thesis/capstone committee comprised of both School of Nursing and Public Policy and Management faculty. Thesis/capstone project proposals submitted by joint degrees candidates must demonstrate integration of coursework taken as part of both degree programs.

The Degrees

Students graduating from the joint degrees program will receive both the M.S. in nursing and the M.A. in public policy and management. Students may receive the degrees at one time or consecutively.

Admissions

Students interested in matriculating in the joint degrees program must be admitted by each program. One set of application forms may be completed by applicants to the joint degrees program in nursing and public policy.

Students already matriculated in one of the master's programs may enter the joint degrees program by applying, and receiving admission, to the other program.

Program Policies

In addition to the general policies described in the Academic Policies chapter, specific policies for the graduate program in nursing are as follows.

Admission Credit This credit must be approved by the graduate faculty prior to admission and is subject to

the condition that a grade of B- or better was received for the coursework. A maximum of six credit hours may be approved for admission credit. Exceptions to the maximum must be approved by the program faculty.

Special Student Status Up to a total of six hours of graduate credit can be earned in the master's program in nursing before matriculation. Grades of B- or above can be used toward a degree.

Transfer Credit This credit must be approved at the time of admission and request for approval included as part of the admissions application. Up to a total of nine credit hours may be approved as transfer credit provided these credits were earned no more than five years prior to matriculation. Additional credit may be approved in unusual circumstances.

Program Grade Policies Students must achieve a minimum of a B- grade for all required graduate courses. If students earn below a B-, they may retake the course one time. In any semester in which the cumulative GPA falls below 3.0 (B average) the student will be placed on probation. A 3.0 GPA is necessary for graduation. Students may only count 3 credits of C in an elective toward graduation.

Continuous Enrollment Continuous enrollment requires that every graduate student must earn at least six credits toward her or his degree every calendar year from the time of the first registration until completion of all requirements for the graduate degree.

Students working on their thesis must enroll each semester until the thesis has been completed, but may take less than six credits per calendar year.

Time Limit All requirements for the degree must be completed within six years from the date of first matriculation.

Professional Licensure Students are required to maintain current registered professional nursing licensure.

New England Regional Student Program The University of Southern Maine master's degree program in nursing is a participant in the New England Regional Student Program. For further information contact the Office of Graduate Affairs, University of Southern Maine, 96 Falmouth St., Portland, Maine 04103 (207) 780-4386.

Program Requirements

The M.S. program in nursing is four academic semesters in length for students taking an average of nine (9) or ten (10) credits per semester. Both full-time and part-time study are available. A total of 38 credit hours with a thesis or 36 credit hours without a thesis are required for completion of the master's degree program in nursing. The four components of the program include a core, a research component, a clinical component, and a role component.

Core			
NUR	603	Nursing Theory and Knowledge Development	3
NUR	605	Nursing Role and Leadership	3
NUR	606	Health Policy, Ethics, and Change	<u>3</u>
			9
Research			
NUR	604	Nursing Research	3
NUR	692	Thesis	<u>5</u>
			8
		or	
NUR	604	Nursing Research	3
Research Elective*			<u>3</u>
			6
Clinical			
NUR	651	Advanced Community Health: Theory and Practice I	5
NUR	652	Advanced Community Health: Theory and Practice II	5
		or	
NUR	661	Advanced Adult Health: Theory and Practice I	5
NUR	662	Advanced Adult Health: Theory and Practice II	5
		or	
NUR	671	Advanced Mental Health: Theory and Practice I	5
NUR	672	Advanced Mental Health: Theory and Practice II	<u>5</u>
			10

Role
Students choose one of the following role preparation areas. Courses in the Core and Clinical components must be completed prior to enrollment in courses in the role component.

Nursing Management

NUR	619	Concepts in Nursing Management	3
NUR	620	Practicum in Nursing Management	<u>5</u>
		or	8

Clinical Specialization

NUR	611	Concepts in Advanced Clinical Role	3
NUR	612	Practicum in Clinical Specialization	5
			8

*Elective: One elective must be a nursing elective

3

Nursing Electives

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. Particular attention is paid to the ethical concerns of the nurse. Cr 3.

NUR 577 Historical Foundations of Nursing

By exploring the trends and the contexts of the times in which key events occurred, this course provides an overview of the historical foundations of nursing. Nursing history will be viewed from both the vantage point of the contributions of nursing leaders and from the perspective of the average working nurse. Theoretical issues and research methods essential for historical inquiry, including the use of primary source documents, are emphasized. Cr 3.

NUR 599 Therapeutic Touch: Theory and Practice

This course is designed to introduce nurses and other health professionals to the theory and practice of the Krieger-Kunz method of therapeutic touch, a research- and theory-based nursing intervention. Students will be introduced to Martha Rogers' nursing theory, in which human beings are conceptualized as energy fields. Through readings, demonstrations, and guided practice, students will become aware of human field energy as it extends beyond the visible boundaries of the physical body, and learn to use therapeutic touch to assess human energy fields and to promote relaxation. Integrating therapeutic touch into clinical practice to reduce pain and accelerate healing will be discussed. Cr 3.

NUR 696 Research Topics

Courses on different types of research methods such as survey, historical, and field research, offered on a rotating basis. Students taking one of these courses will have the opportunity to examine a particular research method in-depth and to use this method in the conduct of a research exercise. The course meets the requirement of a research elective. Cr 3.

Nursing Courses

NUR 603 Nursing Theory and Knowledge Development

This course explores contemporary issues in theory development and the social production of knowledge for nursing. Students will examine the social and historical context of knowledge development in nursing with an emphasis on the relationship between theory, research, and conduct in a practice discipline. Cr 3.

NUR 604 Nursing Research

The research process in nursing will be explored with emphasis on the nature of inquiry in a practice discipline.

An overview of conventional and alternative paradigm approaches to research will be provided. Students will critically examine contemporary questions of ethics and social responsibility in research. Prerequisite: NUR 603. Cr 3.

NUR 605 Nursing Role and Leadership

This course will examine the historical, social, and political context of nursing's emerging leadership roles. Leadership and change strategies will be evaluated in their application to advanced role and practice. Obstacles to effective leadership change such as powerlessness, oppression, and sex role stereotyping will be emphasized. Cr 3.

NUR 606 Health Policy, Ethics, and Change

Sociopolitical and ethical frameworks will be used to analyze public policies related to health care delivery and nursing practice. Change theories and their implications in policy development will be applied. Special attention will be given to the role of the master's prepared nurse in influencing and operationalizing policy. Cr 3.

NUR 611 Concepts in Advanced Clinical Role

This course provides the opportunity for the student to explore and analyze the roles, responsibilities, and functions of the clinical nurse specialist; and critically evaluate the position of the clinical specialist in the organizational frameworks of diverse settings. Emphasis is on role implementation and developing a repertoire of skills to facilitate the process. Prerequisites: NUR 603, 604, 605, 606. Cr 3.

NUR 612 Practicum in Clinical Specialization

This course builds on knowledge acquired in the clinical concentration and NUR 611. Guided experience allows students to choose additional clinical study to enhance the nurse specialist role. This is accomplished by sharpening skills in selected nursing interventions, approaches or functions integral to the specialist role, or by selecting a specialty area of clinical interest. Two credits for seminar, 3 credits for practicum. Prerequisites: NUR 611, NUR 652, 662 or 672. Cr 5.

NUR 619 Concepts in Nursing Management

This course introduces students to major concepts in nursing management in health care organizations. Emphasis is on synthesis of organizational and nursing theory in the management process. Prerequisites: NUR 603, 604, 605, 606. Cr 3.

NUR 620 Practicum in Nursing Management

This course provides for synthesis and application of knowledge through guided experience in health care organizations. Focus is on organizational analysis, role development, and problem solving in nursing management. Two credits for seminar, 3 credits for practicum. Prerequisite: NUR 619, NUR 652 or 662 or 672. Cr 5.

**NUR 651 Advanced Community Health:
Theory and Practice I**

This course focuses on community as client. Concepts from epidemiology, public health and nursing are used to assess and analyze the needs of groups and communities. The impact of policy and health trends on the delivery of community health nursing programs are analyzed. Students will conduct a comprehensive community assessment. 2.5 credits for lectures, 2.5 credits for practicum. Prerequisites: NUR 603, 604, 605, 606. Cr 5.

**NUR 652 Advanced Community Health:
Theory and Practice II**

The focus of this course is on community health nursing program planning, implementation, and evaluation. Students will develop and deliver a program in the community based on a comprehensive assessment completed in NUR 651. Two credits for seminar; three credits for practicum. Prerequisite: NUR 651. Cr 5.

**NUR 661 Advanced Adult Health: Theory and
Practice I**

This course provides the theoretical and research foundations for advanced practice in adult health nursing. Concepts related to adult development, clinical decision making, and selected psychobiological health problems are discussed and analyzed. The clinical practicum provides the opportunity for students to apply these concepts of advanced practice to selected groups of clients. 2.5 credits for lecture; 2.5 credits for practicum. Prerequisites: NUR 603, 604, 605, 606. Cr 5.

**NUR 662 Advanced Adult Health: Theory and
Practice II**

This course provides the opportunity for students to build on theories, concepts, and research findings in adult health nursing introduced in NUR 661. Emphasis is placed on nursing interventions as an area for clinical scholarly inquiry in advanced practice in adult health nursing. Two credits for seminar; three credits for practicum. Prerequisite: NUR 661. Cr 5.

**NUR 671 Advanced Mental Health Nursing:
Theory and Practice I: (Individuals)**

This course provides the theoretical and research foundations for advanced practice of psychiatric nursing with individual clients. Concepts related to advanced assessment and interventions, psychopathology and psychopharmacology, developmental and psychodynamic theories will be discussed and analyzed. Prerequisites: NUR 603, 604, 605, 606. Cr 5.

**NUR 672 Advanced Mental Health Nursing:
Theory and Practice II: (Families and Groups)**

Concepts related to assessment of and therapeutic interventions with families and groups, and health care policies and ethics which impact on the care of the mentally ill will be discussed and analyzed. Special client groups will be studied with a focus on interdisciplinary management strategies. Prerequisite: NUR 671. Cr 5.

NUR 692 Thesis

Completion of thesis under the guidance of a faculty thesis committee. Cr 5.

NUR 694 Thesis Continuation

Students who have completed all thesis credits but have not completed the thesis and continue to need faculty advisement must register for this course each semester until completion of the thesis. Cr 1.

NUR 695 Directed Study

A student will select a faculty member to guide readings related to a chosen topic. A research paper may be required. Credit allocation up to 3 credits is negotiated with faculty. Cr var.

