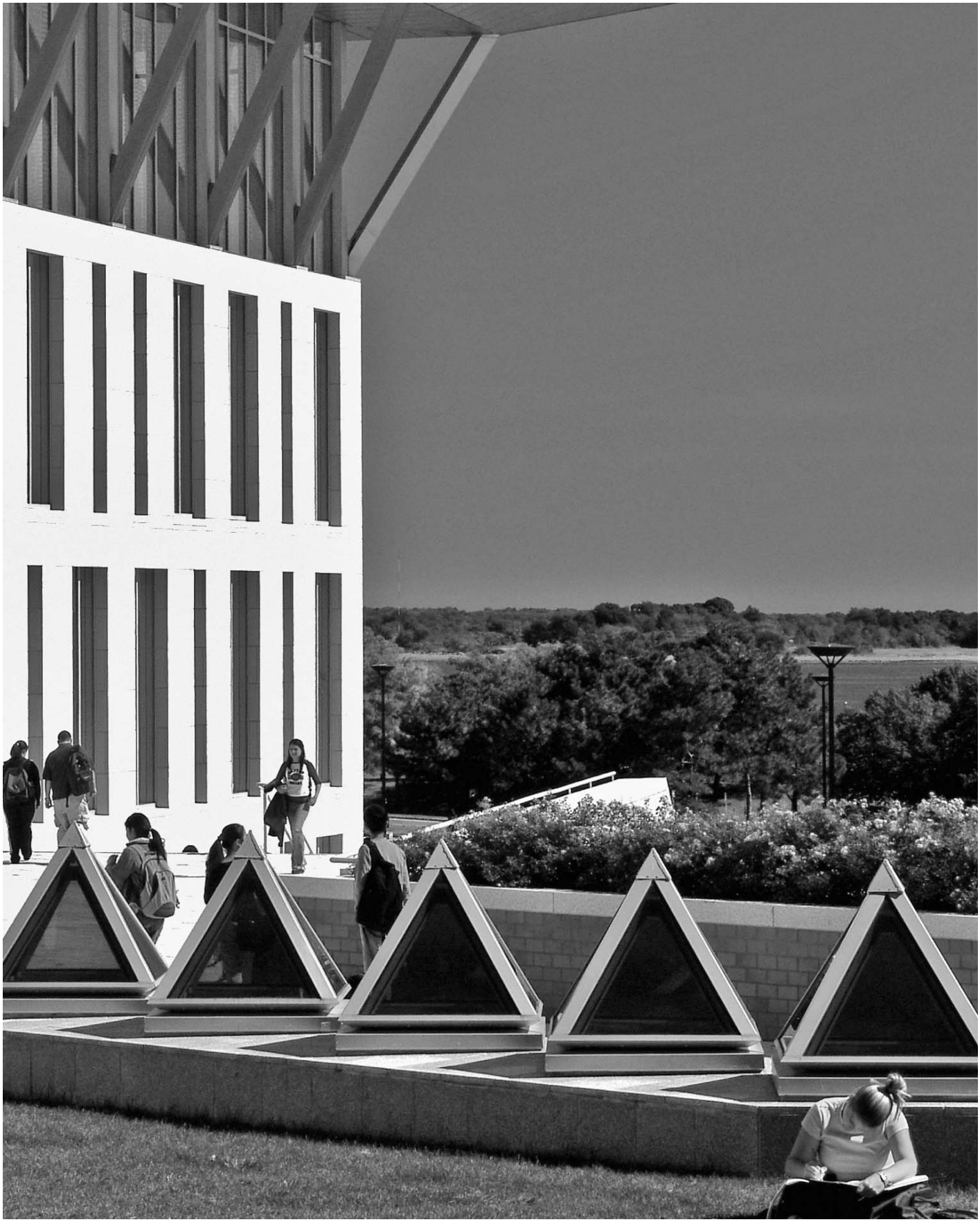
Graduate Studies
Bulletin

Catalog and Application 2006-2008

A Great University in a Great City



Fall 2006

The purpose of this publication is to provide information about the University of Massachusetts Boston to persons who work and study at the university, to persons who may be interested in applying for admission, and to parents, teachers, counselors, and the general public. This publication is neither a contract nor an offer to make a contract. While every effort has been made to ensure the accuracy of the information in this publication, the university reserves the right to make changes at any time with respect to course offerings, degree requirements, services provided, or any other subject addressed in this publication. The information in this publication is provided solely for the convenience of the reader, and the university expressly disclaims any liability which may otherwise be incurred.

The University of Massachusetts Boston is an affirmative action/equal opportunity institution and prohibits discrimination on the basis of race, color, sex, age, religion, national origin, sexual orientation, disability, or veteran status in its employment; in the recruitment, admission, and treatment of students; and in its policies and programs, as required by federal and state laws and regulations. All inquiries regarding Title IX of the Educational Amendments of 1972 and/or Section 504 of the Rehabilitation Act of 1973 may be directed to the Director of Affirmative Action, University of Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125-3393. Inquiries regarding the application of the nondiscrimination policy may also be directed to the Coordinator or Assistant Secretary for Civil Rights, U.S. Department of Education.

The University of Massachusetts Boston is accredited by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering postgraduate instruction.

Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding the status of an institution's accreditation by the New England Association should be directed to the administrative staff of the school or college. Individuals may also contact the Association:

Commission on Institutions of
Higher Education
New England Association of
Schools and Colleges
209 Burlington Road
Bedford, Massachusetts 01730-1433
781.271.0022
www.neasc.org

In addition, the College of Management is accredited by the American Assembly of Collegiate Schools of Business (AACSB), and the College of Nursing and Health Sciences holds accreditation from the National League for Nursing Accreditation Commission and the Commonwealth of Massachusetts Board of Registration in Nursing.

The University of Massachusetts Boston is a member of the Council of Graduate Schools of the United States and the Northeastern Association of Graduate Schools.

Contents

Graduate Program Affiliations

College of Liberal Arts
American Studies (MA)
Anthropology
  Historical Archaeology (MA)
Clinical Psychology (PhD)
Creative Writing (MFA)
English (MA)
    Also see "Graduate College of Education: Teacher Education: Professional Licensure"
Historical Archaeology (MA)
History (MA)
    History
    Teaching History
    Also see "Graduate College of Education: Teacher Education: Professional Licensure"
Latin and Classical Humanities
    See "Applied Linguistics" and "Graduate College of Education: Teacher Education: Professional Licensure"
Linguistics, Applied (MA)
    Bilingual Studies
    English as a Second Language
    Foreign Language Pedagogy
    Applied Linguistics/Latin and Classical Humanities
Political Science/Political Philosophy
    See "Graduate College of Education: Teacher Education: Professional Licensure"
    Also see "McCormack Graduate School of Public Policy: Public Affairs: International Relations"
Psychology
    Clinical Psychology (PhD)
    Forensic Services (Certificate)
Sociology, Applied
    Applied Sociology (MA, BA/MA)
    Forensic Services (Certificate)
Spanish and Hispanic Studies
    Teaching of Spanish (Certificate)
    Also see "Graduate College of Education: Teacher Education: Professional Licensure"
Women's Studies, Graduate Consortium in

College of Science and Mathematics
Biology
    Biology (MS)
    Biology/Environmental Biology (PhD)
    Biology/Molecular, Cellular, and Organismal Biology (PhD)
    Biomedical Engineering and Biotechnology (PhD—*Multicampus Program*)
    Biotechnology and Biomedical Science (MS, Certificate)
    Also see "Graduate College of Education: Teacher Education: Professional Licensure"
Chemistry
    Chemistry (MS)
    Chemistry/Green Chemistry (PhD)
    Also see "Graduate College of Education: Teacher Education: Professional Licensure"
Computer Science
    Computer Science (PhD, MS)
    Database Technology (Certificate)
Environmental Sciences
    Environmental Sciences (MS)
    Environmental Sciences/Environmental, Earth, and Ocean Sciences (PhD)
    Geographic Information Science (Certificate)
    Also see "Graduate College of Education: Teacher Education: Professional Licensure"
Marine Sciences and Technology (PhD, MS—*Intercampus Programs*)
Mathematics
    See "Graduate College of Education: Teacher Education: Professional Licensure"
Physics, Applied (MS)
    Also see "Graduate College of Education: Teacher Education: Professional Licensure"

Graduate College of Education
Adapting Curriculum Frameworks for All Learners (Certificate)
Applied Behavioral Analysis (Certificate)
Counseling (MEd, MS, CAGS, MEd/CAGS, MS/CAGS, Licensure)
    Family Therapy
    Mental Health Counseling
      Forensic Services (Certificate)
      School Adjustment Counseling
    Rehabilitation Counseling
    School Counseling
Critical and Creative Thinking (MA, Certificate)
Education (EdD)
    Higher Education Administration
    Leadership in Urban Schools
Educational Administration (MEd)
Instructional Design
    Instructional Design (MEd)
    Instructional Technology Design (Certificate)
Instructional Technology for Educators (Certificate)
School Psychology (MEd/CAGS, CAGS)
Special Education (MEd, Certificate, Teacher Licensure)
    Special Education
    Special Education/Orientation and Mobility
    Special Education/Teaching of Students with Visual Impairments
Teacher Education (MEd, Certificate, Teacher Licensure: Initial and Professional)
    Elementary Education
    Middle/Secondary Education
    Licenses available in Middle School Humanities or Math/Science or a selection of middle school subject areas; in Secondary Biology, Chemistry, Earth Science, English, French, History, Latin and Classical Humanities, Mathematics, Physics, Political Science/Political Philosophy, Spanish
Teaching of Writing in Schools (Certificate)

College of Management
Accounting (MS)
Business Administration (MBA)
Information Technology (MS)

College of Nursing
Nursing (PhD, MS, Post-Master's Certificate)
    Nursing (PhD)
    Nursing/Acute-Critical Care Clinical Nurse Specialist (MS)
    Nursing/Adult-Gerontological Nurse Practitioner (MS, Certificate)
    Nursing/Family Nurse Practitioner (MS, Certificate)

John W McCormack Graduate School of Policy Studies
Gerontology
    Gerontology (PhD, MS)
    Gerontology/Management of Aging Services (MS)
Public Affairs (MS)
    Public Affairs
    Public Affairs/International Relations
Public Policy (PhD)
See also "Graduate College of Education, Teacher Licensure, Professional Licensure"
Women in Politics and Public Policy (Certificate)

College of Public and Community Service
Dispute Resolution (MA, Certificate)
Human Services (MS)

Center for Social Development and Education
Applied Behavioral Analysis (Certificate)
Adapting Curriculum Frameworks for All Learners (Certificate)

Intercampus
Biomedical Engineering and Biotechnology (PhD, Boston, Dartmouth, Lowell, Worcester)
Intercampus Graduate School of Marine Sciences and Technology (PhD, MS, Amherst, Boston, Dartmouth, Lowell)
Graduate Consortium in Women's Studies

UMass Boston *at a glance*

Profile

A co-educational, public university of the Commonwealth of Massachusetts offering bachelor's, master's, and doctoral degrees, certificate programs, and corporate, continuing, and distance learning.

History

The University of Massachusetts Boston is the second largest campus in the five-campus University of Massachusetts system. The University was founded by the Morrill Land Grant Act of 1863. The University of Massachusetts Boston was founded by the State Legislature in 1964, and merged with the former Boston State College in 1982.

Location

The University is located in Boston, Massachusetts, just three miles south of downtown on a peninsula in Boston Harbor covering 177 acres. Our neighbors are the John F. Kennedy Library and Museum and the Commonwealth of Massachusetts State Archives and Museum.

Enrollment for Fall 2005

12,362 Students

9,246 Undergraduates

3,116 Graduate students

40% Male

60% Female

Faculty

813 Members

96% Hold the highest degree in their fields

14:1 Student-to-faculty ratio

Seven colleges/schools

- College of Liberal Arts
- College of Science and Mathematics
- College of Management
- College of Nursing and Health Sciences
- College of Public and Community Service
- Graduate College of Education
- John W. McCormack Graduate School of Policy Studies

Foreword

FOREWORD

The University

The University of Massachusetts Boston is a community of scholars that prides itself on academic excellence, diversity, and its commitment to serving students and the greater Boston community. UMass Boston was founded in 1964 to provide the opportunity for superior undergraduate and graduate education at moderate cost to the people of the Commonwealth and particularly of the greater Boston area. It is a lively place, where classes go on year round, and where studies in a wide range of disciplines are conducted by a truly distinguished faculty.

The university's urban setting allows it to offer a broad array of resources—educational, professional, and cultural. These resources, together with UMass Boston's active concern for individual academic development, offer students the opportunity for an excellent education.

Three miles south of downtown Boston, UMass Boston shares a peninsula overlooking Boston Harbor with the Massachusetts Archives and Commonwealth Museum and the John F Kennedy Presidential Library. The Library building, designed by IM Pei, has become a Boston landmark. The JFK Library shares its impressive archival resources with UMass Boston through a series of educational programs. An equally impressive range of research opportunities is provided by the Massachusetts Archives and Commonwealth Museum.

UMass Boston, which has approximately 12,000 students in its undergraduate, graduate, and continuing education programs, is the second-largest campus in the University of Massachusetts system. With campuses at Amherst, Boston, Dartmouth, Lowell, and Worcester, the University of Massachusetts serves more than 57,000 students and is the largest university system in New England.

Graduate Study at UMass Boston

Graduate study is becoming a way of life for more and more people in the United States and internationally. Career shifts and rapidly changing technologies require professionals to update their expertise or to prepare for new directions through graduate education. People at the beginning of their careers require an understanding not only of their disciplines but also of the people with whom they will be working and the new global community that is emerging.

At UMass Boston, the members of a talented, flexible faculty are responsive to the ways in which society and workplace are evolving. They provide graduate students with teaching and supervision that is distinctive in quality, range, and perspectives, through certificate- and master's-level study in more than fifty areas and thirteen doctoral programs. The faculty here are among the most accomplished scholars in their fields. Their research, writing, and consultancies have earned them national and international reputations. Yet they are also widely known for their commitment to their classes and students. They constitute a unique graduate teaching faculty.

Many of UMass Boston's faculty members are associated not only with academic programs, but also with a range of institutes and centers at the university whose focus is on applied research and public service. These institutes and centers make important contributions to the greater Boston community's knowledge and understanding of crucial social issues. Graduate students in turn can share in these affiliations, which afford exceptional opportunities to acquire research and field experience that is both valuable in its own right and career-enhancing as well.

One of the most pressing challenges to public policy makers in urban America is the need for government to respond effectively and positively to the explosion of new immigration and ethnic diversity. Many doctoral students in clinical psychology, education, gerontology, nursing, and public policy are making significant contributions to this and related issues in their dissertation research, often supported by faculty, staff, and resources in institutes and centers.

In another example of synergy, the Urban Harbors Institute, which focuses on such issues as water quality, port planning, and harbor management, sponsors both doctoral- and master's-level research undertaken by students in the environmental sciences.

The relationship between graduate programs and the institutes and centers is one of the distinctive features and strengths of UMass Boston.

Office of Graduate Studies

Under the leadership of the Dean of Graduate Studies, this office oversees all graduate work at the university. In collaboration with the university's Graduate Studies Committee, the Office of Graduate Studies exercises overall review and supervision of graduate programs, and provides guidance for the development of new programs, as well as for the maintenance of academic standards within existing programs. At UMass Boston, graduate education is supported cooperatively and in accordance with the highest national professional standards by the university's College of Liberal Arts, College of Science and Mathematics, College of Management, College of Nursing, College of Public and Community Service, Graduate College of Education, and John W. McCormack Graduate School of Policy Studies. Intercampus programs provide students the opportunity to benefit from faculty expertise on multiple campuses of the University of Massachusetts system.

Graduate Study

The following graduate programs of the University of Massachusetts Boston are described in detail in this publication. Additional information may be found on UMass Boston's web site: (http://www.umb.edu).

Graduate Programs

FOREWORD

Publications giving information about graduate programs at the university's Amherst, Dartmouth, and Lowell campuses are available at each campus. Information about graduate programs in medicine and related fields may be found in the Medical School Catalog of the University of Massachusetts Worcester.

Mission Statement

UMass Boston's commitment to public higher education and its aspirations for future progress are reflected officially in the university's Mission Statement:

The University of Massachusetts Boston, one of five campuses of the University of Massachusetts, is nationally recognized as a model of excellence for urban universities. A comprehensive, doctoral degree-granting campus, we provide challenging teaching, distinguished research, and extensive service which particularly respond to the academic and economic needs of the state's urban areas and their diverse populations.

The mission and goals of the campus derive from and reflect the six components of the Vision Statement of the University system as expressed in the Trustees' document T91-107:

1. Access: The University of Massachusetts Boston offers liberal arts and professional programs on the graduate and undergraduate levels, with doctoral programs addressing issues of particular importance to urban environments and people. Our curricula, the way we teach, and our financial and academic support services address the needs of both traditional and nontraditional students, who come to the university from varied social, cultural, and ethnic backgrounds, who may have a variety of previous educational experiences, and who characteristically combine university education with work and family responsibilities.
2. Excellence: The University of Massachusetts Boston addresses the intellectual and professional needs of individual students through class and other educational experiences that encourage dialogue with faculty who are active scholars, performers, and/or practitioners. Our programs reflect contemporary thinking about the disciplines and professions, while honoring the disciplines' and professions' historical contexts. Students benefit from rigorous, specially tailored approaches to fostering gains in abilities and understanding. We seek to distinguish ourselves in four areas of inquiry: the physical environment; critical social and public policy issues; leadership in health, education, and human services; and high-technology manpower needs.
3. Public Service: Extending the land grant tradition, the University of Massachusetts Boston forges linkages between research and service and is forming partnerships with communities, the private sector, government, other colleges and universities, and other sectors of public education. These linkages bring the intellectual, technical, and human resources of the university community to bear on the economic and social needs of metropolitan regions—for example, through public policy analysis and applied problem solving in areas such as environmental quality, city planning, tax policy, the schools, and economic development, especially in ethnic and minority communities.
4. Innovation: The University of Massachusetts Boston pursues research and offers programs serving current and emerging needs of urban populations, institutions, and environments—for example, in gerontology, public policy, and environmental sciences. Programs incorporate new knowledge developed through research, new methods yielded by emerging technologies, and insights and opportunities afforded by interdisciplinary, cross-disciplinary, and other collaborative enterprises.
5. Economic Development: The University of Massachusetts Boston works cooperatively with metropolitan businesses, major public- and private-sector employers, representatives of state and local governments, and neighborhoods and communities to develop programs to link Massachusetts with economic communities around the world. We offer professional education in areas critical to regional employers, assist state executives in policy analysis and development, and work to strengthen all businesses and local governments through the application of knowledge and expertise and by providing an effectively educated workforce. We conduct research on critical economic issues, e.g., the environment, especially but not solely harbor and coastal aspects thereof; and social, public, and fiscal policy. And we offer programs to enhance Massachusetts' participation in the global economic community.
6. Quality of Life: The University of Massachusetts Boston sponsors and supports cultural diversity by helping ethnic and international communities to articulate and celebrate their cultural values and identities, and by recognizing the contributions and achievements of members of these communities. We educate artists, performing artists, writers, archivists, teachers, environmentalists, and others whose lifelong contributions will enrich the culture and environment of the urban populace. By the nature of our enterprise and through our normal activity, we contribute to the rich and diverse cultural life of a major American city.