EDMUND S. MUSKIE INSTITUTE OF PUBLIC AFFAIRS

Graduate Program in Public Policy and Management

Director: Richard F. Barringer

Coordinator of Student Affairs: Carlene R. Goldman

Professors: Barringer, Clary; *Associate Professors:* Coburn, Colgan, LaPlante; *Adjunct Associate Professors:* Fortinsky, Goettel, Hitchcock; *Adjunct Assistant Professors:* Bernotavicz, Lambert; *Faculty Associates:* Dexter, Nyhan, O'Hara, Spear, Valente

The Public Policy and Management Program (PPM) is designed to offer students the opportunity to prepare for leadership careers in policy analysis and planning, public finance, and public management. The program seeks:

- to help meet the needs of public and private organizations for professionals with the skills, knowledge, and commitment to deal creatively with the vital issues of public policy and management;
- to emphasize the critical role of elected and appointed officials as leaders and entrepreneurs in directing and revitalizing established organizations, and in designing and implementing effective programs;
- to provide opportunities for creative exchanges between policy makers in the public and private sectors at all levels and participants in the program;
- to create a center of teaching, research, and public service activities which can assist governance institutions in Maine and the northeast.

Program Description

The PPM program focuses on regional, state, and local policy in the broad context of national, political, and economic change. It emphasizes policy concerns in such areas as economic and community development, energy and the environment, business regulation, intergovernmental relations, and social development. These broad areas encompass major public policy issues today and will continue to do so in the foreseeable future.

The problems confronting us are by nature multi-dimensional; hence the need for broad, interdisciplinary perspectives and skills in addressing them.

The curriculum and learning environments of the program maintain a healthy and dynamic tension between the realities of clinical work and the rigors of academic pursuits. Both students and faculty seek stimulating and productive balances:

- among the disciplines of economics, management, political science, philosophy, and law;
- between the theoretical studies of the classroom and practical applications;
- between the generic skills of analysis, research, and management, and more specialized knowledge of a particular substantive policy field.

Thus, the program seeks to graduate persons who understand the social, economic, political, and organizational contexts in which policy is developed and implemented; who comprehend the use and limitations of various quantitative tools; who know the principles of human and financial resource management; who can articulate ideas clearly, both orally and in writing; and who are competent to manage effectively in one of the broad substantive areas of concentration provided in the program.

A master of arts in public policy and management prepares individuals for careers in government, nonprofit organizations, and the private sector. The program educates future leaders. Over time some graduates will become local and state policy leaders in such fields as planning, social and health services, court administration, education, business regulation, and legislation. They will work as agency directors, town and city managers, and policy analysts. Others will work in management and consulting firms, regional planning offices, institutions of basic and higher education, and some will be elected officials. They will teach, write, administer, and advise.

Job opportunities for graduates are not limited to nonprofit organizations and government. Some students will find work in major corporations and banks in the areas of strategic planning, personnel management, government relations, finance, research, and corporate philanthropy.

Although the program is based in Maine and will use the region as its laboratory for analyzing public policy problems, the knowledge and skills that students develop will be applicable in localities and settings throughout the nation.

The master's program in public policy and management requires 47 credit hours of academic coursework. A field experience for those students with little or no public sector work experience is required. Students may

receive course credit or waiver for prior graduate study or professional experience. In addition, there is a computer/workshop requirement for those students who are inexperienced with MS-DOS computing.

To be successful, the most knowledgeable and decisive leader must have the ability to transmit information effectively. Therefore, the program pays significant attention throughout to honing students' communication skills. It emphasizes skills in writing memoranda, preparing technical analysis, presenting oral advocacy and formal testimony, developing nontechnical communications for the media and public consumption, as well as giving verbal instructions and motivational sessions.

Research Programs

The applied research programs of the Muskie Institute are dedicated to improving public policy and management through research and program evaluation, policy analysis, technical assistance, and training. The Institute has extensive research experience in the fields of health care, child welfare, social services, aging, substance abuse, mental health, and developmental disabilities.

The Institute has three formal research centers: Health Policy, Child and Family Policy, and Aging and Rehabilitation. The Survey Research Center provides computer, survey/market research, and quantitative research services.

The Centers conduct funded research and development projects for federal departments (including the Office of Human Development Services, the Health Care Financing Administration, the Health Resources and Services Administration within the Department of Health and Human Services, and the Department of Education), state agencies in Maine and other states, local agencies (such as the United Way of Greater Portland), and private foundations.

Joint Degrees Programs

Law and Public Policy

The joint degrees program offers students an opportunity to earn both a law degree and a master's degree in public policy and management within a slightly abbreviated time frame. Because the Law School and the PPM program each accept 9 of the other's credits, the total credit requirement for joint degrees is reduced by 18. Interested students should contact either school/program for more detailed information.

Nursing and Public Policy

The joint degrees program in nursing and public policy is based on the premise that many of the courses offered in each of the programs are legitimate areas of study for students of the other discipline. The number of credits required for completion of the master's degree in nursing is 38, the number required for completion of the master's in public policy and management is 45. A student undertaking each program independently would be required to complete a total of 83 credits. The number of credits required to complete both master's degrees under the joint degrees program is reduced to 63, with the eliminated 20 credits deemed satisfied by virtue of completion of all other requirements of each program. Interested students should contact either school or program for more information.

Admission

Leadership ability, an eager interest in public service, an appreciation of its responsibilities and its rewards, a regard for the broad range of public issues, and a sense of how the candidate's own area of interest relates to other fields are the attributes sought in applicants.

During the admissions process, the faculty review the applicant's entire record to assess evidence of commitment, willingness to work hard, ability to handle difficult analytical material, and ability to think creatively. To this end many factors are considered: prior academic performance, results of standardized tests, community activities, work experience, recommendations, writing samples.

Between 30 and 35 students will be admitted each year to begin in the fall. They may choose either full- or part-time study. All required courses are offered beginning at 4:00 p.m., enabling mid-career professionals an opportunity to combine work and graduate studies. Most part-time students should be able to complete the degree in three years while continuing professional responsibilities. Full-time students will usually require two years to complete the degree.

Application Material

In addition to the materials described in the Admissions chapter, applicants for this program must submit:

1. Official scores for the Graduate Record Examination (GRE) and
2. Three letters of recommendation from persons able to comment from direct knowledge on the applicant's ability to pursue graduate study and on the applicant's commitment to and promise of success in public service.

Application Deadline

The application deadline is April 1 for the fall semester (September).

Program Policies

In addition to the general policies described in the Academic Policies chapter, specific policies of this program are as follows:

Time Limit

All students must complete requirements for the degree within six years.

First Semester Students

First semester students are expected to begin with the year-long 6 credit introductory course, Politics, Management and Policy Making. In addition, the 6-credit year-long sequence in applied statistics/research design should be taken in the program as early as possible.

Full-Time Students

Full-time students will be able to complete the program in two years or less. They should take as many core courses as possible in the first year, remaining sensitive to the possible need to fit in an occasional track/concentration course and/or elective course scheduled only in alternate years. Track selection must be complete prior to the end of the first year. In the second year, full-time students should first make certain all core and track requirements are fulfilled; they are then free to exercise concentration and elective options for the remaining credits, finishing with the capstone course.

Part-Time Students

Students planning to graduate in May of the third year should plan to take 14 to 18 credits the first and second years (two courses in fall, two in the spring, and one or two in a summer session), for a total of 33 credits the first two years, and 12 credits the third year. It is suggested that the three-year part-time student take all core courses in the first year and a combination of core, track, and elective courses in the second and third years. Again, sensitivity to alternate year course sequencing is advised.

Special Students

Public service professionals, advanced undergraduates, and community residents may request instructor permission to enroll in PPM courses as a special student. Because special student status is dependent on space availability, those interested are urged to contact instructors as early as possible.

Transfer Credit

Students who have completed coursework in another graduate program may petition the Academic Standing Committee for transfer credit. Upon approval of the Academic Standing Committee, students may receive up to 9 transfer credits for graduate courses taken at other institutions to be counted towards the total credits required for the master's degree in public policy and management. Requests for transfer credit normally are made at the time of admission or during the first semester of matriculation.

Transfer credit may be approved for required courses, track choices, electives, or some combination thereof. In all cases, an official graduate transcript from the institution where the courses were taken must be on file with the Coordinator of Student Affairs.

- In the event the student desires transfer credit to replace a required course or track choice, evidence of equivalence to the PPM course must be demonstrated. At a minimum, a course syllabus must be submitted to the Academic Standing Committee.
- In the event the student desires that transfer credit be used in place of PPM electives, a description of the course or course syllabi must be submitted to the Academic Standing Committee.

Transfer credit will not be approved for:

1. Courses which would not have received graduate credit if taken at the University of Southern Maine.
2. Correspondence courses.
3. Courses in which a grade lower than B was received.

Extramural Credit

Students who are matriculated in the master's program and would like to take a course at another University of Maine campus or other university, or who would like to include a course from another department at USM that is not currently cross listed must obtain permission from the Academic Standing Committee. The procedure is the same as for transfer credit requests.

Requests for Substitution of Courses or Prior Learning for Master's Degree Requirements.

Students may petition the Academic Standing Committee for a waiver of a master's program requirement based upon previous academic preparation, experience, or some combination thereof. *Substituted courses do not reduce the number of credits required to receive the degree.*

A student who wants waiver from a program requirement must provide evidence that the requirements of the PPM course have been met. Evidence may include the undergraduate transcript or a transcript of other graduate work, successful completion of an examination or other academic exercise prepared by the course instructor, submission of samples of work, or through other means acceptable to the Academic Standing Committee. The Academic Standing Committee solicits input from the course instructor as to the advisability of the substitution and may request supplemental information.

To expedite the process, a student contemplating a request for permission to substitute a course should meet with the chair of the Academic Standing Committee for more information about the required information to be submitted to the committee, given the basis for the request.

Program Requirements

Forty-seven credit hours are required in the program, with 24 of those credits in the core curriculum. Requirements beyond the core include twelve credits in the policy analysis or public management track, six credits in either a selected concentration or elective courses, and a three credit capstone course. Students with little or no public sector experience must complete a two credit internship.

The Core Curriculum

At the center of the curriculum is a core of study in policy analysis and public management, providing a foundation of knowledge and skills for effective performance in public policy and management.

The core of study includes a year-long course which integrates politics, management, and policy making, as well as courses which approach the study of public policy from the perspectives of economics, law, and ethics, and courses in the theory and techniques of computing, statistics, research design, and public budgeting and finance.