Trustees

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Aaron Lazare, MD, Chancellor

Academic Calendar, 2006-2008

Fall Semester, 2006

Labor Day (Holiday)	September 4	(Mon)
Classes Begin	September 5	(Tue)
Add/Drop Ends	September 12	(Tue)
Columbus Day (Holiday)	October 9	(Mon)
Mid-Semester	October 23	(Mon)
Pass/Fail Deadline	November 9	(Thu)
Course Withdrawal Deadline	November 9	(Thu)
Veterans Day (Holiday)	November 11	(Sat)
Thanksgiving Recess	November 23-26	(Thu-Sun)
Classes Resume	November 27	(Mon)
Registration for Spring 2007 Begins	November 27	(Mon)
Classes End	December 13	(Wed)
Study Period	December 14-17	(Thu-Sun)
Final Exam Period	December 18-22	(Mon-Fri)
Emergency Snow Day	December 23	(Sat)

Wintersession, 2007*

Classes Begin	January 2	(Tues)
Martin Luther King Day (Holiday)	January 15	(Mon)
Classes End	January 25	(Thu)
Emergency Snow Day	January 26	(Fri)

Spring Semester, 2007

Classes Begin	January 29	(Mon)
Add/Drop Ends	February 5	(Mon)
Presidents Day (Holiday)	February 19	(Mon)
Spring Vacation	March 17-25	(Sat-Sun)
Classes Resume	March 26	(Mon)
Mid-Semester	March 26	(Mon)
Pass/Fail Deadline	April 12	(Thu)
Course Withdrawal Deadline	April 12	(Thu)
Patriots Day (Holiday)	April 16	(Mon)
Registration for Fall 2007 Begins	April 23	(Mon)
Classes End	May 16	(Wed)
Study Period	May 17-20	(Thu-Sun)
Final Exam Period	May 21-25	(Mon-Fri)
Commencement	TBA	

Summer Session, 2007*

Summer Session #1	May 29–July 12	
Bunker Hill Day (Holiday)	June 18	(Mon)
Independence Day (Observed)	July 4	(Wed)
Summer Session #2	July 16–August 23	

Fall Semester, 2007

Labor Day (Holiday)	September 3	(Mon)
Classes Begin	September 4	(Tue)
Add/Drop Ends	September 11	(Tue)
Columbus Day (Holiday)	October 8	(Mon)
Mid-Semester	October 22	(Mon)
Pass/Fail Deadline	November 8	(Thu)
Course Withdrawal Deadline	November 8	(Thu)
Veterans Day (Holiday)	November 12	(Mon)
Thanksgiving Recess	November 22-25	(Thu-Sun)
Classes Resume	November 26	(Mon)
Registration for Spring 2008 Begins	November 26	(Mon)
Classes End	December 14	(Fri)
Study Period	December 15-16	(Sat-Su)
Final Exam Period	December 17-21	(Mon-Fri)
Emergency Snow Day	December 22	(Sat)

Wintersession, 2008*

Classes Begin	January 7	(Mon)
Martin Luther King Day (Holiday)	January 21	(Mon)
Classes End	January 25	(Fri)
Emergency Snow Day	January 26	(Sat)

Spring Semester, 2008

Classes Begin	January 28	(Mon)
Add/Drop Ends	February 4	(Mon)
Presidents Day (Holiday)	February 18	(Mon)
Spring Vacation	March 15-23	(Sat-Sun)
Classes Resume	March 24(Mon)	
Mid-Semester	March 24(Mon)	
Pass/Fail Deadline	April 10	(Thu)
Course Withdrawal Deadline	April 10	(Thu)
Patriots Day (Holiday)	April 21	(Mon)
Registration for Fall 2009 Begins	April 21	(Mon)
Classes End	May 14	(Wed)
Study Period	May 15-18	(Thu-Sun)
Final Exam Period	May 19-23	(Mon-Fri)
Memorial Day (Holiday)	May 26	(Mon)
Commencement	TBA	

Summer Session, 2008*

Summer Session #1	May 27-July 9	
Bunker Hill Day (Holiday)	June 17	(Tu)
Independence Day (Observed)	July 4	(Fri)
Summer Session #2	July 14-August 21	

(*classes run Monday-Friday except for holidays)

Admissions

Admissions

All persons who hold bachelor's degrees from institutions of recognized standing are eligible to apply for admission to graduate study at UMass Boston. Admission is granted only for the semester requested and cannot be guaranteed for a later date (see the "Deferred Enrollment" section of this publication). An application form and instructions may be found at the back of this publication. Application materials, and information about application deadlines, may also be obtained from the Office of Graduate Admissions, University of Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125-3393, or on the university's website: www.umb.edu.

Applications for admission, with supporting documents, should be sent to the Office of Graduate Admissions.

Admission to graduate study does not automatically indicate approval of candidacy for an advanced degree. Such candidacy is subject to specific requirements defined by the individual graduate programs. Graduate program directors must approve all degree candidacies.

Students may participate in graduate study at UMass Boston as

- *Matriculated students* admitted to graduate programs and fully qualified to pursue studies toward graduate degrees and certificates; or as
- *Non-degree (non-matriculated) students* not admitted to graduate programs but allowed to enroll in graduate-level courses on a space-available basis. Not all programs allow students to attend as non-degree students, and there is a limit on the number of credits taken this way that may be tranferred into a degree program. For more information, see under "Graduate Non-Degree Student Status" at the end of this section.

Admission Requirements and Procedures

Applicants may submit their applications online (preferred) or in paper format. All supporting materials (essays, transcripts, letters of reference) should be submitted in a single package (together with the application, for those submitting the paper application). The sending of documents under separate cover will delay the processing of an application. Materials sent directly to graduate program offices do not constitute or become part of an official UMass Boston Application.

The requirements listed here apply to all UMass Boston graduate programs. For information about additional or more restrictive requirements that may apply to individual programs, please refer to individual program descriptions and to the application materials at the back of this publication.

Please note that individual programs may require interviews for applicants.

For information on special requirements for applicants from other countries, please see under "International Applicants" later in this section.

General Admission Requirements

1. Submission of a completed graduate admissions application form, either online or in paper format.

   Note: Each application must be accompanied by a non-refundable application fee ($40 for residents of Massachusetts, $60 for non-residents).

2. An official transcript from every institution attended at any time (graduate and undergraduate), even if credits appear as transfer credit on another transcript. The transcript(s) must demonstrate (a) a minimum cumulative grade point average in undergraduate work of 2.75, and (b) a bachelor's degree from a college or university of recognized standing.

   Each transcript must be in the sending institution's original sealed envelope.

3. Submission of any test scores required by the program to which the applicant is seeking admission.

   Note: In accordance with provisions of the General Laws of Massachusetts, Graduate Studies policy permits residents of Massachusetts who have been diagnosed as developmentally disabled (including those with specific language disabilities, such as dyslexia, but not including those whose sole disability is blindness) to request a waiver of the requirement to submit GRE, GMAT or MAT scores. To qualify for a waiver, an applicant must submit up-to-date documentation validating his/her disability. A graduate program may require an alternative mode of assessment (e.g., a writing sample) in lieu of the standardized test score. For information, contact the Office of Graduate Admissions.

   Information about the tests and about the locations of test centers is available from:

- Educational Testing Service, Box 6000, Princeton, New Jersey, 08541-6000 for the Graduate Record Examination (GRE): 866.473.4373, 609.771.7670, TTY: 609.734.9362, www.gre.org
- Pearson VUE, Attention: GMAT Program, PO Box 581907, Minneapolis, MN 55458-1907, 800.717.GMAT (4628), www.mba.com
- Psychological Corporation, Controlled Testing Center, 555 Academic Court, San Antonio, Texas, 78204 for the Miller Analogies Test (MAT): 800.622.3231
- Massachusetts Tests for Educator Licensure (MTEL), PO Box 226, Amherst, Massachusetts, 01004-9988, 423.256.2892, TTY: 413.256.8032, www.doe/mass.edu/teachertest

The programs listed below require that applicants submit the appropriate test scores. See individual program sections for details.

Accounting: GMAT
Biology/Environmental Biology: GRE
Biology/Molecular, Cellular, and Organismal Biology: GRE
Biotechnology and Biomedical Science: GRE
Business Administration: GMAT
Chemistry (MS): GRE (required of applicants with degrees from foreign universities)
Chemistry/Green Chemistry (PhD): GRE
Clinical Psychology: GRE (general exam and psychology subject exam)
Computer Science (PhD): GRE
Computer Science (MS): GRE
Counseling: Family Therapy, Mental Health, and Rehabilitation Programs: GRE or MAT*; School Counseling: MTEL**
Dispute Resolution (MA): GRE or MAT*
Education (MEd) Teacher Education Licensing Tracks: MTEL**
Education (MEd) Teacher Education Non-Licensure Track: GRE
Educational Administration: MTEL**
Environmental Sciences (MS): GRE
Environmental Sciences/Environmental, Earth, and Ocean Sciences (PhD): GRE
Gerontology (PhD, MS): GRE (not required for Management of Aging Services track)
Historical Archaeology: GRE
Human Services: GRE or MAT*
Information Technology: GMAT

Admissions

Instructional Design: MAT*
Linguistics, Applied/Latin and Classical Humanities Track: GRE
Nursing (PhD, MS): GRE
Public Affairs: GRE or MAT
Public Policy: GRE
School Psychology: GRE or MAT and MTEL**
Sociology, Applied: GRE or MAT
Special Education Licensing Tracks: MTEL**; Non-Licensing Track: GRE

The programs listed below strongly recommend that applicants submit the appropriate test scores. See individual program sections for details.
American Studies: GRE
Chemistry (MS): GRE
Creative Writing (MFA): GRE
Critical and Creative Thinking: GRE or MAT
Education (EdD)
Education/Higher Education Administration: GRE or MAT
Education/Leadership in Urban Schools: GRE or MAT
Creative Writing (MFA): GRE
English: GRE
History (History and Teaching History Tracks): GRE
Physics, Applied: GRE

*Test score not required if applicant holds an advanced degree from a US university. Please note that some programs require the advanced degree to be in a specific field. See program description for additional details.

**Out-of-state applicants may submit GRE or MAT instead of MTEL; MTEL must in that case be completed during the student's first semester.

4. Three letters of recommendation from people who have worked closely with the applicant in an academic, professional, or community service setting. These letters should include specific information about the applicant's abilities and performance. Letters of recommendation should not be written by friends or family members of the applicant. Normally, at least one letter should be from a faculty member at an institution where the applicant has been enrolled who can attest to the applicant's potential for advanced academic work. It is strongly suggested that the three letters of recommendation comment on differing aspects of the applicant's abilities and performance, and that they be current, directly addressing the applicant's present ability to do graduate work.
5. Statement of interests and intent. Please submit, with your application, a typed two-part essay. In the first part (up to 300 words), give your reasons for wishing to pursue graduate study. In the second part (at least 1,200 words), indicate your specific interests and discuss the kind of work you would like to do in your intended field.

   Use plain white 81/2 x 11 paper, put your name and social security number on each page, type the essay, and be sure to enclose the essay in the package with your application form (for those filing paper applications) and other supporting materials.

   Please refer to individual program sections and to the application materials at the back of this publication for information about additional or more specific requirements for particular programs.
6. Acceptance is granted by both the graduate admissions committee of the program for which application is made and the Dean of Graduate Studies.
7. Acknowledgment of acceptance by the applicant. Acknowledgment should be sent to the Office of Graduate Admissions. An admission deposit of $250.00 is required to confirm your enrollment. The deposit is applied to your first-semester tuition and fees, but it is not refundable if you fail to enroll. Failure to acknowledge acceptance and pay the $250.00 deposit by the required date may result in deactivation of the application.

Transfer Credit

Applicants who have completed graduate course work at other accredited institutions may transfer toward the completion of a UMass Boston graduate degree up to 6 credits from such courses in which the applicant received a grade of B or higher.

Applicants who have completed graduate course work at UMass Boston as a non-degree student may transfer toward the completion of a UMass Boston graduate degree up to 6 credits from such courses in which the applicant received a grade of B or higher.

These courses may be accepted for transfer provided that they:

- have not been used to fulfill requirements for another degree, and
- were earned no more than seven years before matriculation in the program into which the student wishes to transfer credit.

The combined total of courses transferred from other institutions and from UMass Boston courses taken as a non-degree student may not exceed 12 credits.

Accepted students who wish to take non-degree courses in the semester between acceptance and matriculation that will take them over the 6-credit transfer limit may petition their program director to grant them a Pre-Matriculation Transfer Waiver.

Transfer credit is subject to the final approval of the graduate program director and the Dean of Graduate Studies.

Copies of Submitted Material

All materials submitted to the University of Massachusetts Boston become the property of the university. Because neither such materials nor photocopies of them can be returned to the applicant, all applicants (and enrolled students) should be certain to keep copies of all forms, documents, and correspondence they submit to the university. If questions about any of this material should arise, students will find it useful to have copies for reference.

Materials sent directly to graduate program offices do not constitute or become part of an official UMass Boston application.

Application Deadlines

Deadlines for completed application forms, including all required supporting credentials, are as follows:

General Deadlines

Except for the programs specifically listed below, the following deadlines apply:

- March 1 is the priority deadline for fall semester applications. Completed applications—including all required credentials and documents—received by March 1 will be given priority consideration, and applicants will be notified of a decision by the end of April. Applications for the fall semester will continue to be considered through June 1. The deadline for spring semester applications is November 1.
- For international applicants: May 1 (for the fall semester) and October 1 (for the spring semester), except for the programs listed below with earlier deadlines. For details, see the "Special Instructions" accompanying the application form at the back of this publication.

Admissions

Please note: All application deadlines are subject to change, and individual programs in addition to those listed above may set their own deadlines and/or admit students only every other semester. The most current information about deadline dates and about individual program deadlines is available from the Graduate Admissions Office (617.287.6401).

Special Deadlines

Programs Admitting Students in Fall Only

- Biology (PhD): January 21 (fall), October 15 (spring)
- Chemistry (PhD): January 21 (fall), October 15 (spring)
- Clinical Psychology: December 1
- Counseling: Family Therapy, Mental Health, Rehabilitation Counseling, and School Guidance: February 1
- Creative Writing: January 15
- Education (EdD)
  - Higher Education Administration Track: February 1
  - Leadership in Urban Schools Track: March 15
- Educational Administration: April 1
- Gerontology (PhD): February 1
- Human Services: June 1
- Nursing (PhD): March 15
- Public Affairs: March 1
- Public Policy: January 15
- School Psychology: February 1
- Women in Politics and Public Policy: June 1

Programs Admitting Students in Fall and Spring

- Critical and Creative Thinking: April 1 (fall), November 1 (spring)
- Dispute Resolution (MA, certificate): June 1 (fall), November 1 (spring)
- Education: Teacher Education: April 1 (fall), November 1 (spring)
- Environmental Sciences: January 21 (fall), October 15 (spring)
- Instructional Design: June 1 (fall), December 1 (spring)
- Linguistics, Applied: February 15 (fall), October 15 (spring)
- Special Education: April 1 (fall), November 1 (spring)

Deferred Enrollment

Admission is granted only for the semester requested by the applicant and cannot be guaranteed for a later semester. With the approval of the appropriate graduate program director, a newly-admitted applicant may defer his/her enrollment in courses for as much as a year. For further information about deferred enrollment, contact the Graduate Admissions Office. Please note that a $25 admission processing fee is charged for deferred enrollment.

Applicants who defer admission after being awarded graduate assistantships should be aware that retention of the assistantship is not guaranteed; they must re-apply for the assistantship for the semester they plan to matriculate.

Any newly-admitted applicant who cannot enroll within a year after the semester for which admission was originally granted, and who remains interested in seeking a graduate degree at the university, must reapply, submitting a new application form and a new set of accompanying credentials.

International Applicants

Additional Requirements

In addition to meeting the general requirements for admission, international applicants must also meet the following additional requirements:

1. Certain programs have special deadlines. Others follow the general deadlines for graduate studies programs. The completed application form, the $60 application fee, and all supporting materials must reach the university by the applicable special or general deadline listed in the "Application Deadlines" section above. The application fee must be submitted in US currency.
2. Official transcripts of the applicant's academic record, including courses and grades, with English translations validated on each page by an official public translator, must be sent to the Office of Graduate Admissions. Transcripts will not be returned.
3. Evidence that the applicant has completed a university-level degree program must be submitted. Acceptable evidence includes official copies of diplomas, certificates, and notifications of final examination results.
4. International applicants are required to take either the test of English as a Foreign Language (TOEFL) or the International English Language Testing System exam (IELTS).

   Minimum score requirements are as follows:

TOEFL			IELTS	Minimum Score
Paper-based	Computer-based	Internet-based		
600	250	100	6.5	MBA,MSA, MSIT
550	213	79	5.5	Other programs

   Applicants who have received at least 4 years of education (including their undergraduate program) in Australia, Canada (except Quebec), England, Ireland, Kenya, New Zealand, Scotland, Singapore, United States, or Wales are exempt from submitting a TOEFL or IELTS score report. All others are required to submit official score reports.

   The TOEFL will also be required of permanent-resident immigrants who have not attended an English-speaking educational institution in the US for at least two years full-time. Particular programs may require higher TOEFL scores; see the individual program descriptions for details.
5. A Declaration and Certification of Finances form must be completed, along with an affidavit of support from the student's sponsor and documentation from the sponsor's bank, based on an estimate of institutional costs and living expenses. These must be original documents. Submitted documents will not be returned, so applicants should be sure to make copies for their own records. The Office of Graduate Admissions will send the form to applicants who do not already have one as soon as their applications are received. The form must be completed accurately and must show that the total funds available to the student to cover his/her full period of study are at least equal to the total estimates of institutional costs and living expenses.

   Note: Each international student must pay the non-resident tuition rate for his/her full period of study.

Admissions

Below is an estimate of a single graduate international student's current (2006-2007) annual expenses. Students should keep in mind that these cost estimates for living expenses are minimum estimates for a twelve-month period and that, depending on the individual, actual costs may be higher. Students must be prepared to pay their own expenses and should anticipate yearly increases in both tuition/fee and living expenses.

Estimated Expenses For the 2006/2007 Academic Year

Tuition and fees (including Health Insurance)*	$20,725.00
Room and Board	$10,200.00
Books and Supplies	$ 860.00
Personal Expenses	$ 3,000.00
Total	$34,785.00

*Includes one-time pre-registration/orientation fee, one-time recreation fee, one-time commencement fee, and one-time Registrar's Service Fee.

Note: University tuition, fees, and living expenses may increase annually. For a complete listing of fees, see the "Tuition and Fees" section of this publication or the UMass Boston website.

Admission Process

When all admissions credentials have been received, and a decision to admit the applicant has been made, the university will send the applicant an official letter of admission accompanied by a Certificate of Eligibility (I-20 form). Admission is granted for a specific semester only. The I-20 form is valid for that semester only. If the applicant is unable to attend during the designated semester, the university should be notified immediately by mail, and the I-20 form should be returned to UMass Boston. The letter should be sent to the Office of Graduate Admissions and should indicate whether the applicant is seeking deferred enrollment (see the "Deferred Enrollment" section of this publication). A $25 admission processing fee is charged for deferred enrollment. Please note: A new I-20 form cannot be issued until the original form has been returned to the university. Updated financial documentation may also be required before a new I-20 form can be issued.

Under no circumstances should an applicant come to UMass Boston without having received the official letter of admission and the I-20 form. Applicants who come to the university without these official documents do so at their own risk. An applicant's presence on this campus will not expedite or otherwise influence the admission process.

Graduate Non-Degree Student Status

Individuals holding bachelor's degrees may register for graduate courses as non-degree (non-matriculated) students, with the permission of the appropriate graduate program director, on a space-available basis. Many such students plan to matriculate eventually; others take courses simply for professional advancement or personal growth. Students may not enroll as non-degree students in a program in which they were previously matriculated, unless they have completed the program.

International students with student visas who are enrolled in other institutions may register as non-degree students with permission of the institution where they are enrolled.

Registration as a non-degree student does not imply admission to a graduate program as a degree-seeking student. Formal application for admission to graduate programs must be made through the Office of Graduate Admissions.

No more than six credits earned as a graduate non-degree student may be applied toward a graduate degree at UMass Boston.

Non-degree students are charged tuition at the same rates as degree-seeking students and must also pay certain of the service fees. (See the "Tuition, Fees, and Payments" section of this publication.)

New England Regional Student Program

The New England Regional Student Program enables New England residents to attend courses at certain public universities in other New England states at reduced tuition rates. Students may not participate in the program if their intended course of study is available at an institution in their home state. Applicants who wish to attend UMass Boston through the program should indicate their intentions on the graduate admissions application. For further information, interested individuals may contact the Office of Graduate Admissions, or visit the New England Board of Higher Education website at www.nebhe.org.

Summer Session

Selected graduate courses are offered during the summer through the Division of Corporate, Continuing, and Distance Education (CCDE). The Summer Session operates on a self-supporting basis: courses are offered when sufficient student demand is demonstrated. Information regarding course offerings, tuition, and fees may be found in CCDE's Summer Session Bulletin, available from the Division of Corporate, Continuing, and Distance Education Office (287.7900) or at www.conted.umb.edu.