PPM	610	Politics, Management and Policy Making	6 credits
PPM	611	Economics for Public Policy	3 credits
PPM	613	Law and Public Policy	3 credits
PPM	615	Managing the Human Organization	3 credits
PPM	601/602	Applied Statistics for Management & Policy and Research Design	6 credits
PPM	640	Public Budgeting and Finance	3 credits

Tracks of Study

After completion of the core courses, students select a twelve credit track of study in either policy analysis and planning or public management. The tracks are designed to provide more depth of knowledge in one of the two primary curriculum areas. Each track requires one or two courses, with the additional six credits selected from a range of designated courses which may change over time as student interests and program initiatives vary.

Policy Analysis and Planning Track

Required Courses

PPM	620	Introduction to Policy Analysis and Planning I
PPM	621	Introduction to Policy Analysis and Planning II

Select an additional six credits:

PPM	603	Advanced Research Methods
PPM	604	Evaluation Methods
PPM	622	Applied Policy Analysis
PPM	623	Risk and Public Policy
PPM	629	Policy Analysis Practicum
PPM	633	Strategic Planning in the Public and Nonprofit Sector
PPM	670	Issues in Health Policy and Management

Public Management Track

Organizational

Required Course

PPM	630	Organizational Dynamics
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Select an additional six credits:

PPM	604	Evaluation Methods
PPM	632	Human Resource Management
PPM	633	Strategic Planning in the Public and Nonprofit Sector
PPM	641	Public Financial Management

Select an additional three credits:

PPM	622	Applied Policy Analysis
PPM	634	Managing the American City
PPM	635	Managing in the Nonprofit Sector

PPM	636	Community Leadership Institute
PPM	639	Topics in Public Management
PPM	651	Government Business Relations

Financial

Required Courses

PPM	641	Public Financial Management
PPM	642	Seminar in Financial Analysis

Select an additional six credits:

PPM	603	Advanced Research Methods
PPM	630	Organizational Dynamics
PPM	634	Managing the American City
PPM	643	Fiscal Analysis for Growth Management
PPM	649	Applied Research in Finance
PPM	650	Regional Economics
EDU	683	School Finance
LAW	616	State and Local Government Law

Electives

Beyond the core and the track requirements, students take six credits of electives of their choice which may include further courses from the tracks, the beginnings of a certificate, or other combination of courses.

Field Experience

A two credit field experience is required for preservice students with little or no prior experience. Faculty and staff work with managers and policy makers throughout the region to develop meaningful opportunities. Incoming students will be screened by the Admissions Committee as to whether a field experience is required. If the Admissions Committee recommends that a field experience is *not* required, the student and the Academic Standing Committee will be notified and the student will be given an opportunity to formally petition for a waiver of the field experience requirement from Academic Standing. In no case shall field experience be waived except by approval of a petition submitted by a student to the Academic Standing Committee. *A waiver of the field experience requirement does not reduce the number of credits otherwise required to receive the degree.*

Capstone Project

A three credit capstone project is required for all students. The capstone project experience is intended to integrate learnings from all program courses, and should be taken in the final semester, just prior to graduation.

Advanced Certificate in Community Planning and Development

The professional field of community planning and development concerns itself with the continuing attempt by society to strike a reasoned and happy balance among community growth, environmental quality, and human welfare. It involves the development of economic growth strategies, the formulation of capital budgets and infrastructure programs, the analysis of existing and proposed land use policies, the preparation of comprehensive community plans, and the evaluation of private development proposals to manage change in the built and natural environments.

Persons with advanced training in community planning and development work in municipal town planning offices, on planning board staffs, for regional planning councils and state agencies, for local and regional development organizations, and for nonprofit organizations concerned with issues of community and environmental growth and preservation.

Persons contemplating a career in local or state government or nonprofit organizations, and who are particularly interested in the fields of land use, economic development, and environmental policy are invited to discuss their goals with the coordinator of the Advanced Certificate in Community Planning and Development. Those who already practice in the field and wish to enhance their skills and understanding of the issues are likewise welcome.

The Advanced Certificate in Community Planning and Development has two major objectives: to provide students with a grounding in land use and environmental planning, economic development, law and policy analysis, infrastructure programming, and growth management; and to develop an understanding of economic, social, legal, ethical, and political contexts within which decisions about land use, economic growth, and environmental protection are made. These objectives are met through course readings, class lectures and discussions, case analyses, and problem-solving exercises in various community-based settings.

The Advanced Certificate requires the completion of fifteen credit hours of coursework, including a three-credit capstone project (or independent study).

At least one course must be selected from each of the Groups A, B, and C; the remaining six credits may be selected from either A or B.

Group A

PPM	660	Land Use Policy and Planning I
PPM	661	Land Use Policy and Planning II
PPM	666	Seminar in Environmental Policy and Planning
LAW	635	Land Use and Growth Management

Group B

PPM	643	Fiscal Techniques for Growth Management
PPM	650	Regional Economics
PPM	651	Government-Business Relations

Group C

PPM	695	Independent Study
PPM	699	Capstone Project

The Executive Program in Health Policy and Management

The Executive Program in Health Policy and Management provides health professionals from diverse backgrounds a solid foundation of knowledge and skills in health policy analysis, planning, health care financing, and the fundamentals of health care management. Building on the Institute's master's program in public policy and management, the Executive Program offers a specialized, four-course, 12-credit curriculum emphasizing the organization, financing, and management of health care systems. The Executive Program includes a diverse faculty drawn from the Muskie Institute as well as senior health care policy makers and managers. Enrollment in the Executive Program is limited, to ensure active participation and interaction among faculty and program participants.

Required courses for completion of the Program include:

PPM	670	Issues in Health Policy
PPM	671	Economic Issues in Health Care
PPM	672	Policy Analysis and Planning in Health Care
PPM	673	Fundamentals of Health Care Management

Workshop in Computing Fundamentals

Introduces students to the use of MS-DOS based computing through a combination of in-class instruction and practice, and the preparation of exercises outside of class. Students learn the basics of word processing and spreadsheets. Using Word Perfect, students learn to enter and format text, and print simple documents. Using Quattro (a Lotus 1-2-3 compatible spreadsheet software) students learn to create a spreadsheet, move, copy and delete ranges of data, use a formula to create new variables or update existing data (including "what-if" iterative processing). No previous computing experience is assumed. Students who have extensive computer experience need not take this workshop. Noncredit

PPM 550 Media and Public Policy

Introduces the relationship between the press and policy, focusing on state and national issues ranging from the Augusta Mental Health Institute crisis to the Gulf War and current events as they develop. The course is designed to help policymakers deal effectively with the media. Open to PPM students and senior undergraduate students. Cr 3.

PPM 560 Topics in Public Policy

Selected topics in public policy intended to provide an overview of important contemporary issues. Some of the topics considered include economic policy, education policy, human services policy, and environmental policy. The course features presentations by policy experts in the Muskie Institute and in other departments at USM. Cr 3.

PPM 601 Applied Statistics for Management and Policy

Introduces students to a variety of analytical approaches to studying management and policy questions. The course concentrates on the acquisition of skills that will enable the student to choose and apply statistical methodology appropriately, and to evaluate critically work done by others. Topics include tabular and visual displays of data; data analysis including central tendency, dispersion, measures of association and linear regression; and the use of a statistics software package. Cr 3.

PPM 602 Research Design

Focuses on social research as it applies to policy and organizational analysis. Emphasis is on the employment of the scientific method. Basic dimensions of social science inquiry are covered: philosophy of science, research ethics, processes of theory construction, hypothesis testing, validity and reliability issues of measurement, and methods of data collection. Includes survey of applied social research techniques. Course materials are specifically designed to illustrate the particular research problems faced by policy analysts and public/nonprofit managers. Prerequisite: PPM 601. Cr 3.

PPM 603 Advanced Research Methods

Extends the student's understanding of quantitative data analysis and research methods. Expands statistical skills in the areas of multiple regression, significance testing, analysis of variance, and selected other multivariate techniques. Introduces students to

a range of data acquisition methods, including on-line searching and database construction and maintenance. Prerequisite: PPM 601 or equivalent introductory statistics course. Cr 3.

PPM 604 Evaluation Methods

Introduces students to the methods and techniques used to assess effectiveness and monitor the performance of programs, whether provided directly by government agency or under contract. Specific attention is given to problem formulation, determination of evaluation or assessment plan, conducting the research, and presenting results for the intended audiences. Information gathering through surveys and interviews as well as statistical analysis of data are emphasized. Evaluating research done by others and the RFP process of obtaining evaluators is covered. Prerequisites: PPM 601 and 602. Cr 3.

PPM 605 Seminar in Quantitative Methods

Provides an in-depth examination of multivariate statistical techniques used in public policy research. Topics include regression, principal components analysis, factor analysis, canonical correlation, discriminant analysis, and time series analysis. Prerequisites: PPM 601, 602, and 603 or permission of the instructor. Cr 3.

PPM 610 Politics, Management and Policy-Making (I & II)

Examines the relationship between the political process, policy-making and public management. Topics include policy formulation, adoption, implementation and evaluation. Specific attention is given to the ways that key political variables (public opinion, elections, parties, interest groups and leadership styles) influence public policy; the role of policy analysis in government, contemporary issues of public policy, and how public bureaucracies implement policy through planning, organizing and other administrative processes. The course is team-taught and is offered as two three-unit modules. (Year-long course.) Cr 6.

PPM 611 Economics and Public Policy

Introduces students to fundamental economic concepts and illustrates their application in a wide range of public policy problems. The central theme is the usefulness and limitations of economic analysis in the public policy formation and evaluation process. Particular attention is paid to the theory of consumer behavior, markets and market processes, the nature and causes of market failure and strategies, and models for government intervention. Application exercises and case materials are drawn from a variety of substantive policy areas such as the agricultural price support system and government transfer programs. Previous background in economics, especially microeconomic theory, is most helpful. Cr 3.

PPM 613 Law and Public Policy

Introduces the student to legal analysis and emphasizes the role of the law in the choices faced by public policy makers. Students will examine materials ranging from constitutional provisions to statutes, regulations, and case decisions. The course will con-

sider social values and custom; how these factors limit and shape the law and then directly or indirectly shape the options of policy makers. The course provides an introduction to the fundamentals of legal research and insight into judicial and administrative processes. There is some exposure to substantive law particularly in the areas of jurisprudence, constitutional law, procedure, and administrative law. Cr 3.

PPM 615 Managing the Human Organization

An examination of issues and approaches in the management of the human organization. Topics include classic and modern theories of management; understanding individual, interpersonal, and group behavior; leadership and power; organizational structure and culture; and managing change. Throughout the course special attention is given to issues affecting management in the public sector and to the ethical aspects of management. Cr 3.

PPM 620 Introduction to Policy Analysis and Planning I

An introduction to the role of policy analysis in the development of public policy designed for students entering the policy analysis and planning track. Students are introduced to historical and scientific methods of policy analysis through the use of case studies. This course is to be taken in conjunction with PPM 621. Prerequisites: PPM 601 and 602. Cr 3.

PPM 621 Introduction to Policy Analysis and Planning II

An exploration of the planning methods, theory, and techniques that build upon the material covered in PPM 620, with particular emphasis on long range and strategic planning. Goal formulation, problem identification, evaluation of alternatives, forecasting, and evaluation are discussed. Critical analysis is conducted of plans from a variety of government and non-profit agencies. Prerequisite: PPM 620 Cr 3.

PPM 622 Applied Policy Analysis

Designed as an integrative course that will reinforce other analysis courses. Introduces students formally to the application of policy analysis to public sector problems and issues. The course will be case-based, with substantive material introduced to provide more detail and food for discussion for the cases. Prerequisite: PPM 610. Cr 3.

PPM 623 Risk and Public Policy

Introduces students to varied models for the conceptualization and management of risk. Emphasis is given to analytic frameworks and findings on how individuals and communities respond to risk information bearing on health. Ethical issues and responsibilities in risk management will also be considered. Draws on multiple perspectives, including medical, social, environmental, and political sciences. Cr 3.

PPM 629 Policy Analysis Practicum

Provides an intensive, one-semester, client-directed experience in which students work in teams under the direction of faculty on problems and issues of current concern. Cr 3.

PPM 630 Organizational Dynamics

Examines the basic processes that determine how organizations set goals, structure themselves, measure performance, adapt to their environment, manage change and internal conflict, and make decisions. Emphasis is given to techniques of analysis that can be used to understand and manage these various organizational functions. Prerequisite: PPM 610. Cr 3.

PPM 632 Human Resource Management

Introduces basic conceptual frameworks, techniques of analysis and contemporary issues in human resource management in the public and nonprofit sectors. Topics include: motivation, satisfaction and the worker; fairness and representation in the workplace; systems approaches to work analysis; labor and productivity measurement; analyzing work and identifying productivity measurement; analyzing work and identifying competence; recruitment, screening and selection; performance appraisal; strategies of human productivity improvement; programmatic alternatives for human resource management and integrating human resource management into the organization. Cr 3.

PPM 633 Strategic Planning in the Public and Nonprofit Sector

Examines how public organizations can utilize strategic planning in responding to environmental change and the future. Approaches to and techniques of strategic planning are covered, including goal-setting, environmental scanning, resource audits, and the formulation of strategy and its implementation. Examples are drawn from Maine state and local government and the nonprofit sector. Cr 3.

PPM 634 Managing the American City

Explores essential themes which will provide the students with a theoretical as well as a practical understanding of the fundamental issues involved in managing our complex and diverse urban environments. Special emphasis will be placed on examining emerging management issues that have sparked a new demand for excellence and innovation in city governments. While the city of Portland will serve as a useful reference point, the course will also explore the difficult management issues involved in our larger central cities. Cr 3.

PPM 635 Managing in the Nonprofit Sector

An examination of the managerial dimensions of nonprofit organizations. Major foci include the nonprofit environment, organizational roles and processes, interagency relationships, and problems of change and adaptability. Specific attention is given to current issues in nonprofit management such as strategic planning, board/staff relationships, computerization of the workplace, fund raising, and volunteer development. Cr 3.

PPM 636 Community Leadership Institute

Provides practical, hands-on training for current and emerging volunteer community leaders. A small number of PPM graduate students may receive permission to participate in the Community Leadership Institute for graduate credit, working with a PPM

faculty member to build on the experiences of the Institute. Cr 3.

PPM 639 Topics in Public Management

Selected topics in public management determined from time to time. Cr 3.

PPM 640 Public Budgeting and Finance

Provides students with both a theoretical and practical introduction to the debates, tradeoffs and implications of budgeting for public services and securing financing for their provision. Examines essential public finance theory as it relates to revenue raising and resource allocation decision making by the public sector. Specific topics include market failure and government economic intervention, public revenue sources, characteristics of high quality revenue systems, budget review and analysis, and budget development and presentation using Quattro. Prerequisite: PPM 601. Cr 3.

PPM 641 Public Financial Management

Examines the finance function in public organizations as it operates during the fiscal year and in the longer range setting. Topics include government fund accounting, internal resource analysis and management, including cash management, risk management, purchasing and capacity management, capital planning and programming, and debt financing and management. Prerequisite: PPM 640 or EDU 683. Cr 3.

PPM 642 Seminar in Financial Analysis

Examines a selected number of public financial management topics in depth. Students enrolled in the course participate in a research project with significant public policy or management implications. The central course coverage focuses on the financial analysis of governments, including the evaluation and management of financial condition. Other topics will vary slightly each semester. The course is offered to correspond to the research focus selected. Prerequisite: PPM 641. Cr 3.

PPM 643 Fiscal Analysis for Growth Management

Introduces students to the methods and techniques of evaluating, monitoring, and managing the short and longer term fiscal effects of community change. Designed for planners, local government managers, and elected officials, this course emphasizes the application of fiscal tools to decision-making and planning problems. Specific topics include fiscal impacts of growth, assessing financial condition, infrastructure finance, and debt analysis. Cr 3.

PPM 649 Applied Research in Finance

Provides an intensive client-directed experience in which students work individually or in groups investigating an important finance policy issue or exploring a municipal financial management concern. Prerequisite: PPM 640. Cr 3.

PPM 650 State and Regional Economic Development

This course surveys basic regional economic concepts, economic impact analysis, and economic

modeling. Students work extensively with economic data for Maine and other states. Cr 3.

PPM 651 Government-Business Relations

This course covers government regulation of business (including basic elements of competition policy, the regulation of transportation and utilities, and environmental regulation) and basic elements of economic development policies (financing, business development assistance, locational subsidies, etc.). Cr 3.

PPM 656 Topics in Maine Growth and Development

A seminar for persons who wish to develop their research skills and apply them to an issue of Maine growth and development. It is designed to add to our knowledge and understanding of the Maine economy, its historical evolution, its contribution to the well-being of Maine people, and its current and future requirements. These matters will be explored through readings in Maine history, demography, education, transportation, energy and natural resources, and resource and growth management. Research techniques in the social sciences will be explored through examination and discussion of current public policy analyses. Cr 3.

PPM 660 Land Use Policy and Planning I

Introduces students to the methods and techniques of preparing small-area and community land use plans. Critical issues in planning practice are explored, including political, social, environmental, and ethical concerns. Rural and small town planning, state and regional roles, affordable housing, and transportation are considered. Community resource and problem inventories, population and employment forecasting, land consumption, community improvement programming, fiscal impact analysis, environmental capacity analysis, and state-mandated growth management programming are examined. Plan-making exercises are required. Cr 3.

PPM 661 Land Use Policy and Planning II

The course concentrates on procedures and practices employed in the implementation of land use plans, programs, and policies. Zoning, subdivision regulations, site plan review procedures, and official mapping will be covered. Conventional Euclidean and flexible post-Euclidean approaches to zoning are considered. The use of non-regulatory methods of implementation such as tax incentives and disincentives are explored. Capital budgeting and programming, bonded debt, special assessment districts, and tax increment financing are included, as are federal, state, and local direct subsidies. Team exercises are assigned. Cr 3.

PPM 666 Environmental Policy and Planning

A seminar on environmental issues in Maine, New England, and the nation. Topics may include air quality, water quality, toxic and hazardous waste management, solid waste management, wildlife habitat, landscape degradation. Federal, state, and local roles in reconciling natural resource threats, economic growth, property rights, and the public interest will be explored. Cr 3.

PPM 667 Comprehensive Community Planning

Introduces students to the purpose, design, and preparation of comprehensive planning for cities and towns. Class sessions will focus on various elements of comprehensive community planning, including inventory and analysis of community opinion, socio-economics, housing, public facilities, natural resources, and plan implementation tools. Students will learn about data sources for comprehensive planning and methods of policy analysis. The utility and limitations of comprehensive planning for growth management purposes will be given special emphasis. Cr 3.

PPM 668 Historic Preservation through Growth Management

Explores the policy foundations for preservation of historic, scenic, and natural resources. Considers elements of preservation planning for rural and urban areas. Provides experience in identification and evaluation of historic, cultural, and natural resources in the comprehensive planning process. Case studies utilized. Cr 3.

PPM 670 Issues in Health Policy

Introduces students to the organization and financing of the American health care system and analyzes the critical policy problems and choices in the system. Students will discuss trends in the organization and financing of health care and the effects of these on the fundamental policy problems of cost, access to care, and quality of care. Cr 3.

PPM 671 Economic Issues in Health Care

Introduces students to the critical contemporary issues in health economics and current problems and choices in the financing of health care, including physician and hospital services, mental health, and long-term care. The evolution of the current financing systems, including market and regulatory strategies, are discussed. The course also covers health care reimbursement as a specialized topic in health care finance. Cr 3.

PPM 672 Policy Analysis and Planning in Health Care

Focuses on the development and application of policy analysis and planning strategies and techniques in health care. Using problem or topically oriented examples, the course provides an opportunity to develop and apply analytical and planning skills to problems in the organization, delivery, and financing of health services. Cr 3.

PPM 673 Fundamentals of Health Care Management

Examines the application of organizational and management theory to health organizations. Focusing on the management process and the problems of achieving results, the course covers a variety of topics including organizational design, human resource management, control systems, leadership, and strategic planning. Cr 3.

PPM 679 Research Seminar in Health Policy

Designed for PPM students concentrating in health policy and other students with a background in health

care policy who wish to pursue directed research on issues in this area in greater depth. The seminar will examine a broad range of current topics in health policy. Students will participate in planning the seminar and are required to write a major research paper and give several presentations on their research. Cr 3.

PPM 691 Public Speaking

Integrates the mechanics of effective speech writing and delivery. The goal of the class is to give students experience in preparing and delivering speeches; to provide historical and current background on the nature of oral and written communication; to provide exposure to important speeches and orators; and to provide instruction for preparing and delivering speeches. Cr 1.

PPM 692 Working Effectively in Small Groups

This course explores basic concepts and strategies for enhancing personal effectiveness in working groups, whatever their purpose. In addition to discussing effective communication strategies and group dynamics, the course will introduce students to the Myers-Briggs Type Indicator. The MBTI, a widely used and respected psychological instrument based on the theories of Carl Jung, characterizes 16 personality types which differ in styles of gathering information, making decisions, and responding to the world. The course seeks to heighten awareness of critical group processes, and to develop practical personal skills. Cr 1.

PPM 695 Independent Study Cr 3.