Tuition Waivers for Employees of the Commonwealth

Full-time employees of the Commonwealth of Massachusetts, with certain exceptions, are eligible for tuition remission at the University of Massachusetts Boston. To obtain tuition remission, an employee must submit a completed and signed "Certificate of Eligibility for Tuition Remission" form (available at the employee's personnel office) with his/her tuition bill each semester. Interested employees should contact their personnel office for further information. Please note that this benefit does not include remission of fees.

Tuition, Fees, and Payments

TUITION, FEES, AND PAYMENTS

Important Reminders

Students are liable for registered courses. For a small fee, payment arrangements can be made with an outside tuition management agency. Such arrangements must be made before the semester begins. Information about this option is available at the Bursar's Office at 617.287.5350. Aside from the external agency, the university does not offer any deferred payment plans.

The financial requirements of the university, changing costs, state and legislative action, and other circumstances may require adjustments in the tuition and fees stated or estimated below. The university reserves the right to make such adjustments in these charges as may from time to time be required by the Massachusetts Board of Higher Education or the University of Massachusetts Board of Trustees. Students acknowledge this reservation by submitting applications for admission or by registering for classes. Tuition and application fees are charged at different rates for residents and non-residents of Massachusetts. Prospective students should be sure to refer to the information under the "Residency Status" section of this publication.

Tuition is also charged at different rates for graduate and undergraduate students. Graduate students taking undergraduate courses must pay graduate tuition rates.

All charges are set by the Massachusetts Board of Higher Education or the University of Massachusetts Board of Trustees.

Graduate Tuition per Semester, 2006-2007	**per credit**	**12 or more credits (max.)***
Massachusetts Residents	$108.00	$1,295.00
Non-Residents	$406.50	$4,879.00
Mandatory Fees per Semester		**12 or more credits (max.)***
Student Activities**		$51.00
Health Service**		$83.50
Athletics**		$88.50
Technology Fee**		$50.00
Campus Center**		65.00
Education Operations Fee**		
Massachusetts Residents	$273.50	$3,281.00
Non-Residents	398.25	$4,777.50
Total Mandatory Fees per Semester	**per credit**	**12 or more credits (max.)***
Massachusetts Residents	$301.75	$3,619.00
Non-Residents	$426.50	$5,115.50
Optional Fees per Semester for Degree-Seeking Students* **		
Mass PIRG		$6.00
Mass Media Fee		$10.00
Mandatory One-Time Fees Charged to All Degree-Seeking Students* **		
Pre-Registration/Orientation		$100.00
Recreation		$145.00
Commencement		$150.00
Registrar's Service		$100.00
Identification Card Fee (paid once each year)* **		$10.00
International Fee per Semester (for International Students Only)* **		$50.00
Mandatory Health Insurance for All Degree-Seeking Students		
Student Health Insurance Plan - Full Year		$1,211.00
(Please see note below for more information)		(09/01/06 - 08/31/07)
	Fall Only	$461.00 (09/01/06 - 12/31/06)
	Spring Only	$750.00 (01/27/07 - 08/31/07)

*Please note: Some UMass Boston courses are offered both through the university's colleges and through the Division of Corporate, Continuing, and Distance Education (CCDE), a self-supporting component of the university. CCDE course costs differ somewhat from those shown in this chart, and CCDE courses are charged separately. Students who take 12 or more credits and enroll in one or more CCDE courses during a given semester should be aware that their course costs for that semester may exceed the 12-credit maximum.

**Please note: These fees vary with the number of credits taken. Total fees per credit appear under "Total Mandatory Fees per Semester."

***Please note: These fees do not vary with the number of credits taken.

The figures of $461 (fall semester) and $750 (spring and summer) for health insurance are current estimates. For the most up-to-date information, please visit the University's student services website at www.umb.edu/students.

Under the provisions of the Massachusetts Universal Health Insurance Statute, graduate students who can show that they already have equivalent coverage may waive the university's medical insurance plan. This regulation applies to both degree-seeking and non-degree students. International graduate students may not waive the university's medical insurance plan. For complete information, see the "University Health Services" section of this publication.

Tuition, Fees, and Payments

Initial Fees

Application Fee

Each application for admission to the University from a student seeking a degree must be accompanied by a non-refundable application fee payment of $40 for qualified Massachusetts residents, $60 for non-residents. For complete information on qualifications for Massachusetts residency, see the "Residency Status" section of this publication. Checks should be made payable to the University of Massachusetts Boston and submitted together with completed application forms.

Fees Charged Only in the First Semester

Each degree-seeking student is charged three fees at the beginning of his/her first semester as a degree-seeking student. The pre-registration/orientation fee ($100.00) helps to support orientation events for new students. The recreation fee ($145.00) helps to support the university's recreational programs and facilities. The registrar's service fee ($100.00) is a prepayment for the copying of transcripts or any other official record. All such records will be photocopied and sent to the student when requested, or forwarded to a third party, at no further charge. This is a "lifetime" fee, entitling students to these services while they are enrolled at UMass Boston or at any time after graduation. These fees may not be canceled or refunded unless the student withdraws before the first day of classes.

Explanation of Charges in "Tuition and Fees per Semester" Table

Tuition (In-State Rate)

As a state institution, the University of Massachusetts Boston offers a low rate of tuition to all students entering from the Commonwealth. Eligibility for admission under the low residential rate is determined according to a policy established by the Board of Trustees and detailed under "Residency Status."

Mandatory Fees

The student activities fee is used to support programs and activities beneficial to students, such as recognized student organizations and the University Cultural Events Committee. The health service fee supports University Health Services and its programs. The athletics fee supports the university's athletics program. The technology fee supports additional student technology requirements beyond the level of support currently maintained by the campus. The Campus Center fee supports the debt service for the campus's first new building in over two decades, the focal point for student-related activities and services. The identification card fee is used to support the cost of making identification cards (with photographs); all continuing students are charged this fee each fall, and all new or re-entering students are charged the fee before the first semester of attendance. The education operations fee provides funds for the goods and services needed to run a university. Employed students seeking employer reimbursement for this fee can obtain from the Bursar's Office a "support letter" describing the need for the fee and how the proceeds are used much as tuition would be at a private institution.

Optional Fees

Charges for optional fees appear on the bills of degree-seeking students; but these students may choose not to pay these fee charges, providing they notify the university before payment for these charges is due. The MassPIRG fee supports the Massachusetts Public Interest Research Group, a student-interest advocacy group.

Health Insurance Plan

The Student Health Insurance Plan provides coverage for health, medical, and surgical care during a twelve-month period for injuries or illness during the school year, holidays, and summer vacation. Students who register for the fall semester have only one opportunity to enter or reject this program each year; it is offered on spring semester bills to new spring registrants only. Non-degree students must pay the fee before the end of the add/drop period. Dependents of married students are not covered under this plan, but coverage for dependents is available at additional cost; students wishing such coverage should inquire at University Health Services. Please note: Under the provisions of the Massachusetts Universal Health Insurance Statute, graduate students who wish not to be covered by the university's medical insurance plan must show that they already have equivalent coverage. This regulation applies to both degree-seeking and non-degree students. International graduate students may not waive the university's medical insurance plan. For complete information, see the "University Health Services" section of this publication.

Program Fee

Each degree-seeking graduate student is required to maintain continuous registration until the degree that the student is seeking has been formally awarded. If a graduate student does not register for course, thesis, or dissertation credits during any semester, the student must pay a program fee to maintain continuous registration. The program fee for all students is $175.00 per semester. The fee must be submitted with the Program Fee Form, signed by the student's graduate program director, by the last day of the registration period. Note: Payment of the program fee does not extend the time limit for completion of the degree, nor does it make students eligible for student loan deferments.

Any student who is required to pay a program fee and does not do so by the last day of the registration period will be subject to the $50 late registration fee and will be administratively withdrawn from the university. If the student later seeks readmission or applies for graduation, the student must pay all accumulated program fees, as well as a $25 readmission fee.

Lab Fees

Some graduate programs have established lab fees for certain courses. These fees support course-related activities that would not otherwise be made available. Students enrolled in such courses accept the responsibility to pay the fee.

Commencement Fee

The university's annual commencement exercises and events are intended to be self-supporting; each student is therefore required to pay a commencement fee (currently $150.00) at the time he/she files for graduation. This fee is mandatory and must be paid whether or not the student attends the ceremony.

Cost of Attendance

A budget for the cost of graduate study at UMass Boston may be compared to any general budget familiar to most people, such as a household or personal budget. Within that budget, a number of factors may change from time to time due to rising labor costs, changes in the costs of goods and services, and other influences.

When individual applications for financial aid are considered, the university uses a sample graduate study "institutional budget" estimating the average cost of attendance. Copies of this sample budget are available from the Office of Financial Aid Services at 617.287.6300.

PAYMENT INFORMATION

Bursar's Office

The Bursar's Office handles payments of tuition and fees and distributes checks to students receiving refunds or university financial aid. The Bursar's Office will begin to distribute these checks about five weeks after the start of each semester. Checks must be picked up by their recipients at the One Stop Student Service Center, which is on the upper level of the Campus Center. Telephone: 617.287.5350. Teller hours: Weekdays, 9:00 am to 4:30 pm.

Payment by Matriculated Students

University policy requires that no registration be considered complete until the semester charges are paid in full. Charges are computed on the basis of courses/credits for which students are registered. The initial bills are sent in July (for the fall semester) and in December (for the spring semester) to all students who have already registered.

Late registrants are billed after the registration period. Follow-up billings will be made periodically, reflecting any additional charges, payments, or credits that have occurred within the semester period. Each student must pay all charges in full prior to the due date indicated on the initial bill to avoid late charges or cancellation of registration and financial aid. No deferred payments are allowed by the university, except in the case of arrangements made with an external tuition management agency.

Overdue accounts will be considered sufficient cause for cancellation of registration, as university regulations prohibit final registration, graduation, or granting of credit for any student whose account with the university is unpaid. Any delinquent accounts will be cause for administrative withdrawal and must be paid before the student may be readmitted to the university.

Unpaid accounts will be referred for collection action, with an additional collection cost of 25% of the total unpaid.

Payment by Non-Degree Students

All non-degree students must pay in full when they register. If they are Massachusetts residents but fail to complete the residency section of the registration form, they may be charged tuition at non-resident rates.

Payments by Credit Card and Check

Degree-seeking students may make payments with VISA, Discover, or MasterCard, or by check. Payments must be made by mail or in person at the Bursar's Office.

Non-degree students may make payments with VISA, Discover, or MasterCard, or by check. Payments must be submitted in person, with the non-degree registration form, to the Office of the University Registrar (not the Bursar's Office).

Important Reminder for Financial Aid Recipients

It is the responsibility of all students receiving financial aid from sources other than the university to see that the university is adequately notified before bills are prepared. Credits for known scholarships are reflected in the bills; credit cannot be given for a scholarship award unless the Bursar has been presented with proof from the donor that the award has been made. If a student's bill does not show credit for an award, the student should contact the source of the scholarship to be sure that such evidence has been, or will be, presented to the Bursar.

Late Payment Fee

Any student who does not make full payment of his/her charges by the date specified on the bill in which the charges are initially listed will be required to pay a late payment fee of $50.00. This charge is cumulative. An additional $50.00 will be assessed on each subsequent bill until full payment is received.

Late Registration Fee

Any continuing degree-seeking student who does not register during the early registration period (usually near the end of the semester preceding the semester for which he/she is registering) will be required to pay a late registration fee of $50.00.

Refunds and Reductions in Tuition and Fees

A student who voluntarily withdraws from the university for any reason before the sixth week of a semester will be granted a refund or reduction of tuition and fees according to the schedule below.

Note: Failure to attend does not constitute withdrawal. To withdraw, a student must confer with the director of the graduate program in which he/she is enrolled, and submit a completed withdrawal form to the Office of the University Registrar. The effective date of withdrawal is the date this completed form is received by the Office.

During the add/drop period, a full refund will be given for any course from which a student withdraws. After the add/drop period, no refunds will be given for course load reductions. Students withdrawing completely from the university before the sixth week of a semester, and receiving grades of "W" for all courses, will receive refunds in accordance with the schedule below. No refunds will be disbursed in other cases where grades of "W" are given. No refunds will be given in cases where academic credit has been awarded.

A financial aid recipient who withdraws from the university is advised

Refund/Reduction Schedule*

		Amount Refunded If Advance Payment Has Been Made	Amount Owed If No Payment Has Been Made
A.	Before the beginning of the semester	100%	0%
B.	Within the first two weeks of the semester	80%	20%
C.	During the third week	60%	40%
D.	During the fourth week	40%	60%
E.	During the fifth week	20%	80%
F.	After the fifth week	no refund	100%

*Does not apply to Continuing Education or Summer Session refunds.

Payment Information

to contact a counselor in the Office of Financial Aid Services so that the federally mandated refund policy can be explained and calculated, and so that appropriate accounts can be refunded. A student who is suspended or expelled from the university for disciplinary reasons forfeits all right to a refund. A student who has not paid in advance will be liable for any amounts due after the reduction in charges.

Please note: Fees charged only in the first semester will not be cancelled or refunded unless the student withdraws before the first day of classes. These include, for degree-seeking students, the pre-registration/orientation fee, the recreation fee, and the Registrar's service fee. For non-degree students, they include the registration fee and the transcript fee.

RESIDENCY STATUS

Please note that in order to qualify for consideration for the status of in-state resident, the student must be a US citizen or a permanent resident immigrant. Massachusetts employment and/or payment of Massachusetts taxes are not by themselves qualifications for Massachusetts residency.

Part I. Definitions

1.1 Academic Period: shall mean a term or semester in an academic year or a summer session, as prescribed by the Board of Trustees or under their authority.

1.2 Continuous Attendance: shall mean enrollment at the university for the normal academic year in each calendar year, or the appropriate portion or portions of such academic year as prescribed by the Board of Trustees or under their authority.

1.3 Emancipated Person: for the purpose of residency classification for tuition, shall mean a person who has attained the age of 18 years and is financially independent of his/her parents, or if under 18 years of age, (a) whose parents have entirely surrendered the right to the care, custody, and earnings of such person and who no longer are under any legal obligation to support or maintain such person; or (b) a person who is legally married; or (c) a person who has no parent. If none of the aforesaid definitions applies, said person shall be deemed an "unemancipated person."

1.4 Parent

a. the person's father and mother, jointly;

b. if the person's father is deceased, the person's mother; if the person's mother is deceased, the person's father;

c. if a legal guardian has been appointed by a court having jurisdiction, the legal guardian;

d. if neither the father nor mother is living and no legal guardian has been appointed, the person who then stands in loco parentis to the person;

e. if the father and mother are divorced, separated, or unmarried, the parent who has been awarded legal custody of the person; or if legal custody has not been awarded, the parent with whom the person lives.

With respect to any adopted student, the word "adoptive" should be inserted before the words "father" and "mother" wherever used.

1.5 "Reside," "residency," or "resident" shall mean "domicile," "habitation," where he/she intends to remain permanently.

Part II. Classification

2.1 For the purpose of assessing tuition and fees, each student shall be classified as a "Massachusetts resident" or a "non-Massachusetts resident." A person shall be classified as a Massachusetts resident if he/she (or the parent of an unemancipated student) shall have resided in the Commonwealth of Massachusetts for purposes other than attending an educational institution for twelve months immediately preceding the student's entry or re-entry as a student.

Physical presence for this entire twelve-month period need not be required as long as the conduct of the individual, taken in total, manifests an intention to make Massachusetts his/her permanent dwelling place.

Please note that in order to qualify for consideration for the status of in-state resident, the student must be a US citizen or a permanent resident immigrant. Massachusetts employment and/or payment of Massachusetts taxes are not by themselves qualifications for Massachusetts residency.

Part III. Determination of Residency

3.1 Proof of Residency

a. Each case will be decided on the basis of all facts submitted with qualitative rather than quantitative emphasis. A number of factors are required to determine the intention of the person to maintain permanent residency in Massachusetts. No single index is decisive. The burden of proof rests on the student seeking classification as a Massachusetts resident.

b. The following shall be primary indicia of residency:

1. For unemancipated persons, the residency of parents, having custody, within Massachusetts;
2. Certified copies of federal and state income tax returns;
3. Permanent employment in a position not normally filled by a student;
4. Reliance on Massachusetts sources for financial support;
5. Former residency in Massachusetts and maintenance of significant connections there while absent.

c. The following shall be secondary indicia of residency, to be considered of less weight than the indicia listed above in subsection b:

1. Continuous physical presence in Massachusetts during periods when not an enrolled student;
2. Military home of record;
3. All other material of whatever kind or source which may have a bearing on determining residency.

Residency Status

3.2 Proof of Emancipation

A student asserting that he/she is an emancipated person shall furnish evidence to support such assertion. Such evidence may include:

a. Birth certificate or any other legal document that shows place and date of birth;

b. Legal guardianship papers—court appointment and termination—must be submitted;

c. Statements of the person, his/her parent(s), guardian(s), or others certifying no financial support;

d. Certified copies of federal and state income tax returns filed by the person and his/her parent(s);

e. Where none of the foregoing can be provided, an affidavit of the emancipated person in explanation thereof and stating fully the grounds supporting the claim of emancipation.

3.3 Presumptions, etc.

a. Residency is not acquired by mere physical presence in Massachusetts while the person is enrolled in an institution of higher education (see section 2.1).

b. A person having his/her residency elsewhere than in Massachusetts shall not be eligible for classification as a Massachusetts resident for tuition purposes, except as herein provided.

1. Any person who is registered at the University as a Massachusetts resident shall be eligible for continued classification as a Massachusetts resident for tuition purposes (until attainment of the degree for which he/she is enrolled) during continuous attendance at the institution.

2. The spouse of any person who is classified or is eligible for classification as a "Massachusetts resident" is likewise eligible for classification as a "Massachusetts resident." This provision will not apply in the case of a spouse in the United States on a non-immigrant visa.

3. A person who is an immigrant/permanent resident of the United States (or has applied for such status) is eligible to be considered for Massachusetts residency for tuition purposes provided that he/she meets the same requirements for establishing residency in Massachusetts as are required of a United States citizen. Non-citizens who are in (or who have applied for) refugee/asylum status are likewise eligible to be considered for Massachusetts residency for tuition purposes provided that they meet the same requirements for establishing residency in Massachusetts as are required of a United States citizen. All non-citizens must provide appropriate documentation to verify their status with the United States Immigration and Naturalization Service.

4. Those students whose higher educational pursuits are funded by the Department of Welfare, the Massachusetts Rehabilitation Department, or any of the other Commonwealth of Massachusetts public assistance programs.

c. A person does not gain or lose in-state status solely by reason of his/her presence in any state or country while a member of the Armed Forces of the United States.

d. For the purposes of this policy the following persons shall be presumed to be Massachusetts residents:

1. A member of the Armed Forces of the United States who is stationed in Massachusetts on active duty pursuant to military orders, his/her spouse and dependent students.

2. Full-time faculty, professional staff, and classified staff employees of the University of Massachusetts system and their spouses and dependent students.

Part IV. Appeals

Any student or applicant who is unwilling to accept the initial ruling relative to his/her residency classification may file a "Residency Reclassification Form."

Any student or applicant who is unwilling to accept the ruling relative to his/her residency reclassification may submit an appeal to the university's Residency Appeal Committee. The decision by this committee is final and may not be appealed further.

In any case where the Office of Graduate Admissions is unable to make an initial determination based on the evidence submitted, the applicant may be required to submit a "Residency Reclassification Form" to the office for review before being finally classified as a resident or a non-resident.

Part V. Penalties

Misrepresentation in or omission of any evidence submitted with respect to any fact, which if correctly or completely stated would be grounds to deny classification as a Massachusetts resident, shall be cause for exclusion or expulsion from or other disciplinary action by the university.

Assistantships and Financial Aid

GRADUATE ASSISTANTSHIPS

The university offers a limited number of graduate assistantships to qualified students. There are four types of assistantships:

Teaching Assistant I (TA1) - a graduate employee who is primarily assigned to instructional support activities;

Teaching Assistant II (TA2) - a graduate employee who has independent responsibility for the teaching and grading of a lecture section of a course;

Research Assistant (RA) - a graduate employee who performs work primarily related to academic research, including the gathering and analysis of data and conducting of bibliographical searches. Research assistants may be employed to perform research work not directly related to their own research;

Administrative Assistant (AA) - a graduate employee who performs work of an administrative or technical nature.