PPM 696 Field Experience

Students without a substantial and relevant work experience in public service are required to complete an internship during the course of their studies. Determination of whether an internship will be required will be made upon admission to the program. The internship will be designed to expose the student to the formulation and implementation of public policy in a work setting. It will usually be with a public or nonprofit agency, although internships with private agencies involved in a public policy issue may be accepted. Cr 2.

PPM 699 Capstone Project

The Capstone Project is each student's opportunity to integrate materials learned in the core, track, and concentration courses into a single project. The form of the Capstone Project will be determined by the student's program of study and interests. It is designed in consultation with a PPM faculty member, with the Capstone Coordinator (the PPM faculty member responsible for overseeing Capstone Projects), and, if appropriate, with practitioners from outside the University. Cr 3.

Cross-Listed Courses

AMS 535 Introduction to Epidemiologic Research

Intended to give students a basic foundation in principles for the conduct and interpretation of population-based studies of the distribution, etiology, and control of disease. Topics will include ran-

domized experiments, non-randomized cohort studies, case-control studies, cross-sectional and ecological studies, causal inference, sources of bias, and measures of effect. Recent publications from the epidemiologic and medical literature will be used to illustrate the concepts. Cr 3.

AMS 638 Practicum in Epidemiologic Research

Designed to provide students with direct experience in the formulation of epidemiologic hypotheses and the analysis and interpretation of data. Each student will frame a research question that can be addressed using a dataset available on the USM campus or elsewhere. With guidance from faculty, each student will conduct data analyses and write in the format of a journal article. Prerequisites: an introductory course in biostatistics and AMS 535, or equivalent. Cr 4.

AMS 685 Current Research in Epidemiology

Provides a weekly forum for the presentation of new research findings and for critical review of recently published papers that employ epidemiologic methods. Both faculty and students will select topics and lead discussions. Prerequisites: AMS 535 or permission of instructor. Cr 2.

EDU 683 School Finance

This course will trace the historical background and development of the present Maine School Finance Act. A detailed examination of the intent and the underlying concepts and relationships of the Act will be provided. The process by which state subsidy is computed, allocated, and distributed to local school systems will be examined. Local budget and expenditure practices will be reviewed in relation to the Act. Emphasis will be placed on helping the student develop a clear conceptual understanding of the overall system by which state aid is provided to Maine school systems. The course has much practical value for school administrators, school board members, and teachers. Cr 3.

HRD 650 Social and Public Policy in Aging

Examines the development of American social and public policy in aging from an historical perspective culminating in an analysis of the consequences of a "greying society." An organizing principle of the course will be to review policies as they affect an older person's ability to achieve access to full rights, benefits, opportunities, and protections of society. The process of social and policy development will be examined with particular attention to policies about age discrimination, health care, income maintenance, employment, education, and housing. Cr 3.

HRDX 655 Long-term Care: Current and Future Issues

This course explores the organization, financing, and delivery of long-term care services. The rapid aging of America's population and increased independent living among persons with physical and developmental disabilities point to the need to expand and improve long term care services. The overriding question is the extent to which a coordinated system of long-term care can be designed to meet the needs of disabled and chronically ill Americans. The course

will examine who receives long-term care, who provides these services, the quality of these services, and who pays for long-term care. Research results will be integrated with practical experiences expressed in current literature to provide a comprehensive view of long-term care and its challenges. Cr 3.

LAW 616 State and Local Government

Emphasizes understanding the relationship among federal, state, and local governments. The character of institutions and fiscal policies will be examined as well as the actual mechanics of how they work. Cr 3.

LAW 617 Hazardous Waste Regulation

Examines in detail the environmental laws and regulations governing the management of hazardous and solid waste, the operating of underground storage tanks, and the cleanup of dangerous waste sites. The structure of the course is intended to maximize student involvement and stress advocacy skills. Students will participate in mock congressional hearings. EPA rule makings, and judicial proceedings regarding contract, legal, and policy issues. Through their participation in these mock proceedings, students will be exposed to principles of administrative law as well. Cr 2.

LAW 633 Natural Resources Law

Examines the federal and state frameworks affecting the use of public lands and waters, forestry resources, fish and wildlife resources, and energy and mineral resources. Problems of multiple use and sustainability will be considered, as will issues of federalism, public and private rights, and the philosophical and economic implications of various institutional approaches to resource allocation. Cr 3.

LAW 635 Land Use and Growth Policy

This course examines a range of land use problems that demand some type of regulatory (police power) response: rapid growth, growth in fragile land areas, locating difficult to find but essential land use activities, providing affordable housing. Tensions between federal, state, and local governments in the land use decision-making process will be examined, as well as a range of sophisticated land use control strategies, i.e., transferable development rights, contract zoning, planned unit development, carrying capacity zoning. Cr 3.

LAW 637 Environmental Law

Provides a survey of major federal and state environmental control laws and cases interpreting these laws. Concepts of standing, burden of proof, strict liability, nuisance, and tax policy are examined as they relate to environmental problems. Cr 3.

LAW 658 Ocean Law

Provides an introduction to the basic principles of ocean law, including international law of the sea and maritime boundary delimitations. Emphasis is on the role of U.S. law and policy in shaping international norms. Federalism in U.S. ocean legislation is also examined. Legal texts explored include the 1982 Law of the Sea Treaty, Fishery Conservation and Manage-

ment Act, the Outer Continental Shelf Lands Act, the Coastal Zone Management Act, and the Marine Protection Research and Sanctuaries Act. Class exercises include a maritime boundary simulated negotiation. Cr 3.

LAW 675 Medical-Legal Process

Designed to explore a range of difficult medical, moral, and legal questions that surround such issues as death, right to life, right to treatment, dealing with the incompetent, suicide, patient rights. Public policy questions dealing with health care delivery systems, organ transplants, medical malpractice are also examined. Cr 2.

LAW 677 Water Law

Focuses upon the various ways in which water use rights are allocated to private users, public use rights in waters, pollution control problems, the distinctions between navigable and non-navigable waters, the relationship between surface waters and ground waters, problems arising from unregulated well drilling activities, and the distinctions between Western (prior appropriation doctrine) water law and Eastern (riparian doctrine) water law. Cr 2.

LAW 684 Alternatives to Court

Undertakes a critical examination of the alternatives to court movement in the United States. Students will survey the range of formal and informal dispute resolution mechanisms now available, as well as their twentieth-century antecedents; sample anthropological literature describing dispute resolution models in small-scale societies and social states; study the philosophical underpinnings of the alternatives to court movement; examine the growing literature in which the advantages and disadvantages of dispute resolution alternatives are debated and discussed; and observe and perhaps participate in a variety of local court alternatives. Cr 2.

LAW 687 Coastal Zone Law

Examines common law principles and legislation affecting public and private rights in the shoreline. Topics explored include the public trust doctrine; littoral rights, the navigational servitude, public use of the beach, land use controls to protect public values in the shoreline; and the taking issue. Course materials were prepared by the instructor. Cr 3.

MBA 643 Organizational Development

Focuses on the design and application of change strategies to improve organizational effectiveness. The planned, systematic and long-range efforts to change "how an organization operates," focus on various aspects of an organization's culture and its human and social processes. Diagnosis of such processes as cultural norms and values; power, competition, and collaboration; expectations and both formal and informal reward systems; social interaction and feedback patterns; conflict resolution; the structure and process of work; people development; and goal setting, planning and evaluation systems. Includes simulations, case studies, experiential exercises, and applied strategies for changing and improving organizations, using an array of behavioral science approaches.

Prerequisite: MBA 642 or permission of the instructor. Cr 3.

MBA 665 Marketing for Nonprofit, Service, and Public Sector Organizations

An introduction to the application of marketing concepts to nonprofit, nonbusiness, public sector, and service organizations. The course combines lectures, case studies, readings, and field research experiences in developing an understanding of the marketing management function in nonprofit organizations. Prerequisite: MBA 660 or permission of the instructor. Cr 3.

NUR 606 Health Policy, Ethics, and Change

Uses socio-political and ethical frameworks to analyze public policies related to health care delivery and nursing practice. Change theories and their implications in policy development will be applied. Special attention will be given to the role of the master's prepared nurse in influencing and putting into operation policy. Cr 3.

PAA 655 Nonprofit Organization Management (UM)

This course provides an introduction to the nonprofit sector in the U.S., its structure, values, role in the economic system, roles in the delivery-of-service systems, and selected public policy issues that affect organizations in it. Students will be exposed to an overview of the management functions in some of the diverse types of organizations that comprise the sector. The course is designed to provide students with understanding, appreciation, and a sense of "order" about the complex world of the third sector. Although some management tools and techniques will be introduced, this is not a "how to" course. Students will examine the basic principles and assumptions of the nonprofit sector, its role among and between the private and public sectors of the U.S. economy, the context of managing nonprofit organizations, economics of the nonprofit sector, governance and policymaking, marketing, resource development, and the role of philanthropy in our society. Prerequisites: PAA 600 or permission of instructor. Cr 3.

SUMMER SESSION

Director: Rosa S. Redonnett

Summer Session is a part of the Office of Extended Academic Programs. During the summer, the University offers over 300 credit courses and a number of institutes and programs. The Stonecoast Writers' Conference, courses for music educators, Childhood Psychopathology Institute, and a music camp for talented high school musicians represent just a few of the many special programs available for people of all ages. In addition to the 4,600 students who enroll in academic courses, over 8,000 people attend summer conferences and special institutes in University facilities. 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, write to: Summer Session, University of Southern Maine, 101 Payson Smith, Portland, ME 04103 or telephone (207) 780-4076.

OFFICE OF SPONSORED RESEARCH

The Office is responsible for encouraging grant and contract initiatives that support program-related activities of individual faculty, academic departments, and research and development units. The Office promotes awareness of funding opportunities and deadlines among faculty and staff, maintains up-to-date information on potential sponsors, assists faculty and staff in identifying possible sponsors for projects, assists in matching project planning to sponsor priorities and requirements, and assists in contacts with funding agencies.

Faculty and research staff of the University of Southern Maine are involved in a wide range of research, policy and program development and evaluation, technical assistance, and training initiatives for public and private agencies in the state and throughout the nation. Many of these programs are implemented through institutes and centers designed to bring the resources of the University to bear on problems and issues of concern to society. To develop new knowledge and understanding and to transfer knowledge to practitioners, these institutes and centers often include USM faculty and staff from several disciplines in interdisciplinary teams engaged in the study of specific problems. The USM institutes and centers and the academic units with which they are primarily affiliated are as follows:

Center for Aging and Rehabilitation Policy is a unit of the Muskie Institute.

Center for Applied Research and Evaluation is a unit of the College of Education.