All assistantships carry stipends and full tuition waivers. Many carry full or pro-rated Educational Operations fee waivers and full or pro-rated Health Insurance benefits. Compensation levels and work conditions for graduate assistants are governed by a collectively bargained agreement between the University and the Graduate Employees' Organization (GEO), an affiliate of the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) and its Local 1596.

As of Fall '06, the minimum full-time, nine-month stipend (where full-time is defined as twenty hours of work per week) is $13,000 for a TA1, RA, or AA, and $14,100 for a TA2. Stipends and workloads for part-time assistants are pro-rated according to the percentage of assistantship held. A new agreement is due to be bargained between the University and the GEO as this publication goes to press.

Eligibility

Assistants must be currently-enrolled, degree-seeking (matriculated) students at the master's or doctoral level and be in good academic standing. Priority for most assistantships is given to full-time students.

Applications

Graduate program directors are responsible for recommending to the Office of Graduate Studies that students in their programs be awarded assistantships. Any student wishing to apply for an assistantship should therefore contact the appropriate graduate program director for information about the application procedure. Candidates for admission should be sure to indicate interest in an assistantship on the application for admission.

Students may also apply for assistantships offered by hiring units outside their programs. Postings for such positions are available on the UMass Boston Human Resources website at http://www.umb.edu/administration_finance/hr/employment/search.html.

General information about assistantships is available from the Office of Graduate Studies.

FINANCIAL AID

Through UMass Boston's Office of Financial Aid Services, loans, part-time employment, and limited grant funds are available to degree-seeking graduate students entering the university in the fall and spring.

Priority for Fee Grants, Perkins Loans, and Federal Work Study is given to eligible students with a complete FAFSA application processed and received by the University on or before March 1 for students entering in the fall and on or before November 15 for students entering in the spring.

All eligible students have the right to apply for financial aid and must be considered fairly and equally, without regard to race, color, sex, age, religion, national origin, sexual orientation, disability, or veteran status.

The Financial Aid Services Office at UMass Boston strongly encourages students to use FAFSA on the web or the renewal FAFSA on the web at www.fafsa.ed.gov. The Title IV school code for UMass Boston is 002222.

A complete list of other student rights and responsibilities in connection with financial aid may be found in the "Regulations, Procedures, and Degree Requirements" section of this publication.

Application Procedures

1. The applicant must file a Free Application for Federal Student Aid (FAFSA) form. FAFSA forms are used to determine eligibility for Federal Perkins Loans, Federal Direct Loans, Federal Work-Study awards, and institutional Fee Grants. FAFSA forms may be obtained from the One Stop Student Service Center or from the applicant's current institution's financial aid office. The FAFSA can also be completed on line at the FAFSA web site: www.FAFSA.ed.gov. General information about federal government financial aid programs can be found at another web site: www.ed.gov/studentaid.
2. The applicant may be required to complete and submit a verification worksheet and supporting income and tax forms. If so, the request will be mailed to the applicant by the Office of Financial Aid Services. Verification worksheets are available on the department's web site at www. umb.edu/students/financial_aid/.
3. The Office of Financial Aid Services may require additional forms; these may include, but are not limited to, proof of citizenship status, social security number verification, and selective service registration.

How Awards are Made

The Office of Financial Aid Services uses the following formula to determine a student's financial need:
Estimated Cost of Attendance
Minus
Student and/or Family Contribution
Equals
Student's Financial Need

Financial Aid

Estimated cost of attendance is a projection of a typical student's school and living expenses for a nine-month period. The office establishes such estimates each year in several categories (according to students' living situations) and reviews them at intervals. The amount of student and/or family contribution, based on the information provided by a student's FAFSA, is determined by using federal methodology. Financial aid is then awarded in "packages," which may consist of loans, campus-based funds, and part-time job opportunities. In awarding a financial aid package, the Office of Financial Aid Services cannot guarantee that it will be able to meet a student's total "need" nor that it can offer the particular kind of aid desired by the student.

Financial aid checks may not always be available at the beginning of the semester; students should be prepared to cover the costs of living expenses and educational costs during the first several weeks of a term through savings, employment, or other means.

Federal Funding Sources

Registered degree-seeking students who are citizens or permanent residents of the United States may be eligible to receive aid through one or more of the following federal aid programs:

1. Federal Perkins Loans bear a 5% interest rate. Students begin to repay Perkins Loans six to nine months after graduation, withdrawal, or enrollment for fewer than six academic credits in any given semester.
2. Through the Federal Work-Study Program (FWS), job opportunities are available on and off campus during the academic year and summer; students work to earn FWS funds.
3. Federal Direct Loans are offered to graduate students enrolled for six or more credits at a variable interest rate not to exceed 8.25 percent. Students may use Federal Direct Loans to supplement other financial aid. Repayment of Federal Direct Loans begins six months after graduation, withdrawal, or enrollment for fewer than six academic credits in any given semester.
4. University Fee Grants are awarded based on need. Students who receive a full or partial fee waiver from another source are not eligible for a University Fee Grant.

Other Funding Sources

Students may be eligible for aid from sources other than those listed above. Information is available at UMass Boston's Office for Merit-Based Scholarships, in public libraries, and from the Higher Education Information Center at 666 Boylston Street in Boston.

Student Employment

As a division of Financial Aid Services, the Office of Student Employment oversees several employment programs serving multiple goals. Positions listed through the office are located both on and off campus. Student employees develop work experience, often directly related to their educational pursuits, while financing their education through employment. As earnings defray educational expenses, students develop marketable skills and experience for today's competitive job market.

All enrolled students at UMass Boston are eligible to work on campus; not every student, however, is eligible for every type of job. Each student employment program has specific restrictions. The following descriptions can help individuals determine which programs may be appropriate for them:

Institutional (CC) Work-Study: All active students at UMass Boston are eligible to work on campus through the Institutional (CC) Work-Study program.

Federal Work-Study (FWS): The FWS Program is limited to students who have been awarded FWS through the FAFSA. Positions are located on campus and through local contracted non-profit agencies. The program places an emphasis on community service opportunities; students with FWS eligibility are encouraged to take advantage of these opportunities. The America Reads program, another emphasis within FWS, is designed to provide opportunities for students to serve as reading tutors.

Part-Time Job Program: The part-time job program is a listing of off-campus work opportunities. Positions may be part-time or seasonal in nature, and wages are paid by the employer. Students must be eligible to work off-campus to participate in this program (the visa status of international students may limit their ability to participate in this program). These positions are listed on the web at: www.umb.edu/student_life_and_services/sehs/student_employment.html.

See the "Facilities and Services" section of this publication for information on the Office of Student Housing services.

Information and Correspondence

Students who have questions about financial aid or who want to submit documents supporting an application for aid should use the following address and telephone number:

Office of Financial Aid Services
University of Massachusetts Boston
100 Morrissey Boulevard
Boston, MA 02125-3393
617.287.6300
Fax: 617.287.6323
Email: finaid@umb.edu

Students are strongly advised to keep copies of all documents and correspondence regarding financial aid submitted to the university or elsewhere.

Facilities and Services

FACILITIES AND SERVICES

A University with Impressive Facilities

UMass Boston offers excellent facilities for learning, in a setting that combines the special quality of its location on Boston Harbor with proximity to the rich resources of the city.

The Healey Library

The university's Joseph P. Healey Library is the virtual heart of the campus, easily accessible from the enclosed walkway connecting all campus buildings or through the library's Internet home page–www.lib.umb.edu. Graduate students can draw upon more than 100 online indexes and databases in science, biomedicine, social science, business, and humanities, and obtain articles from more than 26,000 electronic and print journal subscriptions.

The Healey Library home page also provides access to its catalog of nearly 600,000 volumes, and to a Virtual Catalog that includes all UMass system libraries along with those of Brown, Northeastern, Tufts, Wellesley, Williams, Boston University, the Universities of New Hampshire and Connecticut, the Woods Hole Oceanographic Institution, and several public library networks. The Virtual Catalog offers online order-tracking and rapid delivery. With nine million book titles and a total of nearly thirty million volumes available at a point-and-click, it provides a collection surpassed by no individual academic library in the world. In addition to Internet searching and ordering, graduate students may obtain a consortium borrowing card that is also valid in these libraries.

Borrowing Materials and Online Access

Students can obtain a library barcode for their University ID by stopping at the circulation desk on the 2nd floor of the library. Library staff provides instruction on the use of all resources in the collection and those available online, including RefWorks, a bibliographic citation manager used in writing papers, theses, and dissertations.

To learn more about library services, please go to the reference desk located on the 4th floor or contact reference staff by e-mail, phone, or 24-hour online chat:

- E-Mail: library.reference@umb.edu
- Phone: 617.287.5940
- 24-hour online chat: www.lib.umb.edu/reference

For the latest information on library hours, please call 617-287-5900.

Useful Library Phone Numbers and E-mail Addresses

Circulation Desk: 617-287-5900, library.circulation@umb.edu
Interlibrary Loan: 617-287-5929
Library Hours: 617-287-5900, www.lib.umb.edu
Reference Service: 617-287-5940, library.reference@umb.edu

John F Kennedy Library

The John F Kennedy Presidential Library, a public institution for education and research, stands on the coastal edge of the campus. The IM Pei-designed facility was established to preserve and make available the documents and memorabilia of President Kennedy and his contemporaries in politics and government. Its archival collection includes approximately twenty-eight million pages of documents, six and a half million feet of film, and over one hundred thousand still photographs. The JFK Library is linked to the university by a series of educational programs allowing students and their instructors to share in its rich resources.

State Archives

The archives of the Commonwealth of Massachusetts are housed adjacent to the campus in the Massachusetts Archives and Commonwealth Museum. Members of the university community can benefit greatly from this rich resource, whose research materials cover three and a half centuries.

Laboratories

University students have access to modern research laboratories and equipment. Science students, for example, can make use of the university's tropical greenhouses and several field stations, as well as state-of-the-art laboratories equipped with electron microscopes, DNA sequencers, tissue culture facilities, controlled-growth rooms, image processing, physics laboratories with laser and photonics facilities, distance learning technology and extensive Geographic Information System facilities, new CSM environmental genomic laboratories including DNA sequencing and micro-array technology. Analytical chemistry facilities comprise high-performance liquid chromatography, gas chromatography/mass spectrometry, magnetic resonance spectrometers, atomic force and electron microscopes, an array of electrochemical instrumentation for renewable energy study, and spectroscopic instrumentation for atmospheric studies.

Computing Services

Both teaching and research at UMass Boston benefit from the extensive facilities coordinated by the university's Office of Computing Services. This office provides a variety of information technology and data communications resources to the UMass Boston community, with network connections in every office and classroom on the campus. The campus network is fiber-optic based with ATM protocol. Multiple transmission facilities are maintained, providing access to the University of Massachusetts private network and to the Internet. A central computing facility houses equipment from Data General, Dell, Compaq, Sun, and Apple. Operating systems provided in this environment include NT, Unix (various versions), Linux, Apple OS, and VMS. Students have access to 15 general desktop computing labs with more than 250 Dell Pentium III and Apple Macintosh G4s, seven days a week. Additional, specialized computing facilities are provided to students enrolled in specific courses of study, and for those with special needs.

Further information about computer resources is available at the computer labs on the upper level of the Healey Library, or from the Computing Services Help Desk (617.287.5220).

CIS—Media Services

Media Services provides a range of services and equipment to faculty, staff, and students for media development and presentation on campus.

Media Services has equipment distribution facilities (Media Labs) in all buildings which support classroom instruction on campus. The Media Labs provide faculty, staff, and students with a wide range of audiovisual equipment for use in the classroom, auditoria, and function areas.

Media Services supports the Technology-Enhanced Classrooms (TEC's) on campus. Each room is equipped with a VHS/DVD video playback system along with data and video sources for display on a large screen from a ceiling-mounted LCD data projector.

Media Services provides media support for non-classroom activities such as seminars, conferences, and functions. Advance reservations for equipment are required for special events on campus.

Facilities and Services

UMass Boston's Media Services provide a full range of audiovisual equipment, located in several media labs, and consultation for instructional and other university-related purposes. The media labs provide access to display and mini-production audio, video, and mixed media equipment on a university-wide scheduled basis. In addition, language laboratories are available for use in conjunction with foreign-language courses. The tapes used in laboratory sessions are closely correlated with classroom studies, and many are produced within the Media Center. The Center's sophisticated media production facility, located in the Healey Library, is equipped with a computer-assisted video editing system and a multitrack audio studio.

CIS—Distance Learning Video Production Center

The University of Massachusetts' Distance Learning and Video Production Center's primary function is to support the University's academic mission by providing technical support for ITV- and online-delivered instruction.The Center is also a full-service video production facility capable of producing and recording broadcast-quality programming on a fee basis. The Center provides clients with broadcast-quality video production and post-production support services, including CD and DVD duplication; IP and ISDN videoconferencing support; streaming video recording; live webcasting and archival services; and C- and Ku-Band satellite-receiving support services.

A University for Students

Many UMass Boston students have families, jobs, or both. The university operates a fully licensed Early Learning Center, with separate toddler, preschool, and kindergarten programs, to care for young children while their parents attend classes.

Many students at UMass Boston are veterans. Through the William Joiner Center for the Study of War and Social Consequences, the university provides a wide array of services responsive to their needs. These services include help with educational benefits through the Office of Veterans Affairs, academic and personal counseling, and tutorial and advocacy services.

The university is committed to providing equal access, auxiliary aids, and reasonable accommodations to persons with physical and learning disabilities. For the many students with disabilities, the Lillian Semper Ross Center for Disability Services, the University Advising Center, and the Adaptive Computer Lab work together to provide the accommodations and auxiliary aids students may need to have equal access to education at UMass Boston.

UMass Boston was built as a totally accessible campus, and renovations and remodeling efforts have always been in full compliance with the Americans with Disabilities Act (ADA). The Ross Center provides students with sign language interpreting services and assisted listening devices; testing modifications; and a variety of study aids according to their individual needs.

The Office of Graduate Admissions has developed flexible and convenient admissions procedures and provides thoughtful counseling, useful information, and prompt admissions decisions to all students interested in attending the university.

UMass Boston is a commuter school. Free shuttle buses run between the JFK/UMass MBTA station and the campus, and parking space is available at the campus in an underground garage and in outdoor lots.

Department of Athletics

UMass Boston's Athletics Department offers a wide range of programs for students. The department's extensive intramural and recreation program includes such team sports as basketball, ice hockey, volleyball, and floor hockey, as well as one-on-one activities like racquetball, squash, badminton, and instructional programs like aerobics and tennis.

The Clark Athletic Center features a main gymnasium, an ice-skating rink, and a swimming and diving pool fully equipped for intercollegiate competition, as well as a varsity weight room, locker rooms for men and women, and a dance room. Outdoor facilities include an eight-lane, 400-meter track, multi-purpose fields, eight tennis courts, and a softball field.

The Beacon Fitness Center, located in McCormack Hall, serves the needs of UMass Boston's students, faculty, and staff. The center offers Nautilus machinery, cardiovascular equipment, and free weights, as well as courts for racquetball, squash, and handball, an aerobics room, and a lounge.

The Athletics Department encourages students to become involved with the programs offered by the department. Further information is available at the Clark Athletic Center and the Beacon Fitness Center.

The university's sailing dock moors a fleet of Mercury sailboats and rowing dories available for use during the spring, summer, and fall, as weather permits. A swimming test is required of all who wish to participate in water sports. For sailing, a helmsman test is administered by the sailing instructor; once the test is passed, boats may be taken out whenever available.

Information about schedules and locations may be obtained from the Athletics Department at www.athletics.umb.edu/ or 617.287.7800.

Bookstore

Located in the Campus Center, the bookstore carries all textbooks required for courses, a complete line of art and school supplies, and gift items. It also carries a selection of paperbacks. Special orders can be made for almost any other book in print. The bookstore also buys and sells used books. It is open Monday through Friday, 8:30 am-6:00 pm, and has longer hours during the first weeks of each semester (617.287.5090). The bookstore website may be accessed at: umass.bookstore@umb.edu.

Child Development Program

The university operates a licensed child care center, the Early Learning Center, for children of university students, staff, and faculty, and for those of community residents. The Early Learning Center has earned accreditation from the National Association for the Education of Young Children—the nation's leading organization of early childhood professionals. The center is located on Mount Vernon Street, at 2 Harbor Point Boulevard, near the campus. There are toddler, preschool, and kindergarten programs for children between the ages of 15 months and 6 years. The program is designed to provide an educational environment that is welcoming and nurturing. The center offers children many opportunities to figure out the world around them and to participate actively in their own learning. Scholarships, based on income, are available for UMass Boston student parents. Additional sources of financial assistance may be available for other eligible families (617.287.6195).

Disability Services

The Lillian Semper Ross Center for Disability Services

The Lillian Semper Ross Center for Disability Services assists the University of Massachusetts Boston in providing equal access for

Facilities and Services

individuals with disabilities. The Center makes available to students such auxiliary aids and related support services as sign language interpreting, note-taking, testing accommodations, advocacy, and supportive counseling, as well as informational resources and a variety of activities throughout the year. The Center assists employees and departments of the university by providing them with suggestions, advice, and information on disability issues as needed.

The Center's goals are

- to reduce the competitive disadvantage in academic work by providing reasonable classroom accommodations;
- to provide individual and peer group counseling as a means of increasing personal independence, developing self-esteem, and strengthening interpersonal skills;
- to increase awareness of the value of advocacy for the civil and human rights of people with disabilities; and
- to coordinate institutional efforts to comply with the broad mandates expressed in sections 503 and 504 of the Rehabilitation Act of 1973.

The center can be contacted at 617.287.7430 or ross.center@umb.edu (TTY: 617.287.7431).

The Adaptive Computing Laboratory

The Adaptive Computing Laboratory, overseen jointly by the university's Department of Computing Services and the Lillian Semper Ross Center for Disability Services, makes a full range of computing services accessible to all students, faculty, and staff with disabilities, who may also receive, from trained consultants working with the lab, individualized evaluation, training, and continuing support in the use of software and hardware adaptations.

Available state-of-the-art hardware and software include:

- IBM PCs, PC clones, and Macintosh microcomputers
- voice synthesizers
- voice recognition systems
- large-print display systems
- keyboard adaptations, switching devices
- an optical head pointing device
- commonly used commercial software and software adaptations
- a Kurzweil Reading Machine

Please call the center for more information at 617.287.5227; TTY: 617.287.1960.

Campus Ministry

The Campus Ministry is an interfaith chaplaincy service actively involved in the spiritual and human development of students, faculty, and staff. Protestant and Catholic chaplains and Jewish and Muslim advisors offer liturgical, educational, cultural, social, and spiritual programs. Among these programs are daily prayer, midweek liturgies, scripture seminars, ecumenical services, study groups, pastoral counseling, spiritual direction, lectures, workshops, and Bible study. The Campus Ministry also does fund-raising for local and international hunger relief, co-sponsors events with other campus departments and offices, conducts retreats, and operates a lending library of theological and spiritual books.

Career Services

Graduate students at UMass Boston have access to a broad range of career services offered through the University Advising Center. The center provides information for students and alumni about career opportunities and facilitates contacts with prospective employers. Individual counseling and group seminars in career planning alert students to the many and varied career opportunities available and to the requirements of prospective employers, as well as to the changing nature of employment opportunities. The center also offers seminars in résumé writing, interviewing techniques, and the job search process, as well as publishing a bi-weekly bulletin of current job listings that may interest students and alumni.

An active on-campus interview program is arranged each year so that students may meet employers and discuss current openings. The center maintains a referral service that sends student résumés to employers who have appropriate job openings. A Career Resource Library houses information on employment and salary statistics, as well as specific information on businesses, non-profit organizations, school systems, and government agencies.

Center staff members offer special advising for students interested in the law, management, medicine, and teaching. The center also provides information on a variety of graduate study programs. Materials on many fields are available, as well as application forms for graduate and professional school admission tests (617.287.5519).

University Health Services

www.umb.edu/students/health

The mission of the Department of University Health Services is to provide quality medical services and education to enhance the health and well-being of the university community. Programs and services are aimed at promoting optimal physical, mental, emotional, social, and spiritual well-being. Our interdisciplinary health care team includes a variety of professional, administrative, and support staff. Our clinical staff comprises nurse practitioners, consulting specialty physicians, psychologists, social workers, laboratory technicians, and health educators.

All registered UMass Boston students are eligible for health care at the University Health Services. The health fee, paid by all students, covers episodic care visits to the Department of General Medicine, the first three visits to the Counseling Center, and access to programs offered by the Health Education and Wellness Center. There is a minimal co-pay for physician visits, specialty services, and laboratory tests. In accordance with Massachusetts state law, all students must have active health insurance. The University of Massachusetts Boston offers a student Health Insurance Plan for all part-time and full-time students and their dependents. The University Health Services General Medicine department is the primary care provider for students in this plan and, as such, directs all student health care needs, including referrals for specialty services not available at University Health Services.

Please note: The student health insurance plan is mandatory for all students who do not have comparable coverage under another medical insurance plan. In order to substantiate such alternative coverage, students must complete and submit to the Bursar's Office an Insurance Decision Card, which is mailed to each student. These cards are also available at the UHS General Medicine reception area. Domestic students without such comparable coverage and all international students must participate in the university's student health insurance plan. State law mandates the health insurance requirement.

Immunizations: All students must submit a completed immunization form to University Health Services. The form is mailed annually or can be obtained at UHS or downloaded from www.umb.edu/students/health. Massachusetts law requires that the following immunizations be completed: measles (including a second measles shot), mumps, rubella, hepatitis B, and tetanus. UHS strongly recommends

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the meningococcal vaccination. These immunizations can be administered through the General Medicine department of UHS for a minimal fee.

General Medicine

The Department of General Medicine is a nurse-practitioner-staffed health center providing health care to all university students. This well-qualified team provides primary care, walk-in (no appointment necessary), women's health, immunizations, sports physicals, travel medicine, and other specialty and laboratory services. Students who develop an episodic illness or injury may be seen by appointment or on a walk-in basis during hours of operation. In addition, appointments may be made for physicals, women's or men's health issues, travel medicine, and other specialty services. Women's health services include physical examinations, Pap smears, contraception, pregnancy testing, morning-after pills, and the evaluation and treatment of sexually transmissible diseases. Men's health services include physicals, treatment for sexually transmissible diseases and sexual assault, injury evaluation and treatment, and evaluation of sexual dysfunction. Specialty services provided by on-site contract physicians and specially trained nurse practitioners include dermatology, sports medicine/orthopedics, internal medicine, and endocrinology. The General Medicine Program is located on the second floor of the Quinn Administration Building, Room 040. During the academic year, the Department of General Medicine is open from 8:30am-6pm Monday-Thursday, and Friday 8:30am-5pm. Summer-session hours are as follows: 8:30-5pm Monday through Thursday, and Friday 8:30am-4pm. For information and appointments, call 617.287.5660.

Counseling Center

The Counseling Center provides psychological evaluation and consultation services to all university students. The Center's goals are to promote better functioning and growth opportunities and help students manage personal difficulties and concerns that can interfere with the academic experience. Services include individual and couples evaluation and therapy; group screening and therapy; crisis intervention and walk-in emergency care during normal hours of operation; consultation; workshops; information; and referrals as needed. Our clinical team consists of licensed psychologists, social workers, and graduate trainees who function under the supervision of licensed faculty and staff. Initial meetings are free; co-pays begin with the fourth meeting, except for short-term groups.The Counseling Center is located on the second floor of the Quinn Administration Building, Room 037, and is open year-round from 8:30am-6:00pm, Monday through Thursday, and 8:30am-5:00pm on Fridays. For information and appointments, call 617.287.5690.

Health Education and Wellness Center

The goal of the Health Education and Wellness Program is to enhance the academic success of students by supporting their physical, mental, and emotional well-being with a wide range of programs and services.

Programs that are offered through the Health Education and Wellness Program include: Stress Management, Yoga, Smoking Cessation, Alcohol and Other Drug Information, The Wellness Buddies Program, Intimate Partner Violence programs and resources, and Special Events. Services are offered in the format of groups and workshops, as well as individual consultations and phone consultations. In addition, a comprehensive website (http://www.healthservices.umb.edu) provides health and program information and access to online health education services. Online services include a subscription for every UMass Boston student to access www.myStudentBody.com, the #1 site for student health information on the web. Students can relax and unwind in the Wellness Center, where they will find fresh spring water, health-related books and resources, and computer access to our online resources. In addition to these resources, students can also enjoy a "Stress-Less" electronic chair massage. The Wellness Center is open Monday through Friday from 9am to 5pm during the academic year. Health Education services, as described above, are available year-round by appointment. For more information, call 617.287.5680.

Office of Student Housing

The primary function of the Office of Student Housing is to assist prospective and enrolled students with finding places to live.

Partnership With Local Apartments

The Office of Student Housing has formed a partnership with local apartment communities where special rates and a limited number of apartments are available.

Community Advocates

The Office of Student Housing hires graduate students every year to promote a sense of community among students who live at local apartment communities. These community advocates organize community-building, cultural, and social events, educate students about tenants' rights, and counsel students who have roommate issues.

Short-Term Accommodations

Some students, upon initial arrival in Boston, require immediate temporary housing accommodations, whether brief or extended. The Office of Student Housing can provide students with a list of available short-term housing options, including hotels and hostels, which they may contact to make a reservation.

Long-Term Accommodations

The office maintains a computerized listing for the greater metropolitan Boston area. Listings for prospective roommates and general information about housing-related matters are available.

Roommate Matching Program

The Office of Student Housing has developed a program to match its students with compatible roommates. It also organizes informational workshops on such topics as choosing a roommate wisely and tenants' rights/responsibilities.

Referral Services

A free, searchable database is available on the office website at http://www.umb.edu/students/housing/index.hmtl. Within the database, there are many variations of housing opportunities; using this information, students contact advertisers directly to arrange for a place to live.

Other relevant housing information, descriptions of local neighborhoods, and guides to Boston-area transportation are also available in the office's resource center.

The Office of Student Housing is located on the fourth floor of the Campus Center and is open Monday - Thursday from 9:00am to 5:00pm, and Friday from 10:00am to 4:00pm. It can also be reached by e-mail at osh@umb.edu.

Student Affairs

The university believes that students' academic goals are best realized when support services complement the classroom experience.

Facilities and Services

To that end, student affairs professionals support students by providing services and programs to enrich their university experience and benefit them during and after their time at the University.

Many offices also offer information and activities that facilitate the continuing development of the students' skills, concepts, learning, insights, and life planning. The staff in these offices also help connect students at the university with the broader community.

The Office of the Vice Chancellor for Student Affairs encourages all students to keep in touch with campus life and to get involved. Further information about opportunities for engagement is available from this office at 617.287.5800.

Student Life

The extracurricular life of the university centers on activities sponsored primarily through the Office of Student Life and the student clubs and organizations on campus. Students pay a mandatory student activities fees at both the graduate and undergraduate levels; members of the Undergraduate Student Senate and the Graduate Student Assembly work closely with the professional staff at Student Life to create a wealth of activities throughout the year.

The Department of Student Life functions as a clearinghouse and focal point of activity for students on campus, where information and services are available, ranging from the issuing of ID cards, to renting lockers, to the most up-to-date listing of student organizations and activities.

The Department also oversees the operations of such services as the Wit's End Cafe, a campus coffeehouse, and the game room, where students relax with video games, pool tables, and pinball machines.

The Student Arts and Events Council provides the campus community with a variety of cultural offerings, including the Harbor Art Gallery, the museum pass program, discount tickets to movies and plays, and on-campus performances and lectures. The Harbor Gallery is located on the first floor of McCormack Hall, and the Student Arts and Events Council is located on the third floor of the Campus Center.

Students keep in touch with campus life by reading the student newspaper, *The Mass Media*. The annual spring literary journal, *The Watermark*, features the best work produced by student artists and writers. The yearbook, *The Beacon*, provides opportunities for student writers and photographers to contribute to this annual publication. Offices for the student media are located on the second floor of the Campus Center.

Other activities and facilities include recognized student organizations, or clubs, and community action programs that involve students in community-based, student-administered advocacy work.

Student Senate

The Student Senate, which is composed of elected student delegates representing each of the university's academic units, is the undergraduate student government body. The phone number for the Student Senate is 617.287.7970, and their offices are located on the third floor of the Campus Center.

Graduate Student Assembly

The Graduate Student Assembly is the recognized graduate governance structure at the University of Massachusetts Boston. The Assembly seeks to advance the academic and professional interests of all UMass Boston graduate students, through planning and administering campus events; representing graduate student perspectives on issues affecting the university; funding grants for graduate students to attend professional conferences; and carrying out a range of other activities. GSA representatives are matriculated graduate students elected annually. Assembly meetings are open to all interested students. The GSA office phone number is 617.287.7975; email: gsassembly@umb.edu, and their offices are located on the third floor of the Campus Center.

Student Centers

Student centers are an on-campus community action initiative of the Student Senate. All students are welcome to stop in and participate in center activities. There are nine such centers on campus: the Alcohol and Substance Awareness Center, ARMS (Advocacy Resources for Modern Survival), the Asian Student Center, the Black Student Center, the CASA Latina (Hispanic Student Center), the Center for Students with Disabilities, the Lesbian, Gay, Bisexual Student Center, the Veterans Center, and the Women's Center.

Each center provides educational and social programming for the university community. The centers are located on the third floor of the Campus Center.

Student Handbook

A student handbook which provides information affecting graduate and undergraduate students is available from graduate program directors, the Office of Student Affairs, or the Office of Graduate Studies, 3rd Floor, Robert H Quinn Administration Building. Many individual graduate program offices also issue handbooks containing information and listing requirements specific to their programs.

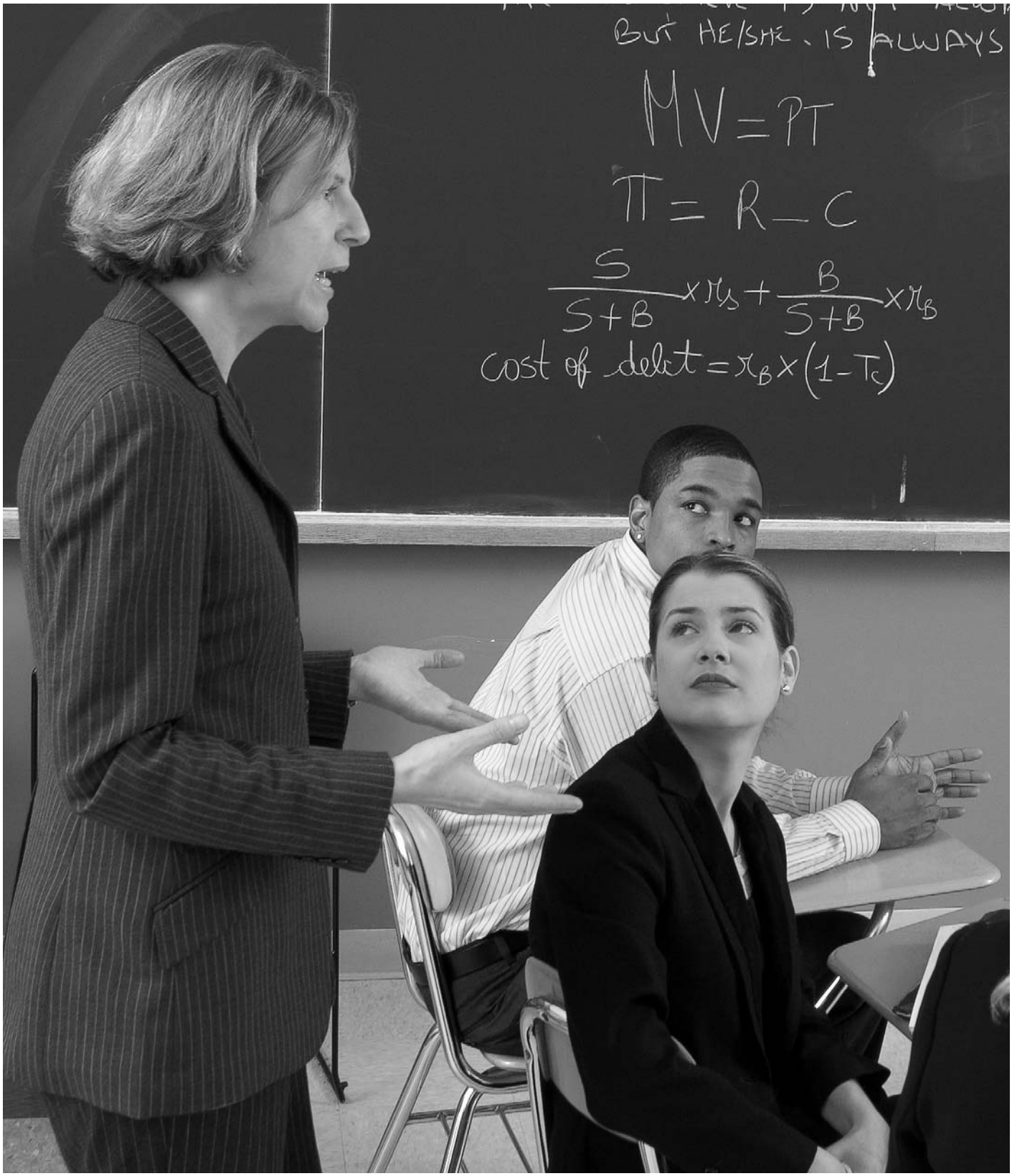
WUMB Radio

WUMB Radio is a network of three non-commercial FM public radio stations broadcasting throughout the Boston, Worcester, and Falmouth areas at 91.9FM, and one AM station, WFTB-AM 1170 on Cape Cod. As a member of National Public Radio, WUMB provides a high-quality service of folk, jazz, news, and information to the communities within listening range. Its particular educational, informational, and cultural programming formats are not offered by other radio broadcast facilities in the area. The station has a policy board representing university and public broadcasting interests and a community advisory board representing the concerns of surrounding communities.

In addition, the station regularly provides information about campus events, highlights the expertise of faculty, staff, alumni, and students, and airs no-school announcements during inclement weather. WUMB offers work-study and volunteer opportunities for UMass Boston students to enjoy and learn a variety of aspects of the radio broadcasting industry. Students interested in a career in radio broadcasting may apply for the "Radio Learning Project" to learn about broadcasting, engineering, management, and sales; it is a comprehensive training program covering all areas of radio station operations.

WUMB Radio is located on the lower level of the Healey Library. For more information, please call 617.287.6900 or visit the station during office hours (Monday through Friday from 8:30 am-5:00 pm, and by appointment).

Regulations, Procedures, and Degree Requirements



General Academic Regulations

All students should be familiar with the regulations and procedures described below. Please note that none of these regulations or procedures shall preclude the development of more restrictive regulations and procedures by any individual graduate program.

Graduate Course Numbering System

Course Levels

500-599: These are graduate courses equivalent in workload and standards to 600-level courses. 500-level numbers are assigned (a) to graduate courses offered by departments that do not grant a graduate degree; examples are 500-level courses in Mathematics, Spanish, and Latin that count toward the Teacher Education Track with Professional Licensure or (in the case of Latin) the Applied Linguistics MA; or (b) as a signal to the Registrar that a course given by a graduate degree-granting unit does not normally count toward that degree. 500-level courses are most characteristically found in interdisciplinary programs and certificate programs. The transferability of these courses into a particular degree program, if not indicated in that program's section of this bulletin, should be checked with the program director.

600-699: Master's or doctoral graduate courses within degree programs.

700-899: Doctoral graduate courses within degree programs.

900-999: Post-terminal degree courses.

5A00-5Z99: Post-baccalaureate courses. These courses may *not* be transferred into or counted toward any UMass Boston degree program, whether at the graduate or undergraduate level. Rather, they are professional-development courses created in response to particular vocational and training needs within the public and private sectors. Currently, most reside in the Graduate College of Education and carry the prefix PRFDVL, e.g., PRFDVL 5T22.

Fixed Numbers

691-694, 791-794, 891-894: Seminars, variable titles

695-696, 795-796, 895-896: Independent Study

697, 797, 897: Special Topics, variable titles

698: Practicum

699: Master's thesis

899: Doctoral dissertation

Graduate Degrees and Certificates

The University of Massachusetts Boston offers graduate degree programs at the master's and doctoral levels, certificates of advanced graduate study, and graduate certificates.

- A degree program is a coherent course of study of at least 30 credit hours leading to the master's degree or at least 60 credit hours leading to the doctoral degree. A track is a coherent course of study within a degree program; the track curriculum will consist of at least 30 credit hours for a master's degree or 60 for a doctoral degree, a core portion of which is normally shared by other tracks in the same program. A course of study leading to a degree may further include one or more concentrations of at least nine credits each. Such concentrations are open only to students matriculated in the program.
- A separate course of study of at least 30 credits beyond the master's level may lead to a certificate of advanced graduate study (CAGS).
- A coherent course of study of at least 12 hours, but fewer than 30, leads to a graduate certificate at either the post-bachelor's or the post-master's level. Graduate certificate programs may be either independent or connected to a degree program.

All students wishing to enroll for graduate degrees, tracks within degrees, certificates of advanced graduate study, or graduate certificates must file applications for admission to those programs through the Office of Graduate Admissions. In some cases, students already matriculated in a graduate program may be admitted to an additional certificate program without filing a formal admissions application through Graduate Admissions.

Academic Honesty Policy

It is the express policy of the university that every aspect of graduate academic life, related in whatever fashion to the university, shall be conducted in an absolutely and uncompromisingly honest manner by graduate students. For complete information on university policy in this area, see "Code of Student Conduct" later in this section.

Graduate Grading Policy

For graduate students, the university uses a system of letter grades that are equivalent to numerical "quality points," according to the following table.

Letter Grade	Quality Point Equivalent
A	4.00
A-	3.75
B+	3.25
B	3.00
B-	2.75
C+	2.25
C	2.00
F	0.00

The quality points for each grade are multiplied by the number of credits for the course, and the totals for all courses are added; this result is the student's cumulative quality point figure. The cumulative quality point figure is divided by the number of cumulative credit hours carried; this result is the student's cumulative quality point average. Graduate students may also be given grades of "NA" (Not Attending), "Inc" (Incomplete), "Y" (In Progress), "SAT" (Satisfactory), "AUD" (Audit). Explanations of these grades appear below.

The lowest passing grade for a graduate student is a "C." Grades lower than "C" which are submitted by faculty will automatically be recorded as "F." This graduate grading policy also applies to graduate students enrolled in undergraduate courses.

The instructor of a class has full responsibility for grading and is the best judge of student performance; there may, however, be instances in which a graduate student believes that a grade has been assigned unfairly. In such cases, the student should discuss the grade with the instructor. If they are unable to resolve the issue between them, the student should make a written request to the graduate program director asking for a formal meeting among the three parties to explain, discuss, and/or reconsider the grade. Although the graduate program director serves as mediator in this meeting, the faculty member remains the final authority for any grading decision.

General Academic Regulations

Pass/Fail Grading Option

Graduate students may not elect the pass/fail grading option for any graduate or undergraduate course.

Not Attending (NA)

The Not Attending (NA) grade signifies that, although a student registered for a course and appeared on the class roster, the student never attended the class. The NA grade is not a substitute for dropping or withdrawing from a course. A student is still responsible for all tuition and fee charges for courses designated NA on his/her record. The NA grade has no effect on the student's cumulative grade point average.

The NA grade designation may be replaced on a student's record by a "W" (withdrawal), provided that the student submits a withdrawal form to the Office of the Registrar before the withdrawal deadline.

Incomplete

A grade of Incomplete (INC) is not automatically awarded when a student fails to complete a course. Incompletes are given at the discretion of the instructor. They are awarded when satisfactory work has been accomplished in the majority of the course work, but the student is unable to complete course requirements as a result of circumstances beyond his/her control. The student must negotiate with and receive the approval of the course instructor in order to receive a grade of incomplete; a copy of a written agreement between the faculty member and the student specifying the work to be completed and the terms and deadline for completion must be kept on file in the program office.

Please note: The initiative in arranging for the removal of an "Incomplete" rests with the student.