Center for Business and Economic Research is a unit of the School of Business, Economics and Management.

Center for Child and Family Policy is a unit of the Muskie Institute.

Center for Health Policy is a unit of the Muskie Institute.

Center for Housing and Land Use is a unit of the School of Business, Economics and Management.

Center for Study of Lives is a unit of the College of Education.

Center for Technology Transfer is a collaborative program with the University of Maine.

Child and Family Institute is a unit of the Division of Human Resources.

Cumberland Legal Aid Clinic is a unit of the School of Law.

Institute for Real Estate Research and Education is a unit of the School of Business, Economics and Management.

Marine Law Institute is a unit of the School of Law.

Production Technology Center is a unit of the School of Applied Science.

Professional Development Center is a unit of the College of Education.

Small Business Development Center is a unit of the School of Business, Economics and Management.

Survey Research Center is a unit of the Muskie Institute.

See the appropriate school or college section of this catalog for further information.

OFFICE OF PUBLIC SERVICE

Director: William G. Mortensen

The Office of Public Service is responsible for the development, coordination, and support of all noncredit programming at the University. The Office's mission is to broaden educational access and learning opportunities in southern Maine through programs that respond to practical community needs. The Office administers Continuing Education Units (CEUs) for many courses offered in the various departments. CEUs are a nationally accepted measurement of participation in certain noncredit courses. The Office also coordinates USM's participation in the University of Maine System Public Service Resource Network—UMSserve.

DEPARTMENT OF CONTINUING EDUCATION FOR BUSINESS

Director: Paul W. Bayliss

The Department of Continuing Education for Business 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 representatives in the planning, implementation, and evaluation of its offerings. These individuals represent nearly all sectors of the regional economy as well as small, medium, and large firms. The instructional staff consists of faculty and staff from the University and individuals from business. The expertise represented by this extensive resource 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.

DEPARTMENT OF CONTINUING EDUCATION FOR NURSING AND HEALTH PROFESSIONS

Director: Mary Ann Rost

The Department provides continuing education offerings for health professionals such as nurses, pharmacists, physical therapists, dietitians, and others at locations throughout Maine. Programs are offered in a variety of formats including workshops, seminars, and evening courses. All programs are awarded Continuing Education Units (CEUs) and are approved by professional associations such as the Maine State Nurses Association, Maine Commission of Pharmacy, Maine Dietetic Association, and others.

DEPARTMENT OF COMMUNITY PROGRAMS

Director: Joanne Spear

The Department offers a wide range of programs including professional development in selected areas, personal enrichment and career and skill enhancement. Certificate programs are available to prepare people for roles as legal assistants, and personal computer managers. The Department also offers the Community Leadership Institute and a certificate program in conflict management.

DEPARTMENT OF CONFERENCES

Director: Kathleen S. LeBel

The Department assists University and community organizations in planning conferences and in using University facilities.

LIFELINE CENTER FOR FITNESS, RECREATION AND REHABILITATION

Director: Thomas J. Downing

The Lifeline Center helps individuals and organizations in southern Maine adopt health-enhancing lifestyles by providing leadership and services in exercise, rehabilitation, education, recreation, and employee wellness. Many of Lifeline's fitness and rehabilitation activities require medical clearance from personal physicians. Application to all programs should be made well in advance. Free brochures and registration information are available by calling 780-4170.

Further information about these programs may be obtained by contacting the Office of Public Service, University of Southern Maine, 68 High Street, Portland, ME 04101, (207) 874-6515.

Departments offering noncredit programs for practicing professionals through the USM schools and colleges include: *The Professional Development Center* of the College of Education; the *Center for Real Estate Education* and the *Small Business Development Center* of the School of Business, Economics and Management; the *Production Technology Center* of the School of Applied Science; and the *Continuing Legal Education* unit of the University of Maine School of Law.

ADMINISTRATION OF THE UNIVERSITY OF SOUTHERN MAINE

Administrative Organization as of July 1, 1992

President: Richard L. Pattenau, 705 Law Building, Portland, tel: 780-4480
Provost and Vice President for Academic Affairs: Dave D. Davis, 711 Law Building, Portland, tel: 780-4485
Vice President for Administration: Samuel G. Andrews, 723 Law Building, Portland, tel: 780-4484
Interim Vice President for Student Affairs: Judith S. Ryan, 721 Law Building, Portland, tel: 780-4035
Executive Director, University Advancement: Richard H. Sturgeon, 732 Law Building, Portland, tel: 780-4708
Executive Assistant to the President: Robert J. Goettel, 709 Law Building, Portland, tel: 780-4482

Administrative Offices Serving Students

Academic Support, Division of
John W. Bay, Executive Director

Admissions
Daniel Palubniak, Director
Advising Services Center
Susan Roberts, Director

Applied Science, School of
Brian C. Hodgkin, Dean

Arts & Sciences, College of
Richard G. Stebbins, Dean

Athletics
Albert D. Bean, Acting Director

Bookstores
Cynthia S. Quinn, Director

*Business, Economics and Management,
School of*
Robert A. Patton, Dean

Child Care Services
Helene Gerstein-Sky, Director

Co-Op Education and Career Services
Lawrence Bliss, Director

Counseling Services
Ira Hymoff, Director

Education, College of
Richard Barnes, Acting Dean

Educational Media Services
Ronald W. Levere, Director

Enrollment Services and Registrar's Office
John F. Keysor, Executive Director

*Extended Academic Programs
and Assistant Registrar*
Rosa S. Redonnett, Executive Director

Financial Aid, Student
Edward J. Reiman, Jr., Director

Graduate Affairs
Richard J. Maiman, Director
International Programs, Office of
Domenica T. Cipollone, Director

Law, University of Maine School of
Donald N. Zillman, Dean

Lewiston—Auburn College
Helen L. Greenwood, Dean

Libraries
George Parks, University Librarian

Muskie Institute of Public Affairs
Richard E. Barringer, Director

Nursing, School of
Patricia A. Geary, Dean

Police and Safety
Coin P. Hauk, Director

Public Service
William G. Mortensen, Director

Student Billing
Virginia Johnson, Bursar

Student Health Services
Judith Souviney, Director

Student Life
Joseph M. Austin, Director

Testing and Assessment, Office of
Judith L. Johnson, Director

Women's Center
Lucie Arbuthnot, Director

Graduate Faculty

- Amoroso, Henry C., Jr.** (1982) Associate Professor of Education; St. Michael's College, B.A., 1966; Goucher College, M.Ed., 1967; University of Wisconsin, Ph.D., 1978
- Andrews, Bruce H.** (1974) Professor of Business Administration; University of Connecticut, B.A., 1967; Polytechnic Institute of New York, M.S., 1969; Ph.D., 1980
- Argondizza, Maizie** (1991) Instructor of Early Childhood Education; Farmington State Teachers College, B.S., 1954; University of Southern Maine, M.S.Ed., 1982
- Artz, Nancy** (1989) Assistant Professor of Business Administration; The Pennsylvania State University, B.S., 1979; J.L. Kellogg Graduate School of Management, Northwestern University, M.M., 1982; Ph.D., 1989
- Atkinson, Robert** (1987) Associate Professor, Department of Human Resource Development, College of Education, Long Island University, B.A., 1967; State University of New York, M.A., 1969; University of New Hampshire, M.A., 1981; University of Pennsylvania, Ph.D., 1985
- Barnes, Richard E.** (1989) Associate Dean and Associate Professor of Education; Carleton College, B.A., 1964; Harvard University, MAT 1969; Ed.D., 1979
- Barringer, Richard E.** (1988) Director of the Muskie Institute and Professor of Public Policy and Management; Harvard University, A.B., 1959; University of Massachusetts, M.A., 1963; Massachusetts Institute of Technology, Ph.D., 1968
- Berutavicz, Freda** (1985) Research Associate, Muskie Institute and Adjunct Assistant Professor of Public Policy and Management; Nottingham University, England, B.A., 1962; Syracuse University, M.S., 1966
- Boothe, Bob** (1993) Assistant Professor of Computer Science; U.C. San Diego, B.S., 1985; U.C. Berkeley, M.S., 1989.
- Brady, E. Michael** (1984) Professor of Adult Education and Senior Research Associate, Muskie Institute; St. Mary's Seminary and University, A.B., 1971; the University of Connecticut, M.S.W., 1977; St. Mary's Seminary and University, M.Div., 1980; the University of Connecticut, Ph.D., 1982
- Briggs, David A.** (1984) Associate Professor of Computer Science; Swarthmore College, B.A., 1975; University of Massachusetts at Amherst, M.S., 1984; Ph.D., 1988
- Broyles, India L.** (1986) Associate Professor of Education; Georgia College, B.S., 1968; M.Ed. 1975; University of Georgia, Ed.D., 1983
- Callender, Willard D.** (1962; 1972) Professor, Department of Human Resource Development, College of Education; Bates College, A.B., 1958; University of Connecticut, M.A., 1960; Ph.D., 1967
- Cameron, Ardis** (1988) Associate Professor of American and New England Studies; Miami University, B.A., 1970; Stetson University, M.A., 1973; Boston College, Ph.D., 1987
- Capelluti, Joseph** (1988) Associate Professor of Education; University of Maine, B.S., 1970; University of Southern Maine, M.S., 1972; Virginia Polytechnic Institute & State University, Ed.D., 1975
- Cassidy, Donna M.** (1987) Associate Professor of Art and American and New England Studies; University of Lowell, B.A., 1979; Boston University, M.A., 1982; Ph.D., 1988
- Castiglia, Christopher** (1991) Assistant Professor of New England Studies and English; Amherst College, B.A., 1983; Columbia University, M.Phil., 1987; Ph.D., 1991
- Clarey, Richard J.** (1979) Associate Professor of Management and Director, Center for Business and Economic Research; Bowdoin College, B.A., 1961; Dartmouth College, M.B.A., 1963; Cornell University, Ph.D., 1968
- Clary, Bruce B.** (1987) Professor of Public Policy and Management and Senior Research Associate, Muskie Institute; University of California, B.A., 1968; University of Southern California, M.A., 1970; Ph.D., 1974
- Cluchey, David P.** (1979) Professor of Law; Yale University, B.A., 1968; State University of New York, M.A., 1970; Harvard Law School, J.D., 1973
- Coburn, Andrew F.** (1981) Associate Director, Muskie Institute and Associate Professor of Public Policy and Management; Brown University, A.B., 1972; Harvard University, Ed.M., 1975; Brandeis University, Ph.D., 1981
- Cohen, Libby G.** (1980) Professor of Special Education; University of Connecticut, Ed.D., 1967; Russell Sage College, M.S., 1971; Boston University, Ed.D., 1977
- Colgan, Charles** (1989) Associate Professor of Public Policy and Management; Colby College, B.A., 1971; University of Maine, Ph.D., 1992
- Conforti, Joseph A.** (1987) Director and Professor of American and New England Studies; Springfield College, B.S., 1967; Brown University, A.M., 1972; Ph.D., 1975
- Curry, James A.** (1985) Associate Professor of Education; Whitworth College, B.A., 1969; University of Georgia, M.Ed., 1973; Ed.D., 1985
- Davis, Carol Lynn** (1982) Associate Professor of Education; University of Maine, B.A., 1968; M.S., 1977; Ph.D., 1983
- Deegan, Jr., John** (1989) Professor of Public Policy and Management; Evangel College, B.S., 1967; The University of Michigan, M.A., 1969; Ph.D., 1972
- 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
- Eastman, Joel W.** (1970) Professor of History; University of Maine, B.A., 1962; M.A., 1965; University of Florida, Ph.D., 1973
- El-Taha, Muhammad A.** (1987) Associate Professor of Mathematics; Haigazian College (Lebanon), B.S., 1978; American University of Beirut, M.S., 1980; North Carolina State University, Ph.D., 1986
- Fenner, Stephen A.** (1991) Assistant Professor of Computer Science; Harvard University, B.A., 1983; The University of Chicago, M.S., 1988; Ph.D., 1991
- Flagg, Robert C.** (1987) Associate Professor of Mathematics. University of Maine, M.A., 1979; SUNY, Buffalo, M.A., 1982; Ph.D., 1984
- Foster, Cherie** (1982) Associate Professor, College of Education; University of Wyoming, B.A., 1973; M.A., 1977; Utah State University, Ed.D., 1983
- Friedman, James** (1980) Professor, School of Law; Brown University, A.B., 1971; University of Chicago, J.D., 1974