After a one-year period, if a grade is not submitted by the faculty member, a Failure will be recorded, turning the grade on the transcript to an IF. After the end of this period, the student must re-register for the course, pay for it again, and complete all its requirements in order to receive credit and a grade. Please note that individual programs may set more stringent rules on incompletes, and individual faculty members may set more stringent timetables for completion of course requirements than the general one-year deadline.

INC/IF Registration Policy

Any graduate student who has accumulated more than 4 INC or IF grades will be considered not to be making satisfactory progress toward the degree, will be placed on probation, and will normally be barred from registering for additional classes until the INC/IF grades are cleared. Additional registrations may, however, be approved by the graduate program director and Dean of Graduate Studies.

"Y" and "SAT" Grades for Practicum (698), Thesis (699), Dissertation (899), and Capstone Credits

The required number of practicum, thesis, dissertation, and capstone credits varies by program. While in progress, these credits will be graded Y (in progress) for thesis and dissertation credits and, at the discretion of the program, for practicum and capstone credits. Normal tuition rates will apply. Upon satisfactory completion of these projects, these credits will be converted to SAT (satisfactory).

Audits

A graduate student may audit any class on a space-available basis, but may not use an audited course to complete any degree requirement. Registration for audits is not permitted during pre-registration.

To register as an auditor, a student must complete the regular registration or add/drop form (including written permission from the instructor to audit the course), write "AUD" in the course credit column, and submit the form to the One Stop Student Service Center by the end of the add-drop period. Once the course is designated "AUD," the student cannot receive a grade for it. Students are assessed full tuition and fees (including lab fees) for an audited course. Conditions for the audit are negotiated by the student and the instructor.

Academic Average for Graduate Degrees and Certificates

A student must maintain a cumulative average of at least 3.0 during his/her studies. The computation of the grade point average will include all graduate and upper-level undergraduate courses (taken as a matriculated student) that are eligible to count toward the student's graduate degree or certificate program. Grades for any courses taken at UMass Boston as a non-matriculated student but later transferred into the program are also included in the calculation of the GPA; grades for courses transferred into the program from other institutions are not calculated into the GPA. Graduate students with a cumulative GPA lower than 3.0 will not be eligible to graduate until they raise their GPA to a 3.0.

Satisfactory or Reasonable Progress, Academic Probation, and Academic Dismissal

A student must make satisfactory or reasonable progress toward completion of a degree program within the university's policy on time limits for that degree. A student who is not making satisfactory or reasonable progress is subject to probation and dismissal upon the recommendation of the graduate program director to the Dean of Graduate Studies. A student who in any two semesters, consecutive or otherwise, has semester grade point averages of below 2.8 is subject to academic dismissal for failure to make satisfactory progress, upon recommendation by the program director to the Dean of Graduate Studies.

Graduate students whose cumulative grade point average falls below 3.0 will automatically be placed on academic probation. Both the student and his/her graduate program director will be notified of this probationary status. While on academic probation, a student shall be ineligible to hold office in any recognized student organization or recognized professional association, to represent the university in any sense on or off campus, or to hold a graduate assistantship. Students will be removed from academic probation either when their cumulative grade point average meets or exceeds 3.0 or upon approval of a formal request by the relevant graduate program director to the Dean of Graduate Studies.

A student who in any two semesters, consecutive or otherwise, has been placed on academic probation is subject to academic dismissal upon recommendation of the graduate program director to the Dean of Graduate Studies.

General Academic Regulations

Statute of Limitations Policy

Achievement of a master's or doctoral degree or a Certificate of Advanced Graduate Study signifies mastery of one's chosen discipline. Rather than being merely a collection of courses, a graduate degree requires intense commitment to scholarship and practice within a specific period of time. Such focus and coherence is lost if the degree is not completed within a reasonable time period. Therefore, each program requires that students complete their course of study within designated time limits.

Each program has established its own time limit, approved by faculty governance. A student who fails to complete a program within that established time limit is subject to dismissal. Specific information about time limits is available from each program office and in the "Graduate Program Requirements" section of this bulletin (see pp. 42-43); in exceptional cases, an extension of the time limit may be recommended by the graduate program director and granted by the Dean of Graduate Studies. In such cases, the student must submit a request to the graduate program director with a letter of explanation accompanied by a detailed schedule for completion. A letter from the student's graduate program director concurring with the request must be submitted to the Dean of Graduate Studies with the student's request.

Continuous Registration

Each degree-seeking graduate student must maintain continuous registration until the degree sought by the student has been formally awarded. If in any semester, for any reason, the student does not register for course, thesis, or dissertation credits, he/she may maintain continuous registration by paying a program fee of $175. For further information, see under "Program Fee" in the "Tuition, Fees, and Payments" section of this publication.

Leave of Absence Policy

A student may obtain a leave of absence up to a maximum of two years by filing a request that must be approved by the graduate program director and the Dean of Graduate Studies. A leave of absence extends the time limit by the length of the leave, but the student must pay the program fee for each semester of the leave (see under "Continuous Registration" and "Tuition and Fees: Program Fee" in this Bulletin).

Transfer Credit

Transfer of Courses and Credits

Applicants who have completed graduate course work at other accredited institutions may transfer toward the completion of a UMass Boston graduate degree up to 6 credits from such courses in which the applicant received a grade of B or higher.

Applicants who have completed graduate course work at UMass Boston as non-degree students may transfer toward the completion of a UMass Boston graduate degree up to 6 credits from such courses in which the applicant received a grade of B or higher.

These courses may be accepted for transfer provided that they:

- have not been used to fulfill requirements for another degree, and
- were earned no more than seven years before matriculation in the program into which the student wishes to transfer credit. The combined total of credits transferred from other institutions and of credits accumulated at UMass Boston as a non-degree student may not exceed 12 credits.

  Transfer credit is subject to the final approval of the graduate program director and the Dean of Graduate Studies.

A University of Massachusetts Boston undergraduate student in the senior year who will earn during this year more credits than needed for the bachelor's degree may register concurrently for graduate credits at the University of Massachusetts Boston, after securing the permission of the graduate program director and of the graduate course instructor. A maximum of six credits earned in this way may later be accepted for transfer into a UMass Boston graduate degree (subject to approval by the graduate program director and the Dean of Graduate Studies), provided that they are from courses in which the student received a grade of "B" or better, they were earned no more than seven years before matriculation in the program into which the student wishes to transfer credit, and they did not count toward the student's undergraduate degree. After completing such a course, if the student wishes to transfer the credits to a graduate program, he/she should petition the graduate program director to submit a transfer credit approval form to the Office of the Registrar. Please note: Pass/fail credits may not be transferred.

Accepted students who wish to take non-degree courses in the semester between acceptance and matriculation that will take them over the 6-credit transfer limit may petition their program director to grant them a Pre-Matriculation Transfer Waiver.

Transfer credit is subject to the final approval of the graduate program director and the Dean of Graduate Studies.

Registration Procedures

Both newly accepted and currently enrolled students must begin the course registration process by conferring with their graduate program directors. New student registration is scheduled by each individual graduate program. Currently-enrolled, degree-seeking (matriculated) students register, using the university's Web or TouchTone telephone registration system, during the advance registration periods beginning in April (for the fall semester) and November (for the spring semester). Students may continue to make changes to their schedule through the first week of classes.

Full-Time and Part-Time Status

For most purposes, full-time graduate study is defined as nine or more credits, part-time as eight or fewer credits, and half-time as six credits. Doctoral candidates engaged in dissertation research may be considered full-time students for some purposes regardless of the number of dissertation credits for which they register, provided their graduate program director certifies that they are working full time on dissertation research. Students seeking financial aid should be certain to obtain detailed information about full-time and part-time status requirements from the Office of Financial Aid Services.

Maximum Credit Load

A graduate student may register for up to 12 credits during the fall and spring semesters and nine credits during the summer. Any student who wishes to register for more than the maximum credit load must secure written permission from the graduate program director.

General Academic Regulations

Retaking Courses

A student may repeat any course, provided the student has not taken and passed a more advanced course for which it is a prerequisite. The course may be repeated regardless of the grade received, but there may be only one such repetition per course. If a student repeats a course, both grades will appear on the student's transcript, but only the second grade will be computed in the student's cumulative average.

Course Changes and Withdrawals

Adding or Dropping Courses

During the registration period a student may add, drop, or change courses without penalty; that is, no entry will be made on the student's permanent record. No courses may be added after this period. Please note: a student wishing to drop all courses he/she is enrolled in during a particular semester must either pay the program fee to remain active in the program, or withdraw from the program.

Withdrawing from Courses

After the registration period, a student may withdraw from a course by using the Web or Touch-Tone registration system or by completing a course withdrawal form before the withdrawal deadline noted for each term in the academic calendar. Withdrawal forms are available from the One Stop Student Service Center and must be submitted to that office by the published deadline. A grade of W will appear on the student's transcript for a course from which the student has withdrawn.

Withdrawing from the University

The effective date of withdrawal from the university is that on which all forms are completed, signed, and returned to the One Stop Student Service Center. The last day students may withdraw is the last day of classes of the semester. Students withdrawing receive a W for each course in which they are enrolled. Failure to complete a withdrawal form will result in the recording of the grade of F (failure) for all courses at the end of the term. To withdraw from the university, a student must do the following:

a. Consult with the graduate program director.

b. Receive clearance from the appropriate university offices.

Refunds and Reductions

Please note: Students receive a full tuition refund for each course dropped during the registration period. No refunds are given for course withdrawals after the registration period. Students withdrawing from the university may receive partial refunds depending on when the withdrawal takes place. For more information, see "Refunds and Reductions in Tuition and Fees" in the "Tuition, Fees, and Payments" section of this publication.

Readmission

Graduate degree candidates must maintain continuous registration, either by enrolling for course, capstone, thesis, or dissertation credits or by paying a program fee. Any student who has failed to maintain continuous registration and who wishes to resume his/her pursuit of the degree must apply for readmission and will be subject to the policies and requirements in effect at the time of readmission. The applicant must complete a readmission application form and pay readmission and all back program fees to a maximum of six semesters. Before the applicant may be readmitted, the application must be approved by the appropriate program director. The deadline for readmission applications is one month before the beginning of the semester for which application is being made.

Readmitted students must meet the program requirements that pertain at the time of their readmission. In addition, it is within the program director's discretion to disallow previously taken courses from counting toward the readmitted student's degree program.

Any student wishing readmission should contact the Office of the Registrar for further information. Eligibility for readmission is limited to students who were in good standing at the time of their withdrawal, and who are still in compliance with the statute of limitations policy governing the completion of the degree, as described earlier in this section.

Administrative Withdrawal and Reinstatement

A student may be administratively withdrawn from the university if, after due notice, the student fails to satisfy an overdue financial obligation to, or to comply with certain administrative requirements of, the university.

Rules and Regulations Governing Administrative Withdrawal

I. Conditions Warranting Administrative Withdrawal

Any of the following conditions may warrant administrative withdrawal.

A. Failure to comply with administrative requirements, specifically:

1. Failure by a student to satisfy an overdue financial obligation to the university, consisting of tuition, loans, library charges, or other student charges, including orientation, student activities, health services, child care, and other such fees as may be established from time to time.

2. Failure to comply with other administrative requirements, such as the submission of health forms, etc.

B. Forgery, fraud, or falsification of information on any official university form or document, such as grade report, recommendations, transcripts, etc.

C. Certified physical health or mental health problems of a hazardous nature.

II. Effects of Administrative Withdrawal

If administratively withdrawn, a student shall:

A. Cease to be enrolled and not be allowed to complete the current semester or to register for future semesters;

B. Return his/her identification card and any and all other property belonging to the university currently in his/her possession;

C. Receive no further material or notification from the Office of the Registrar concerning university affairs.

III. Procedures for Implementing Administrative Withdrawal

A. Procedures to be applied to cases brought under the conditions of Section I.A.

General Academic Regulations

1. The appropriate administrative official may recommend to the Office of the Registrar that a student be administratively withdrawn from the university.
2. The administrative official shall make his/her recommendation in writing to the Office of the Registrar, detailing his/her compliance with the following requirements:
   a. The recommendation must be based on one of the grounds set forth in Section I.A.
   b. The facts upon which the recommendation is based must be ascertained and stated precisely and accurately.
   c. An attempt to resolve the matter must have been made by the administrative official by mailing to the student at his/her last known address a written notice of the proposed recommendation for withdrawal and the reasons therefore, such matter not having been successfully resolved within fourteen calendar days of the mailing of said notice.
3. If the director of the Administrative Withdrawal Review Committee is satisfied that the conditions specified in paragraph 2 of this section have been satisfied, he/she shall send a certified letter to the student at his/her last known address setting forth the recommendation for withdrawal and the reasons therefore, and notifying said student that he/she may within fourteen calendar days after said letter is mailed request a hearing on the matter with the director. The director shall include with the certified letter a copy of the Rules and Regulations Governing Administrative Withdrawal.
4. If the student does not request a hearing with the director or take action satisfactory to the director to resolve the matter within the time allotted in paragraph 3 of this section, the director shall administratively withdraw the student from the university no sooner than the fifteenth calendar day following the mailing of the notice provided for in said paragraph.
5. If a student requests a hearing within the time allotted in paragraph 3 of this section, the director shall schedule a hearing at the earliest practicable date. If the director decides in favor of the administrative withdrawal, the director shall forthwith withdraw the student.

B. Procedures to be applied to cases brought under conditions B and C of Section I.

1. The appropriate administrative official may recommend to the Administrative Withdrawal Review Committee (see "V") that a student be administratively withdrawn from the university.
2. The administrative official shall make his/her recommendation in writing to the Administrative Withdrawal Review Committee detailing his/her compliance with the following requirements:
   a. The recommendation must be based on one of the grounds set forth in Section I.B or C;
   b. The facts upon which the recommendation is based must be ascertained and stated precisely and accurately;
   c. An attempt to resolve the matter must have been made by the administrative official by mailing to the student at his/her last known address a written notice of the proposed recommendation for withdrawal and the reasons therefore, such matter not having been successfully resolved within fourteen calendar days of the mailing of said notice.
3. If the Administrative Withdrawal Review Committee is satisfied that the conditions specified in paragraph 2 of this section have been satisfied, it shall send a certified letter to the student at his/her last known address setting forth the recommendation for withdrawal and reasons therefore and notifying said student that he/she may within fourteen calendar days after said letter is mailed request a hearing on the matter with the committee.
4. If the student does not request a hearing with the committee or take action satisfactory to the committee to resolve the matter within the time allotted in paragraph 3 of this section, the committee shall instruct the director of the Office of the Registrar to administratively withdraw the student no sooner than the fifteenth calendar day following the mailing of the notice provided for in said paragraph.
5. If a student requests a hearing with the committee within the time allotted in paragraph 3 of this section, the committee shall schedule a hearing at the earliest practicable date. The student shall have the right to testify and to present witnesses or such other evidence as may be relevant; in addition the student shall have the right to have a physician or attorney present, or to cross-examine witnesses; or all of these. The committee shall hear the case and decide whether facts exist which warrant administrative withdrawal under Section I.B or C. If the committee decides in favor of administrative withdrawal it shall submit to the student a written statement of its findings, its decision, and the conditions under which the student may be reinstated.
6. The student may appeal a decision by the committee in favor of withdrawal to the Vice Chancellor of Student Affairs (Dean of Students) within seven calendar days of the committee's decision. If the student does not appeal the committee's decision within the seven calendar days allotted, the committee shall instruct the director of the Office of the Registrar to withdraw the student. If the student does appeal to the Dean of Students within the time allotted, the Dean shall schedule an appointment at the earliest practicable date and at that time shall confer with the student, accompanied by counsel if the student so wishes, regarding the committee's finding, decision, and determination of reinstatement conditions. If the Dean affirms the committee's decision, he/she shall notify the student of his/her decision, and instruct the director of the Office of the Registrar to withdraw the student. On appeal from the student, the Dean of Students may modify the reinstatement conditions.

General Academic Regulations

IV. Reinstatement

A. Reinstatement from administrative withdrawal brought under the conditions of Section I.A.

1. Any student who has been administratively withdrawn under Section I.A may make arrangements with the director of the Office of the Registrar for the resolution of the matter. Upon such a resolution satisfactory to the director, the director shall forthwith reinstate the student to active enrollment status. The determination of whether a reinstated student shall receive credit for the period for which he/she was withdrawn shall be made by the instructor for each course involved.

2. A student who fails to resolve the matter in the semester during which he/she is withdrawn can be reinstated in a subsequent semester upon satisfaction of the administrative requirements at issue in the university's withdrawal of the student.

B. Reinstatement from administrative withdrawal brought under conditions B or C of Section I.

Any student who has been administratively withdrawn under conditions B or C shall be reinstated only upon satisfaction of the conditions established by the Administrative Withdrawal Review Committee, or by the Dean of Students where the Dean has changed reinstatement conditions appealed by the student.

V. Administrative Withdrawal Review Committee

The Administrative Withdrawal Review Committee shall be appointed each year by the Chancellor. The director of the Office of the Registrar shall not be a member of said Committee except that the director shall sit in place of a regular member in any case wherein said regular member is the administrative official recommending withdrawal. The committee shall be empowered to make decisions concerning administrative withdrawal as provided above.

DEGREE REQUIREMENTS

Applying for Graduation

All requirements for any advanced degrees to be awarded in a given degree-granting period (December, June, August) must be completed by the date specified for that degree date. In order for a student to graduate, the degree application form, signed by the student and the graduate program director, must be submitted to the Office of the Registrar. The degree application must be accompanied by the $150.00 commencement fee.

The format requirements for master's theses and doctoral dissertations are published in a booklet available from the Office of Graduate Studies.

Foreign Language Requirements

Each academic program may establish foreign language requirements for its own advanced-degree candidates. The program determines both the number of foreign languages and the level of competence required. A foreign language is defined for this requirement as a language other than the candidate's native tongue, in which there is a significant body of literature relevant to his/her academic discipline. The term "foreign language" does not include computer languages.

Master's Degree Requirements

Please consult individual program descriptions for complete requirements.

For programs that include a master's thesis, it shall be the responsibility of the thesis committee to approve the thesis project, to supervise its execution, and to arrange for the final examination of the student, including public notice. This final examination, which will be at least partly oral, will be conducted by the thesis committee and will be primarily concerned with, but not necessarily limited to, the candidate's thesis. This examination shall be scheduled when all thesis committee members agree that the thesis is sufficiently complete to undergo defense; approval of the thesis, passing the defense, and/or recommending the degree, however, are not implied by scheduling this examination. Most programs require the student to deliver a public lecture on his/her research, usually on the day the final oral examination takes place. The final oral examination itself is attended by the candidate, the committee, and any invited guests. Only the committee members may vote. If all committee members cast positive votes, the student shall be deemed to have passed the final oral examination. If there is one negative vote, the degree will be held up pending satisfactory resolution by the student of the objections of the dissenting member of the committee; final program approval is represented by the signature of the graduate program director. If two or more members cast negative votes, the candidate will be informed that he/she has failed the examination.

Doctoral Degree Requirements

After completion of their course work and other program requirements, doctoral students are required to pass a preliminary comprehensive or qualifying examination conducted by the program, or successfully complete a qualifying paper. Any student who fails the comprehensive examination may, at the discretion of the examining committee, be permitted a second and final examination. On successful completion of the preliminary examination the student will be admitted to candidacy.

Doctoral Candidacy and Dissertation Requirements

As soon as possible after the student has been admitted to candidacy, the graduate program director of the candidate's program shall recommend a dissertation committee to the Dean of Graduate Studies. The dissertation committee shall consist of at least three members. At least two members of the committee shall be faculty members in the candidate's program. Ordinarily, the dissertation committee shall also include a member who is external to the candidate's program. The external member may come either from within the university or outside of the university. When there is uncertainty about whether a nominee is sufficiently independent of the candidate's program to serve as the external member, the Dean of Graduate Studies shall determine the nominee's eligibility. The graduate program director will be responsible for any additional nominations that may be necessary. On a case-by-case basis, graduate program directors may appeal to the Dean of Graduate Studies to approve a dissertation committee consisting of three faculty members in the candidate's program.

It shall be the responsibility of the working dissertation committee to approve the dissertation project, to supervise its execution, and to arrange for the final examination of the student, including public notice. This final examination, which must be at least partly oral, will be conducted by the dissertation committee and will be primarily concerned with, but not necessarily limited to, the candidate's dissertation. This examination shall be scheduled when all dissertation committee members agree that the dissertation is sufficiently complete to undergo defense; approval of the dissertation, passing the defense, and/or recommending the degree, however, are not implied by scheduling this examination. Most programs require the student to deliver a public lecture on his/her research, usually on the day the final oral examination takes place. The final oral examination itself is attended by the candidate, the committee, and any invited guests. Only the committee members may vote. If all committee members cast positive votes, the student shall be deemed to have passed the final oral examination. If there is one negative vote, the degree will be held up pending satisfactory resolution by the student of the objections of the dissenting member of the committee; final program approval is represented by the signature of the graduate program director. If two or more members cast negative votes, the candidate will be informed that he/she has failed the examination.

The graduate program director will supply documentation to the Office of Graduate Studies of each of the following stages in a doctoral student's progression. Those marked with an asterisk must be approved in writing by the Dean of Graduate Studies or his/her delegate:

a. acceptance to candidacy

b. formation of dissertation committee*

c. acceptance of dissertation proposal

d. declaration of intention to defend dissertation

e. successful defense

f. completion of the dissertation according to the university's guidelines for dissertation preparation*

Requirements for the Certificate of Advanced Graduate Study (CAGS)

Please consult individual program descriptions for complete requirements.

Graduate Program Requirements (Master's, Doctoral Degrees)

Program	Core Courses	Credits	Statute of Limitations	Exam (Comp, Oral, Written or External)	Thesis/ Dissertation
Accounting	R	42	5	N	N
American Studies	R	30	5	N	O
Biology (MS)	R	30	6	R	R
Biology (PhD)					
Biology/Environmental Biology	R	64	8	R	R
Biology/Molecular Cellular Organismal Bio (PhD)	R	62	8	R	R
Biomedical Engineering and Biotechnology (PhD)	R	63	8	R	R
Biotechnology and Biomedical Science (MS)	R	30	6	R	O
Business Administration	R	33-57	5	N	
Chemistry (MS)	R	33	6	R	R
Chemistry (PhD)					
Chemistry/Green Chemistry (PhD)	R	60	8	R	R
Clinical Psychology	R	125	8	R	R
Computer Science (PhD)	R	63	8	R	R
Computer Science (MS)	R	30	7	N	
Counseling (MS - Family Therapy)	R	60	6	N	
Counseling (MS - Mental Health)	R	60	6	N	
Counseling (MS - Rehabilitation)	R	60	6	N	
Counseling (MEd - School Counseling)	R	60	6	R	
Counseling (CAGS/MEd - Family Therapy)	R	78	8	N	
Counseling (CAGS/MEd - Mental Health)	R	78	8	N	
Counseling (CAGS/MEd - Rehabilitation)	R	78	8	N	
Counseling (CAGS/MEd - School Counseling)	R	78	8	R	
Creative Writing	R	48	5	N	R
Critical and Creative Thinking (MA)	R	30	5	R	O
Dispute Resolution (MA)	R	36	5	N	
Education - Higher Education Administration	R	64	7	R	R
Education - Leadership in Urban Schools	R	65	7	R	R
Education - Teacher Education (MEd - Licensure Tracks)	R	36	5	R	
Education - Teacher Education (MEd - Non-Licensure Track)	R	33	5	R	
Educational Administration	R	36	5	R	
English	N	30	5	O	O
Environmental Sciences/Environmental, Earth & Ocean Sciences (PhD)	R	60	7	R	R
Environmental Sciences (MS)	R	30	4	O	O
Gerontology (PhD)	R	69	8	R	R
Gerontology (MS)	R	30	5	N	
Gerontology/Aging Services Mgt. (MS)	R	30	5	N	
Historical Archaeology	R	36	6	R	R
History	R	30	5	R	R
History/Teaching	R	30	5	N	
Human Services	R	39	4	N	
Instructional Design	R	36	5	O	O
Linguistics, Applied	R	30	4	R	O
LInguistics, Applied/Latin and Classical Humanities	R	36	4	R	O
Marine Science (MS)	R	30-33		N	O
Marine Science (PhD)	R	54		R	R
Nursing (PhD)	R	60	8	R	R
Nursing/BS-to-PhD	R	87	8	R	R
Nursing (MS - All Tracks)	R	48	5	R	R
Physics, Applied	N	34-36	6	R	O
Public Affairs	R	36	4	N	
Public Affairs/International Relations	R	36	4	O	O
Public Policy	R	76	8	R	R
School Psychology (MEd/CAGS)	R	66	7	R	
Sociology, Applied	R	36	5	O	O
Special Education	R	36	5	R	
Special Education O/M	R	37	5	N	N
Special Education/TVI	R	37	5	N	

Capstones: All students must complete at least one capstone from among those options offered by their program.

N=None **R=**Required **O=**Optional

Final Project	Internship/ Practicum	Other
R	O	
O		
O	O	
		Capstone course: MBAMGT 689
	R	
R		
R	R	Portfolio/Case Analysis
R	R	Clinical Analysis
R	R	Case Analysis/Research Project
R	R	Portfolio/Workshop Presentation
R	R	
R	R	
R	R	
R	R	
N	N	
O	R	
R	R	
	N	
	R	
R	R	Portfolio
	R	
	O	
		Also: Research Paper (pre-compexams)
R		
R	R	
R		Research + Curricular Unit
R		
O		
	R	
O	N	
O	N	Seminar Presentations
N	N	Seminar Presentations
	R	
O		
R		Case Study
O		
	O	
R	R	Project = Portfolio
O	O	
R	R	
R	R	
R	R	Project = Portfolio

PROFESSIONAL PREPARATION PROGRAMS FOR EDUCATION

UMass Boston offers graduate courses and field experiences leading to licensure for

- Teachers of elementary, secondary, and special education
- Counselors
- School psychologists
- Educational leaders and administrators

In keeping with the university's mission, programs highlight the opportunities and challenges that characterize urban contexts and prepare graduates who can address the diverse needs of children and families with differing abilities and from a wide range of ethnic and linguistic backgrounds.

The university's teacher licensure programs have been approved by the National Council for the Accreditation of Teacher Education (NCATE) and the Massachusetts State Department of Education. Through these programs, the university seeks to prepare thoughtful and responsive educators who possess breadth and depth in content and pedagogical knowledge, who are committed to the highest professional and ethical standards, who engage in continuous reflection on the nature of learning and the ways individual learners can be helped most effectively, who see the welfare of their constituents as their personal responsibility, and who are driven to engage in critical inquiry about all facets of their educational work and its contexts.

The university's Professional Education Unit comprises six professional preparation programs housed in the Graduate College of Education and one in the College of Liberal Arts. The head of the Professional Education Unit is advised by a Professional Education Coordinating Council (PECC), an institutionalized forum for systematic involvement in professional preparation on campus by university faculty, students, and P-12 school professionals from within and outside the university.

The university's professional preparation programs in education are aligned with local, state, and national standards for school professionals, and legal and ethical requirements for "best" professional practice.

Currently, UMass Boston offers seven graduate programs (six in the Graduate College of Education, one in the College of Liberal Arts) whose completion can lead to Massachusetts Department of Education-approved licensure in one or more professional education fields. These programs are:

- Applied Linguistics (CLA)
- Counseling (GCE)
- Educational Administration (GCE)
- Leadership in Urban Schools (GCE)
- School Psychology (GCE)
- Special Education (GCE)
- Teacher Education (GCE)

The Massachusetts Board of Education requires individuals seeking licensure in one of the professional education fields to pass the Massachusetts Tests for Educator Licensure. The admission policies for all seven (7) programs reflect this state mandate:

Submit scores from the Communication and Literacy Skills Test (CLST) section of the Massachusetts Tests for Educator Licensure (MTEL).

All prospective students in the seven professional education certification programs leading toward teaching in K-12 schools must present scores for both the reading and writing sub-tests of the CLST (MTEL) as part of their admission application. These scores will be considered with other evidence submitted as predictors of success in the program. Students who present a failing score may, at the discretion of the Admissions Committee, be admitted provisionally. As provisionally admitted students, they are eligible to register for courses for two semesters. Provisionally admitted students must pass the literacy portion of MTEL prior to the end of the second semester of enrollment in order to qualify for full admission.

Note: Students may not enroll for a practicum or internship class until they have passed the Communication and Literacy Skills Test and Subject Test from the Massachusetts Tests for Educator Licensure.

Note: Out-of-state applicants who might not be in a position to take the CLST (MTEL) at the outset of the admissions process will be required to take either the GRE or MAT test. Their admission to the university will be based on an overall evaluation of all their materials, including the standardized test scores. However, out-of-state students must pass the literacy portion (CLST) of the MTEL prior to the end of the second semester of enrollment in order to remain in the program.

A secondary education applicant must submit a transcript that indicates the applicant has a 3.00 GPA in the discipline he/she intends to teach.

Students interested in obtaining a master's degree or a certificate of advanced graduate study (CAGS) and institutional recommendation for licensure in one of the subject areas must:

(1) apply and be admitted to one of the listed UMass Boston programs,

(2) submit scores from the Communication and Literacy Skills Test section of the Massachusetts Tests for Educator Licensure, as part of the admission application,

(3) pass the Communication and Literacy Skills Test section of the Massachusetts Tests for Educator Licensure prior to enrolling in a practicum and/or internship,

(4) pass the Massachusetts Educator Certification Subject Test (if any) in the discipline to be taught prior to enrolling in a practicum and/or internship,

(5) complete all program requirements for licensure,

(6) be recommended for licensure by the program faculty.

For successful completion of professional preparation programs at the University of Massachusetts Boston, students must demonstrate proficiency in four domains: academic excellence, ethical behavior, professional behavior, and professional competence. Graduate students must maintain a grade point average of "B" (3.0) or better to remain in good academic standing, to enroll in practica/internship courses, and to graduate. Students are expected to comply with all relevant legal and professional codes of ethics and to demonstrate, throughout their training, the professional behaviors essential to successful practice as educators.

In addition, prospective educators should be aware that at the time of application for Massachusetts licensure they will be required to sign an affidavit affirming payment of taxes; indicating a lack of criminal conviction, child abuse conviction, and/or license or certification suspension; and making a commitment to report suspicion of child abuse.

STUDENT RIGHTS AND RESPONSIBILITIES

The University of Massachusetts Boston recognizes its responsibility to provide students with clear and accurate information about what is expected of them, and what their rights are, as students at UMass Boston. The documents published here should help to provide such information. Students seeking further clarification or discussion are encouraged to contact the Office of the Vice Chancellor for Student Affairs.

Code of Student Conduct

I. Purpose

The Code of Student Conduct provides a framework of standard acceptable behavior for students. It is set forth to give students general notice of prohibited conduct; it should not be regarded as an exhaustive definition of misconduct or construed as a contract between the student and the University. Students are responsible for understanding and complying with this Code. Copies of the Code of Student Conduct are available in the Office of the Vice Chancellors for Academic and Student Affairs, in the undergraduate catalog and graduate bulletin, in the UMass Boston Student Handbook, and on the University's website.

II. Authority

Ultimate authority for student discipline is vested in the Board of Trustees of the University of Massachusetts. Disciplinary authority is delegated to the Chancellor of the University of Massachusetts Boston, who in turn has delegated authority over student misconduct to the Vice Chancellor for Student Affairs and authority for student academic dishonesty to the Vice Chancellor for Academic Affairs/Provost. In accordance with Family Education Rights and Privacy Act (FERPA) regulations, the Vice Chancellor for Student Affairs is responsible for maintaining all student judicial records.

III. Governing Principles

A. The University reserves the right to take appropriate disciplinary action when student conduct constitutes misconduct or academic dishonesty, as defined in this Code. The University may also take disciplinary action for student conduct off-campus, when such conduct constitutes misconduct, as defined in this Code, is serious in nature, and adversely impacts the University and/or the campus community. Such action may include pursuing disciplinary action for any violation of local, state, or federal law, on- or off-campus, that affects the University's educational interests.

B. In any instance where the continued presence of an individual on campus may pose an imminent threat to his/her own well being or to that of others, or to the rights or property of the University community, the Vice Chancellor for Student Affairs may impose an interim suspension. This action is designed to prohibit the presence of the student on campus until the case can be resolved in accordance with prescribed campus procedures. This interim suspension is not entered on a student's record and does not affect the student's status except as described below.

C. This Code is independent of any proceeding in civil or criminal law in which a student may also be held accountable. Disciplinary action at the University may proceed despite the pendency of any other civil or criminal proceedings and shall not be subject to dismissal solely because of the result of any such proceeding.

D. Formal rules of evidence shall not be observed; any information having reasonably probative value as to a relevant fact may be admitted.

E. Students found responsible for unacceptable conduct will be subject to the complete range of sanctions and penalties provided in the Code of Student Conduct.

F. Failure by any student to cooperate with these proceedings, or any attempt to impede an investigation is, in itself, a violation of the Code of Student Conduct and may lead to sanctions.

G. Failure by any student to comply with imposed sanction(s) may result in more severe disciplinary action, up to and including suspension or expulsion from the University.

H. Any time requirements set forth in this Code may be extended by agreement of the parties, or as may be required.

I. The University reserves the right to amend any provision of this Code with appropriate notice to the campus community.

IV. Definitions

A. "University" refers to the University of Massachusetts Boston and all of its undergraduate, post-baccalaureate, and graduate colleges, schools, divisions, and programs.

B. "Student" is defined as any person enrolled in or accepted for any course or academic program regardless of credits or competencies carried, at the University.

C. "Faculty" refers to any person hired by the University to conduct classroom activities.

D. "Advisor" refers to any member of the University community who assists and accompanies the student to meetings and/or hearings. The advisor may not be an attorney, unless criminal charges are pending.

E. "Code" refers to this Code of Student Conduct.

F. "Policy" is defined as written regulations and procedures of the University as found in, but not limited to, the Code of Student Conduct, Graduate/Undergraduate Bulletin/Catalog, Student Handbook, and Trustee Documents.

G. "Student Affairs Designee" is a member of the Division of Student Affairs or appointed representative.

H. "Appeal Panel" is the hearing panel consisting of selected members of the standing Joint Discipline and Grievance Committee.

I. "Joint Discipline and Grievance Committee" is a standing committee of the Faculty Council and the Student Governments—Undergraduate Student Senate and Graduate Student Assembly.

J. "Appellate body" refers to any person designated to review an appeal, including, but not limited to, the Vice Chancellors, Deans, and the Appeal Panel.

K. "Director/Dean" refers to the Director of Undergraduate Education and the Dean of Graduate Studies.

V. Student Protections

Students accused of violating the Code are entitled to the following procedural protections:

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A. To be informed, in writing, of the alleged violation, and its outcome.

B. To be informed of the substance of the information or evidence against them.

C. To be given an opportunity to respond to the charges.

D. To be accompanied at any proceeding by an Advisor. If the student wishes to have an Advisor but is unable to obtain one, the Student Affairs Designee shall assist the student in finding one. Advisors may not directly participate in the hearing process.

E. To be accompanied by legal counsel only if criminal charges are pending against the student. In such case, legal counsel will take on the role of Advisor as defined above. A student who wishes to be accompanied by legal counsel is required to give (3) three business days' advance notice to the Vice Chancellor for Student Affairs.

F. To present relevant information and witnesses and to question other witnesses who participate in the hearings.

G. To be assured confidentiality of all information exchanged, both verbal and written, in accordance with the Family Education Rights and Privacy Act (FERPA).

H. To appeal as outlined in this Code in §VI B4 and §VII B3.

The University Code is divided into two subsections: Academic Honesty (§VI below) and Student Conduct (§VII below).

VI. Academic Honesty

It is the expressed policy of the University that every aspect of academic life—not only formal course work situations, but all relationships and interactions connected to the educational process—shall be conducted in an absolutely and uncompromisingly honest manner. The University presupposes that any submission of work for academic credit indicates that the work is the student's own and is in compliance with University policies. In cases where academic dishonesty is discovered after completion of a course or degree program, sanctions may be imposed retroactively, up to and including revocation of the degree. Any student who reasonably believes another student has committed an act of academic dishonesty should inform the course instructor of the alleged violation.

A. Academic Honesty Violations

The University defines violations to include, but not be limited to, the following:

1. Submitting as one's own an author's published or unpublished work (e.g., material from a journal, Internet site, newspaper, encyclopedia), in whole, in part, or in paraphrase, without fully and properly crediting the author.

2. Submitting as one's own work material obtained from another student, individual, or agency without full and proper attribution.

3. Submitting as one's own work material that has been produced through unacknowledged or unauthorized collaboration with others.

4. Submitting substantially the same work to more than one course without prior approval from all instructors involved: i.e., dual or multiple submission.

5. Using any unauthorized material during an examination, such as notes, texts, calculators, cell phones, PDAs, or other electronic or mechanical communication devices. Abuse of cellular devices with photographic capabilities and use of devices for purposes of photographing test questions or other notes and materials are also prohibited.

6. Obtaining answers to examination questions from another person with or without that person's knowledge; furnishing answers to examination questions to another student; using or distributing unauthorized copies of or notes from an examination.

7. Submitting as one's own an examination taken by another person; or taking an examination in another person's place.

8. Gaining or seeking to gain unauthorized access to, or altering or destroying the paper or electronic files of a student, faculty member, or staff member for the purpose of gaining better academic standing and success.

9. Failing to adhere to professional standards or ethics of a discipline and/or violating the rules of an agency in the course of completing field work, internship, practicum, student teaching, or clinical placement.

10. Interfering with an instructor's ability to evaluate accurately a student's competence or performance; misleading any person in connection with one's academic work.

B. Academic Dishonesty Procedures

1. Prior to reporting a suspicion of academic dishonesty, the faculty member may discuss the matter with the student and/or the faculty member's chair (in cases involving undergraduate students) or graduate program director (in cases involving graduate students), or otherwise investigate the circumstances of the alleged violation. If, after such consultation and investigation, the faculty member determines that academic dishonesty did not, in fact, occur, no formal charge of academic dishonesty will be made.

2. To initiate formal proceedings, a faculty member who suspects a student of academic dishonesty must inform the student in writing of that fact within ten (10) business days of the discovery of the alleged violation. Such written notice should inform the student of the factual basis for the charge, the specific sanctions the faculty member proposes to impose, and any University Sanctions he/she may recommend to the Director of Undergraduate Education or the Dean of Graduate Studies, as appropriate. The letter should also inform the student that he/she may be subject to University Sanctions imposed directly by the Dean/Director beyond those recommended by the faculty member. The faculty member shall offer to meet with the student and the faculty member's chair (in cases involving undergraduate students) or graduate program director (in cases involving graduate students),to discuss the case. No more than ten (10) business days after meeting (or offering to meet) with the student, the faculty member may impose penalties within his/her purview, and so inform the

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Director/Dean. If, upon meeting with the student, the faculty member determines that the student did not commit academic dishonesty, he/she will so inform the student and Director/Dean in writing. If no penalty has been imposed within the specified timeframe, the charges shall be considered dropped.

All correspondence concerning an allegation of academic dishonesty should be copied to the faculty member's department chair (for undergraduates) or the faculty member's graduate program director (for graduate students), the faculty member's collegiate dean, the Director of Undergraduate Education or the Dean of Graduate Studies, depending on whether the student is an undergraduate or graduate student, and the Office of the Vice Chancellor for Student Affairs. The chair/graduate program director and/or relevant collegiate dean may, at their option, consult with the faculty member and/or student, review the case and make separate recommendations to the Director/Dean regarding University sanctions.

3. Academic dishonesty by graduate students lies primarily within the purview of the Dean of Graduate Studies, who will determine whether University sanctions should be applied in a particular case. The Dean's decision will be informed by any recommendations made by the student's graduate program director and/or collegiate dean.

   Academic dishonesty by undergraduate students lies primarily within the purview of the collegiate deans. For the purposes of these procedures, the collegiate deans delegate responsibility for determining whether University sanctions should be applied in a particular case to the Director of Undergraduate Studies. The Director's decision will be informed by any recommendation made by the faculty member's chair and will be made in consultation with the collegiate dean(s) involved; it is further subject to review and revision by the faculty member's collegiate dean.