- Gallo, John G.** (1992) Assistant Professor of Finance; University of Iowa, B.G.S., 1978; University of Texas at Arlington, M.B.A., 1983; Ph.D., 1992
- Geary, Patricia A.** (1993) Dean, School of Nursing and Professor of Nursing; Boston University, B.S., 1967; M.S., 1970; Northeastern University, C.A.G.S., 1974; Harvard University, Ed.D., 1983
- Goettel, Robert J.** (1981) Special Assistant to the President and Adjunct Associate Professor of Public Policy and Management; State University, Fredonia, New York, B.A., 1955; Columbia University, M.A., 1963; Ed.D., 1970
- Goldsberry, Lee** (1987) Associate Professor of Education; Purdue University, B.A., 1969; Governors State University, M.A., 1975; University of Illinois, Ed.D., 1980
- Goldstein, Nance** (1987) Associate Professor of Economics, Tufts University, B.A., 1972; University of London, M.Sc., 1979; Thames Polytechnic University, Ph.D., 1988
- Grange, Joseph** (1970) Professor of Philosophy; St. Joseph's College, B.A., 1961; Fordham University, M.A., 1965; Ph.D., 1970
- Greene, Charles N.** (1986) Professor of Organizational Behavior and Management; The Ohio State University, B.S., 1959; M.B.A., 1961; 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
- Grover, Richard A.** (1988) Associate Professor of Business Administration; The University of Connecticut, B.S., 1976; The Ohio State University, M.S., 1980; Ph.D., 1984
- 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, Bhisam C.** (1985) Director of Graduate Program in Statistics and Professor of Applied Mathematics, Punjab University (India), M.A., 1964; University of Windsor (Canada), M.S., 1969; Ph.D., 1972
- Gupta, Sat** (1986) Associate Professor of Mathematics, University of Delhi (India), B.A., 1970; M.S., 1972; Ph.D., 1977; Colorado State University, Ph.D., 1987
- Guvench, Mustafa G.** (1989) Associate Professor of Electrical Engineering; Middle East Technical University, Turkey, B.S.E.E., 1968; M.S.E.E., 1970; Case Western Reserve University, M.S., 1975; Ph.D., 1975
- Hamilton, Nathan D.** (1987) Assistant Professor of Archaeology; University of Southern Maine, B.A., 1977; University of Pittsburgh, Ph.D., 1985
- Healy, Phyllis F.** (1987) Associate Professor of Nursing; Hunter College, B.S., 1971; University of California, M.S., 1972; Ph.D., University of Texas at Austin, 1990
- Heath, John R.** (1976) Professor of Computer Science; University of Maine, B.A., 1968; M.A., 1970; University of Minnesota, M.S., 1976; Ph.D., 1982
- Hillard, Michael** (1987) Associate Professor of Economics; University of Massachusetts, B.A., 1980; Ph.D., 1988
- Hitchcock, Jan L.** (1990) Assistant Professor of Special & Behavioral Sciences, Lewiston-Auburn College, Research Associate, Muskie Institute, and Adjunct Associate Professor of Public Policy and Management; Pitzer College, B.A., 1977; Harvard University, M.A., 1982; Ph.D., 1984
- Hodgkin, Brian C.** (1976) Dean, School of Applied Science and Associate Professor of Electrical Engineering; University of Maine, B.S., 1964; Johns Hopkins University, Ph.D., 1969
- Hodson, D. Bradlee** (1973) Associate Professor of Accounting and Research Associate, Center for Business and Economic Research; University of Maine, B.S., 1968; University of Pennsylvania, M.A., 1969; C.P.A. (Massachusetts)
- Houlihan, John J.** (1975) Professor of Business Law; Holy Cross College, A.B., 1969; Harvard Law School, J.D., 1972
- Howick, Thomas S.** (1991) Assistant Professor of Education; North Carolina State University, B.S., 1976; Georgia State University, M.E., 1985
- Johnson, Rosemary** (1987) Associate Professor of Nursing; McGill University B.N., 1972; University of Rochester, M.S., 1976; University of Colorado, Ph.D., 1987
- Kandoian, Ellen Arpen** (1981) Professor, School of Law; Yale College, B.A., 1971; Columbia University, M.A., 1972; Yale Law School, J.D., 1975; Boston University, LL.M., 1981
- Kenyon, James** (1987) Assistant Professor of Mathematics; Bates College, B.S., 1974; University of Connecticut, M.S., 1976; Ph.D., 1987
- Khoury, Colleen** (1985) Associate Professor of Law; Colby College, B.A., 1964; Illinois Institute of Technology/Chicago-Kent College of Law, J.D., 1975
- Kissen, Rita M.** (1990) Associate Professor of Education; Cornell University, B.A., 1964; M.A., 1965; University of Massachusetts, Ph.D., 1986
- Kulawiec, Edwin P.** (1987) Associate Professor of Education; Bethany College, B.S., 1950; Seton Hall University, M.A., 1956; Indiana University M.A.T., 1961; University of Wisconsin-Madison, Ph.D., 1970
- Lambert, David** (1986) Research Associate, Muskie Institute, and Adjunct Assistant Professor of Public Policy and Management; Tulane University, B.A., 1972; Indiana University, M.A., 1974; Brandeis University, Ph.D., 1986
- Lang, Michael B.** (1983) Professor, School of Law; Harvard University, A.B., 1972; University of Pennsylvania, J.D., 1975
- LaPlante, Josephine M.** (1985) Associate Professor of Public Policy and Management; Syracuse University, B.A., 1973; M.A., 1983; Ph.D., 1984
- Lombardo, Gary A.** (1987) Associate Dean of the School of Business, Economics, and Management and Associate 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; Harvard University, LL.M., 1971
- Lyons, Charles M.** (1973) Associate Professor of Education; St. Francis Xavier University, B.A., 1966; University of Hartford, M.Ed., 1970; Boston University, Ed.D., 1978
- MacLeod, Bruce** (1986) Associate Professor of Computer Science; Bowdoin College, A.B., 1979; Rensselaer Polytechnic Institute, M.S., 1981; University of

- Massachusetts, M.S., 1985; Ph.D., 1989
- MacPherson, Kathleen I.** (1974) Professor, School of Nursing; Boston University, B.S., 1963; M.A., 1965; M.S., 1974; Brandeis University, Ph.D., 1986
- Maiman, Richard J.** (1971) Lecturer, School of Law and Professor of Political Science; Lake Forest College, B.A., 1967; Brown University, Ph.D., 1972
- McMahon, Robert C.** (1969) Associate Professor of Economics; University of Washington, B.A., 1959; M.A., 1964; Lehigh University, Ph.D., 1970
- Medley, Joseph** (1983) Associate Professor of Economics; State University of New York at Albany, B.A., 1973; University of Massachusetts at Amherst, M.A., 1976; Ph.D., 1981
- Miller, Lynne** (1987) Professor of Educational Administration/Instructional Leadership; University of Pennsylvania, B.A., 1976; Harvard University, M.A.T., 1970; University of Massachusetts, Ed.D., 1975
- Moore, Dorothy D.** (1968) Associate Professor of Education; University of Maine, B.S., 1966; M.Ed., 1968; Ed.D., 1978
- Mullane, Michael W.** (1987) Associate Professor of Law and Director, Cumberland Legal Aid Clinic, School of Law, University of Notre Dame, B.A., 1964, J.D., 1972
- 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 Allabad (India), B.S., 1968; M.S., 1970; Indian Institute of Technology, M.S., 1973; The Ohio State University, Ph.D., 1985
- Neveu, Raymond P.** (1982) Professor of Finance; Providence College, A.B., 1959, Boston College, M.A., 1961, University of Pittsburgh, Ph.D., 1968
- Ng, Ah-Kau** (1988) Professor of Applied Immunology; National Chung-Hsing University (Taiwan), B.S., 1969; State University of New York/Plattsburgh, M.A., 1972; Temple University School of Medicine, Ph.D., 1975
- O'Donnell, Michael P.** (1970) Professor of Education; University of Maine, B.S., 1958; M.S., 1961; Syracuse University, Ed.D., 1968
- Parsons, Henry L.** (1983) Associate Professor of Production/Operations Management; Michigan State University, B.S., 1960; University of Oregon, M.S., 1968; Ph.D., 1974
- Peake-Godin, Helen** (1980) Associate Professor of Nursing; Spaulding College, B.S., 1969; Emory University, M.N., 1979
- Potter, Judy R.** (1972) Professor, School of Law; Cornell University, B.A., 1960; University of Michigan Law School, J.D., 1967
- Rees, Toni H.** (1984) Assistant Professor of Hearing Impairment; Norwich College of Education (England), Teaching Certificate, 1967; Southampton University (England), M.A., 1971; Gallaudet College, Ph.D., 1983
- Rieser, Alison** (1980) Director, Marine Law Institute and Associate Professor, School of Law; Cornell University, B.S., 1973; George Washington University, J.D., 1976
- Rogoff, Martin A.** (1972) Professor, School of Law; Cornell University, B.A., 1962; University of California, Berkeley, M.A., 1963; Yale Law School, LL.B., 1966
- Sanders, Thomas B.** (1988) Assistant Professor of Business Administration; University of Minnesota, B.A., 1968; American Graduate School of International Management, M.S., 1970; University of Colorado, Boulder, Ph.D., 1987
- Silvernail, David L.** (1977) Associate Professor of Education; Indiana University, A.B., 1969; M.S., 1975; Ed.D., 1977
- Skoner, Martha** (1987) Associate Professor of Nursing; University of Pittsburgh, B.S.N. Ed., 1959; M.N. Ed., 1963; Ph.D., 1974
- Smith, Charles F.** (1969) Associate Professor of Education; Westfield State College, B.S., 1960; University of Massachusetts, M.S., 1963; Ed.D., 1969
- Smith, James W.** (1986) Associate Professor of Applied Science; Pennsylvania State University, B.S., 1961; M.S., 1963; Ph.D., 1967
- Southworth, Robert S.** (1963) Professor of Educational Psychology; Boston University, B.A., 1951; Ed.M., 1958, Ed.D., 1965
- Steege, Mark W.** (1989) Associate Professor of School Psychology; Iowa State University, B.S., 1978; University of Iowa, Ed.S., 1982; Ph.D., 1986
- Stevens, Reid D.** (1985) Associate Professor of Education; Suffolk University, B.S., 1971; University of Maine, M.Ed., 1973; University of Georgia, Ph.D., 1981
- Sutton, John M., Jr.** (1978) Professor, Department of Human Resource Development, College of Education; Boston College, A.B., 1961; University of Maine, M.S., 1972; Ed.D., 1976
- Thompson, Janice L.** (1984) Chair, Graduate Program and Associate Professor of Nursing; University of Iowa, B.S.N., 1975; University of Utah, Ph.D., 1983
- Thompson, W. Douglas** (1989) Professor of Epidemiology, Director of Bingham Consortium; Yale University, B.A., 1970; Ph.D., 1980
- Uddin, Nizam** (1989) Assistant Professor of Mathematics and Statistics; University of Dhaka, Bangladesh, B.Sc., 1977; M.Sc., 1979; University of Saskatchewan, Canada, M.Sc., 1985
- VanZandt, C.E.** (1987) Associate Professor of Education; Michigan State University, B.A., 1969; M.A., 1970; University of Maine, Ed.D., 1976
- Vess, Susan M.** (1988) Associate Professor of School Psychology; Loretto Heigh College, B.A., 1970; University of Illinois, A.M., 1972; Ph.D., 1977
- Violette, George R.** (1988) Associate Professor of Accounting; University of Maine at Augusta, B.S., 1978; University of Maine, M.B.A., 1984, Arizona State University, Ph.D., 1987
- Voyer, John J.** (1987) Associate Professor of Business Administration; Harvard University, A.B., 1973; Clark University, M.B.A., 1981; University of Massachusetts, Ph.D. 1986
- 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
- Wells, William** (1986) Professor of Law and Library Director, School 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 (Berkeley), B.S., 1967; M.S., 1968; University of Massachusetts at Amherst, M.A., 1977; Ph.D., 1979

Whiteside, David E. (1989) Associate Professor of Management and Organizational Studies, and Faculty Associate in Public Policy and Management; University of the South, B.A., 1964; University of Michigan, M.A., 1966; Ph.D., 1971; University of Louisville, M.S.S.W., 1977

Whitmore, Allan R. (1969) Associate Professor of History; University of Maine, B.A., 1962; Northwestern University, M.A., 1964; Ph.D., 1970

Wood, Margo (1980) Professor of Education; Vassar College, B.A., 1961; University of Southern Maine, M.S., 1979; Boston University, Ed.D., 1986

Wroth, L. Kinvin (1964) Professor, School of Law; Yale, B.A., 1954; Harvard, J.D., 1960

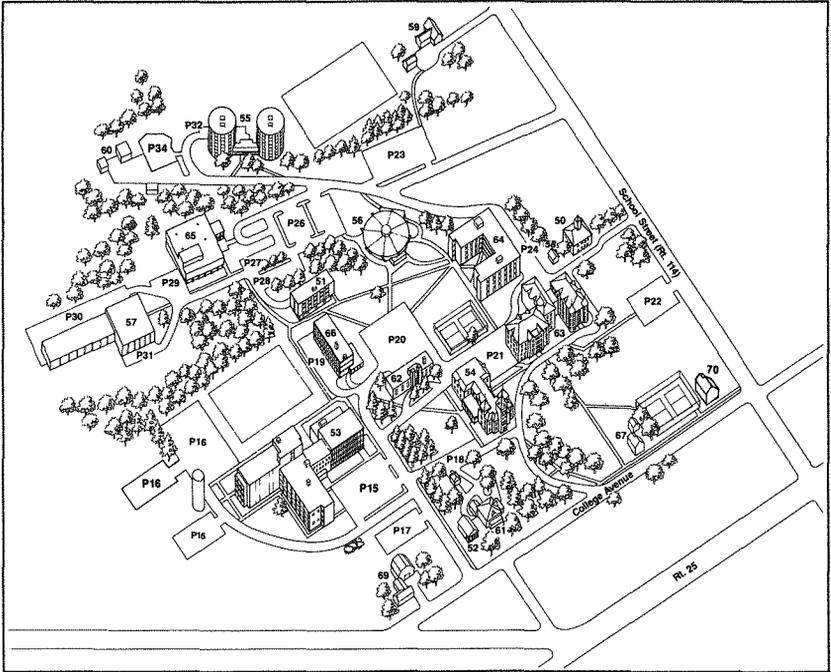
Zaner, John A. (1974) Associate Professor of Technology; Millersville State College, B.S., 1969; M.Ed., 1972; Pennsylvania State University, Ed.D., 1977

Zarr, Melvyn (1973) Professor, School of Law; Clark University, A.B., 1958; Harvard University, LL.B., 1963

Zillman, Donald N. (1990) Dean of the School of Law and Godfrey Professor of Law; University of Wisconsin, B.S., 1966; J.D., 1969; University of Virginia, LL.M., 1973

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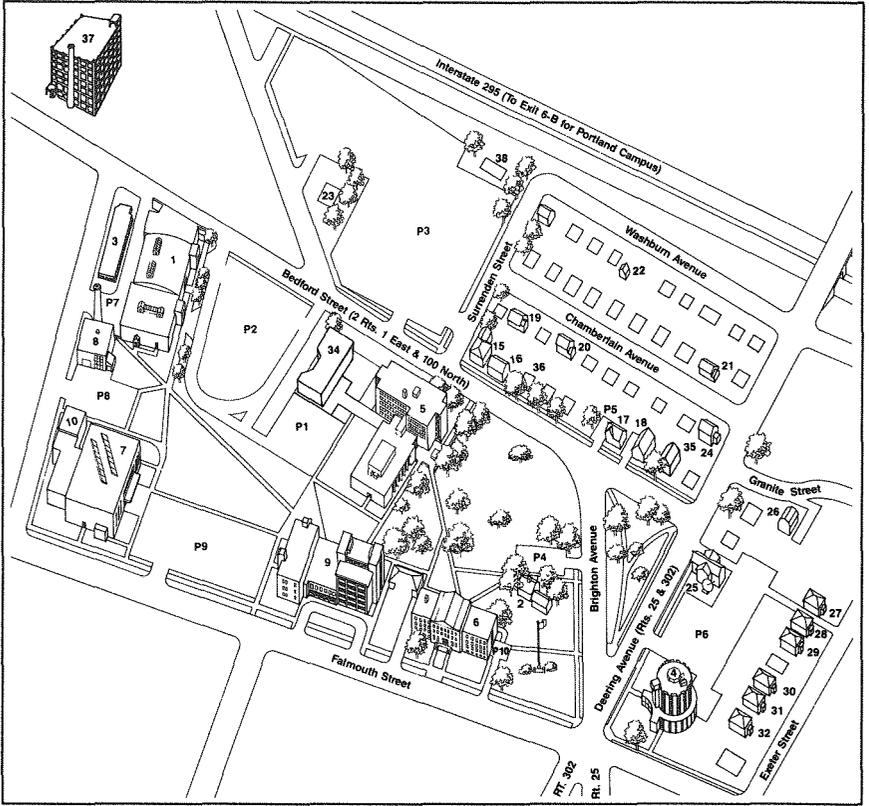
Gorham Campus

- 50. Academy Building
- 51. Anderson Hall
- 52. Art Gallery
- 53. Bailey Hall (Library)
- 54. Corthell Hall
- 55. Dickey/Wood Hall
- 56. Brooks Student Center (Bookstore/Dining Center)
- 57. Technology Center
- 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
- 65. Warren Hill Gym
- 66. Woodward Hall
- 67. 19 College Avenue
- 69. 51 College Avenue
- 70. 7 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 Commuter
- P23. Student Resident
- *P24. Student Resident
- P26. Student Resident
- *P27. Faculty/Staff/Student Resident
- P28. Student Resident
- *P29. Faculty/Staff
- *P30. Student Commuter/Faculty/Staff
- P31. Faculty/Staff
- P32. Faculty/Staff
- P33. Faculty/Staff
- P34. Student Resident

*Designated handicap spaces in these lots.



Portland Campus

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|--|----------------------------|
| 1. Campus Center
(Bookstore, Dining Center) | 21. 38 Chamberlain Avenue |
| 2. Alumni House | 22. 25 Washburn Avenue |
| 3. 25 Bedford St. (Facilities
Management) | 23. Powers House |
| 4. Law School | 24. 86 Winslow Street |
| 5. Luther Bonney Hall | 25. 209 Deering Avenue |
| 6. Payson Smith Hall | 26. 228 Deering Avenue |
| 7. Sullivan Gymnasium | 27. 11 Granite Street |
| 8. Central Heating Plant | 28. 39 Exeter Street |
| 9. Science Building | 29. 45 Exeter Street |
| 10. Child Care | 30. 47 Exeter Street |
| 15. 92 Bedford Street | 31. 55/57 Exeter Street |
| 16. 94 Bedford Street | 32. 58/61 Exeter Street |
| 17. 118 Bedford Street | 33. 65 Exeter Street |
| 18. 120 Bedford Street | 34. Masterton Hall |
| 19. 7 Chamberlain Avenue | 35. 126 Bedford Street |
| 20. 15 Chamberlain Avenue | 36. 102 Bedford Street |
| | 37. Library Building |
| | 38. 13-15 Surrenden Street |