   Within (10) ten business days of the notification of the faculty member's imposition of sanctions, the Director/Dean will review the case. In doing so, he/she may choose to interview or question the parties involved or otherwise investigate the case. The purpose of this review is to consider the imposition of University sanctions. At the end of this review, the Director/Dean may impose additional University Sanctions, including but not limited to those listed in VII for misconduct. University Sanctions will normally be imposed for violations of an especially serious nature or in cases of repeat offense.

4. Within (10) ten business days of the Director/Dean's imposition of University Sanctions, or (10) ten business days of the expiration of the period of time available to the Director/Dean to impose such sanctions, whichever comes first, the student may submit an appeal in writing to the Provost/Vice Chancellor for Academic Affairs, copying the Office of the Vice Chancellor for Student Affairs. The Vice Chancellor for Academic Affairs/Provost will convene an Appeal Panel, consisting of 3-4 faculty members and 2 students from the standing membership of the Joint Discipline and Grievance Committee and instruct the Panel to review the case by convening a hearing. At this hearing, at minimum, the panel will interview and question the student and faculty member. The Vice Chancellor for Academic Affairs/Provost will appoint a member of the panel to serve as the Chair.

5. Within (10) ten business days after completion of its hearing and review, the Panel will make a report of its findings and recommendations to the Vice Chancellor for Academic Affairs/Provost. Within (5) five business days of receiving this report, the Provost/Vice Chancellor for Academic Affairs will uphold, reverse, or modify the faculty member's and Director/Dean's decisions. Modifications may include any of the sanctions listed in VII c for misconduct. The decision of the Provost/Vice Chancellor for Academic Affairs is the final University disposition of the matter and is not subject to further appeal, except in cases of expulsion. Expulsions may be appealed to the Chancellor within 10 business days of the Provost/Vice Chancellor for Academic Affairs' decision to expel.

C. Academic Dishonesty Sanctions

1. Sanctions to be imposed by faculty members may include one or more of the following:

   a. Failure in the assignment in which the infraction occurred.

   b. Forced withdrawal: the student is required to with draw from the course. A grade of W will appear on the transcript, and no refunds of tuition, fees, or other charges will be made.

   c. Failure in the course or competency in which the infraction occurred.

   d. Recommendation of additional Sanctions: The faculty member, in cases of an especially serious nature, may recommend to the Director/Dean the imposition of additional penalties, including those listed in VII c for misconduct.

2. Sanctions to be imposed by the Director of Undergraduate Education and/or the Dean of Graduate Studies are University Sanctions and are described in detail in the University/Misconduct Sanctions section (§VII c) of this Code.

VII. Student Conduct

This Code is intended to create an environment supportive of a diverse academic experience, in which individual students' behavior does not infringe upon the rights of others or upon the educational process of the University. The expectation is that students will understand the extent to which their personal growth depends upon the maintenance of self-discipline, responsibility, and respectful interactions with others, and high standards of honesty and moral conduct.

A. Conduct Violations

The University defines student conduct violations to include, but not be limited to, the following:

1. Forgery, alteration, misuse, or destruction of, or unauthorized access to, official University records, documents, forms, or identification cards.

Student Rights and Responsibilities

2. Furnishing of false or incomplete information to the University.
3. Disruptive conduct, including any attempt to impair, interfere with, or obstruct the orderly operations of the University community.
4. Obstruction or disruption of teaching, research, or other academic or administrative activities.
5. Harassment or intimidation of others, including stalking.
6. Violence, threats of violence, disorderly, lewd, or indecent conduct on University property or at a University-sponsored or supervised function.
7. Trespass or unauthorized entry.
8. Unlawful assembly on University property or at a University-sponsored or supervised function.
9. Theft of or damage to University property or the property of others on the University premises.
10. Possession or use on University property or at a University-sponsored or supervised function of firearms or other weapons, fireworks, or chemicals of a dangerous or explosive nature, except as specifically authorized by the Department of Public Safety.
11. Manufacture, or attempted manufacture, or use, possession, or distribution of narcotic or dangerous drugs or controlled substances, including but not limited to marijuana and lysergic acid diethylamide (LSD), except as expressly permitted by law. Please note: The fact that conduct in violation of this Code may have been influenced by the use of drugs or alcohol shall not in any way limit the responsibility of the student for the consequences of his/her actions.
12. Violation of campus alcohol and drug policies.
13. Violation of the campus smoking policy.
14. Unauthorized possession, use, distribution, or duplication of any key or keys issued for a University building, laboratory, room, or facility.
15. Failure to comply with directives of University officials or other public officials acting in the performance of their duties. Directives must be lawful and conform to University policy and may not abridge the rights of directed individuals. Also, officials must identify themselves prior to initiating said directives to all parties involved.
16. Hazing—defined as any conduct or method of initiation into any student organization, whether on public or private property, which willfully or recklessly endangers the physical or mental health of any student or other person, as set out in Massachusetts General Law c.269 §17 & 18.
17. Use of the University Internet/Vax accounts for criminal or unauthorized purposes.
18. Harassment: Complaints of sexual harassment, or harassment on the basis of age, race, national origin, religion, sexual orientation or disability, should be reported to the University's Office of Affirmative Action and Multicultural Relations.
19. Violation of the University Policy on Sexual Offenses—i.e., unwanted sexual conduct, including but not limited to a sexual offense and/or rape. A sexual offense may include, but is not limited to, any sexual act directed against another person forcibly and/or against that person's will, or where the victim is incapable of giving consent.
20. Any unauthorized use of electronic or other devices to make an audio or video record of any person while on University property without his/her knowledge, video/photographing individuals in secured areas such as bathrooms, locker rooms, or other areas where there is a reasonable expectation of privacy, and/or taking video/photographs of an individual without his/her effective consent, and electronic transmission of video/photographs of any person without his/her express permission.
21. Violation of copyright rules, regulations, and laws.
22. Violation of local, state, and/or federal laws.

B. Misconduct Procedures

1. All cases of alleged student misconduct shall be referred in writing to the Vice Chancellor for Student Affairs. Any member of the University community may refer alleged student misconduct to the Vice Chancellor for Student Affairs or his/her designee. Any charges concerning alleged student misconduct must be referred in writing, along with any supporting documentation, statement, or evidence, to the Vice Chancellor for Student Affairs or his/her designee within thirty (30) days of the discovery of the incident. Charges should include a specific description of the alleged wrongful conduct, the date/time/locations of the incident, and identification of any witnesses. The Student Affairs Designee shall conduct a review of the charges and determine whether to resolve the matter informally or file formal charges.
2. If formal charges are filed, the following apply:
   a. Within ten (10) business days of the initial referral, the student will be notified, in writing, of the alleged misconduct and the charges. This notice will include a description of the complaint, the time and place if known, and the person who filed a report. The Student shall be provided a copy of the Code.
   b. Within ten (10) business days of informing the student accused of misconduct, the Student Affairs Designee shall commence an investigation of the accusation(s). The investigation may include interviews with the person(s) making the accusation, the student(s) accused of misconduct, and other identified relevant parties who may have knowledge concerning the allegations.
   c. Within ten (10) business days following the conclusion of the investigation, the Student Affairs Designee shall make a finding concerning the accusation and inform the student in writing of that finding. The Student Affairs Designee may issue a finding of:

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RESPONSIBLE: In this case, the Student Affairs Designee may impose appropriate sanctions.

NOT RESPONSIBLE: In this case, no sanctions will be imposed, and the individual charge(s) shall be dismissed.

3. Within (10) ten business days after the Student Affairs Designee's decision, a student may request an appeal in writing to the Vice Chancellor of Student Affairs. The Vice Chancellor shall convene an Appeal Panel from the standing membership of the Joint Discipline and Grievance Committee, consisting of 2-3 faculty members, 1 professional staff member, and 2 students, to review the case by convening a hearing. The Vice Chancellor for Student Affairs will appoint a member of the Panel to serve as the Chair. The hearing will be closed to all persons other than those invited by the Chair of the Appeal Panel. The hearing will be taped by the Chair of the Appeal Panel. The tape shall be kept by the Vice Chancellor for Student Affairs; all parties shall be informed in advance that the hearing will be taped. All information, both verbal and written, exchanged in the hearing shall be confidential, subject to applicable provisions of the Fair Information Practices Regulations of the University and applicable state and federal laws.
4. Within (10) ten business days after completion of its hearing and review, the Panel will make a report of its findings and recommendations to the Vice Chancellor for Student Affairs, upholding, reversing, or modifying the Student Affairs Designee's decisions. Within (10) ten business days of the receipt of this report, the Vice Chancellor for Student Affairs will accept or reject, in whole or in part, the Panel's findings. The decision of the Vice Chancellor for Student Affairs is the final University disposition of the matter and is not subject to further appeal, except in cases of expulsion. Expulsions may be appealed to the Chancellor within (10) ten business days of the decision to expel.

C. University/Misconduct Sanctions

Disciplinary Sanctions which may be imposed for misconduct shall include one or more of the following. Further infractions of University regulations will result in more severe disciplinary sanctions than those originally imposed.

1. Case Dismissed: An action which closes the case for any one of the following reasons: a "not responsible" finding is reached, or there is lack of sufficient information and/or evidence.
2. Verbal Warning: The lightest form of disciplinary action. This will be documented in the decision letter.
3. Written Reprimand: An official written notice to a student that his/her conduct is in violation of University rules or regulations and will not be tolerated.
4. Disciplinary Probation: A more severe sanction than a reprimand. For the duration of a stated probationary period, no less than one month, the student must demonstrate a willingness to comply with University rules or regulations or other stipulated conditions or requirements, which may include forfeiture of the privilege of participation in club or team activities or other University-based extracurricular activities. While on Disciplinary Probation, a student may not represent the University in any context, run for or hold office in any student organizations or participate in intercollegiate athletic teams, intramural programs, or any student clubs or organizations.
5. Suspension from the University: Withdrawal from all divisions of the University and premises for a period no less than one semester or fifteen (15) weeks. The suspension period will be stated in writing at the time of its imposition.
6. Expulsion from the University: Permanent separation from the University. An expelled student may not be readmitted to any of the University's academic units, and a notation of expulsion may be placed on the student's official University transcript.
7. Restitution: The assessment of financial charges or other forms of recompense for any damage or loss incurred by the University or any members of the University community.
8. Counseling/Training/Community Service: When appropriate, students may be required to seek counseling or training or to perform community service as a condition of readmission to or continued attendance at the University.
9. Restrictions and Trespass: The student is subject to arrest if he/she enters University premises (either generally or specific areas as noted in the sanction) without seeking prior approval from the Vice Chancellor for Student Affairs or his/her designee, who in turn will notify Campus Police.
10. Sanction Held in Abeyance: If there are sufficiently extenuating circumstances, the sanction is assessed but not imposed. The sanction may be imposed at a later time, however, if the student is subsequently found responsible for other violations of the Code.
11. Local, State, and Federal Charges: In cases where criminal or civil charges may apply, a case may be referred to local, state, or federal authorities.

Student Right to Review University Records (The Family Educational Rights and Privacy Act of 1974)

In accordance with Public Law 93-98, the university wishes to inform all UMass Boston students of their rights to review their educational records on file at the university.

The Family Educational Rights and Privacy Act (FERPA) of 1974 sets forth requirements designed to protect the privacy of parents and students with regard to access, review, or release of records maintained by educational institutions.

The Act permits current or former students to review the following documents: permanent academic record, admissions, financial, placement, veteran's, counseling, advising, and disciplinary records.

Access to these records may also be granted to faculty and staff, parents of a student listed as a dependent on Federal Income Tax returns, authorized federal or state officials auditing education programs, and accrediting associations.

Student Rights and Responsibilities

Any UMass Boston graduate student wishing to examine his/her education record should so request one of the following offices directly:

- Graduate Studies
- Financial Aid Services
- Health Service
- Graduate Admissions
- University Registrar

The following records may not be examined: parents' financial records, medical, psychiatric or psychological records, personal files of faculty or administrative personnel, law enforcement records held by law enforcement officials.

Directory information may be released to third parties without the written consent of the student, provided the student has been given the opportunity to withhold all such disclosure. Directory information includes: the student's name, address, telephone listing, date and place of birth, major field of study, dates of attendance, degrees and awards conferred.

Procedure for gaining access to records: a request by a student for access to a record is made in writing to the office which maintains the record. Within 45 days the office must inform the student when the record will be available. Every office is also obliged to tell students, at their request, who else has had access to their record and why.

The academic record is the only permanent record and is maintained in perpetuity. Medical records are retained by University Health Services for 30 years.

If a student requests a copy of any part of his/her education record, other than a transcript, either for personal use or for release to a third party, the student shall incur the cost of copying not to exceed $5.00.

Any questions and/or challenges concerning these matters should be addressed to the Office of the Vice Chancellor of Student Affairs, Campus Center, Fourth Floor.

Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act

The Clery Act mandates that certain crime statistics be reported on an annual basis, and that certain security policies be published at the same time.

The full report required under the Clery Act contains required crime statistics for a three-year period, as well as specific policies relating to drugs, alcohol, sexual offenses, facilities access, reporting of crimes, and the authority of UMass Boston Police. A text-only version, which may be downloaded or printed, may be found at the following web address:

http://www.publicsafety.umb.edu/text/main/clearyact.htm.

The report may also be requested in printed form from UMass Boston's Department of Public Safety.

Student Rights and Responsibilities in Connection with Financial Aid

1. Students are expected to be prompt in applying for aid and in ensuring that support documentation is forwarded in a timely manner to the Office of Financial Aid Services. It is strongly suggested that students plan early.
2. Each student has a right to expect confidentiality and professionalism in the handling of his/her application for financial aid. This right is carefully protected by the staff of the Office of Financial Aid Services.
3. All students have the right to see all materials held in their folders within the Office of Financial Aid Services (the exception is the parent's confidential financial information, if the parent(s) or guardian(s) have specifically prohibited disclosure to the student). To do so, a student must meet with a Financial Aid Counselor. Members of the Office of Financial Aid Services staff, in exercising their responsibilities, also have the right to see a student applicant's folder. No other person has this right.
4. Every student has a right to a timely review and award notice, assuming the student has met the stated deadlines and requirements of the Office of Financial Aid Services.
5. Every student has the right to review his/her case with a professional counselor in the Office of Financial Aid Services.
6. If a student, after such review, remains unsatisfied with the analysis of need and the award of aid, he/she has the right to appeal to the director of Financial Aid Services, the Financial Aid Advisory Committee, and ultimately the Vice Chancellor for Enrollment Management.
7. It is the responsibility of students and parents to provide all data requested, honestly and completely. Falsification of records or withholding of information pertinent to a decision about aid may result in university action or, in cases where federal funds are extended, in penalties of law.
8. It is the responsibility of students to read all information carefully and completely, and to comply with the stated instructions at all times. Failure to do so will delay awards and may cause students to lose awards.
9. Every student is expected to comply with all laws and policies governing aid. This is particularly important in the area of academic enrollment: a fully-aided undergraduate student is expected to carry no fewer than twelve credit hours, or the equivalent, and a fully-aided graduate student is expected to carry no fewer than nine credit hours, or the equivalent. Each student is expected to attend classes and progress satisfactorily toward his/her degree.
10. All students must present their UMass Boston identification cards when picking up checks, obtaining confidential information, and keeping appointments with financial aid counselors. There will be no exceptions to this policy.

Student Right to Excused Absence Because of Religious Belief

An Act Excusing the Absence of Students for Their Religious Beliefs

In accordance with Chapter 151C, Section 2B of the General Laws of Massachusetts, the university wishes to inform students of their rights under this legislative provision of the Commonwealth of Massachusetts. This section states:

Any student in an educational or vocational training institution, other than a religious or denominational educational or vocational training institution, who is unable, because of his religious beliefs, to attend classes or to participate in any examination, study, or work requirement on a particular day shall be excused from any

Student Rights and Responsibilities

such examination or study, or work requirement, and shall be provided with an opportunity to make up such examination, study or work requirement which he/she may have missed because of such absence on any particular day; provided, however, that such make-up examination or work shall not create an unreasonable burden upon such school. No fees of any kind shall be charged by the institution for making available to the said student such opportunity. No adverse or prejudicial effects shall result to any student because of his availing himself of the provisions of this section.

Policies on the Protection of Humans as Subjects and Institutional Animal Care and Use

All research and similar activities conducted in the name of the University of Massachusetts Boston must comply with the federal rules and regulations of the Office for Protection from Research Risks of the National Institutes of Health. The university has an institutional policy on the protection of humans as experimental subjects as well as a policy on the care and use of animals in research. These policies are overseen by the university's Institutional Review Board; copies can be obtained from the Office of Research and Sponsored Projects.

University Policies on Intolerance, Affirmative Action, and Sexual Harassment

Intolerance

Resolution in Support of Pluralism

The Board of Trustees affirms its commitment to maintaining an academic environment that fosters pluralism, mutual respect, appreciation of divergent views, and awareness of the importance of individuals' rights. To this end, we reassert the importance of civility and the valuable contribution that diversity in race, ethnicity, religion, and culture brings to the University community, and therefore we strongly encourage and support racial, ethnic, cultural, and religious pluralism.

Policy Against Intolerance

The Board of Trustees denounces intolerance, particularly that based on ethnicity, culture, religion, race, or sexual orientation which interferes with those rights guaranteed by law, and insists that such conduct has no place in a community of learning. We also recognize the obligation of the university to protect the rights of free inquiry and expression, and nothing in the Resolution in Support of Pluralism or the Policy Against Intolerance shall be construed or applied so as to abridge the exercise of rights under the Constitution of the United States and other Federal and State Laws.

Affirmative Action

Pursuant to Title VII of the Civil Rights Act of 1964 and Title IX of the Educational Amendments of 1972 and other applicable Federal and State laws, the university reaffirms its commitment to a policy of non-discrimination and affirmative action.

Equal Employment Opportunity: The university pledges to make all decisions regarding recruitment, hiring, promotion, and all other terms and conditions of employment without discrimination on the grounds of race, color, religion, sex, national origin, age, disability, sexual orientation, or other factors which cannot lawfully be the basis for an employment decision.

Any student or employee with questions concerning this policy, or who believes that he or she has been the victim of discrimination, should be referred to the Director of Affirmative Action at 617.287.5180.

Sexual Harassment

Sexual harassment is unwanted sexual attention. As a form of sex discrimination, sexual harassment is a violation of federal and state law. It is the policy of the University of Massachusetts that no member of the university community may sexually harass another. For purposes of this policy and consistent with federal regulations, sexual harassment is defined as follows: Unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of sexual nature constitute sexual harassment when: 1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic work, 2) submission to or rejection of such conduct by an individual is used as the basis for employment or academic decisions affecting such individual, or 3) such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive working or academic environment.

It is the policy of the university to protect the rights of all persons within the university community by providing fair and impartial investigations of all complaints brought to the attention of appropriate officials. Any member of the university community found to have violated this sexual harassment policy may be subject to disciplinary action.

Any student or employee who believes that he or she is a victim of harassment should contact the Sexual Harassment Officer, at 617.287.5180.

Further Information

Anyone who has questions or concerns about any of the guidelines and policies described above should call the Office of the Vice Chancellor for Student Affairs.

Graduate Programs

ACCOUNTING (MS)

Faculty

Arindam Bandopadhyaya, PhD, *Indiana University* • Accounting & Finance

Julia Brennan, PhD, *University of Kentucky* • Accounting & Finance

Atreya Chakraborty, PhD, *Boston College* • Accounting & Finance

Lal Chugh, PhD, *Harvard University* • Accounting & Finance

Elizabeth Connors, PhD, *Michigan State University* • Accounting & Finance

James Grant, PhD, *University of Chicago* • Accounting & Finance

Eric Hayden, PhD, *Johns Hopkins University* • Accounting & Finance

Thomas Hogan, PhD, *University of Massachusetts Amherst* • Accounting & Finance

Holly Hanson Johnston, PhD, *Carnegie Mellon University* • Accounting & Finance

Anne L. Jones, DBA, *Boston University* • Accounting & Finance

Lucia Silva-Gao, DBA, *Boston University* • Mergers and Acquisitions • Valuation of Intellectual Property

Kiran Verma, PhD, *Michigan State University* • Accounting & Finance

For allied MBA faculty, see under Business Administration in this publication.

The Program

The College of Management's MSA degree program leads to the Master of Science in Accounting, for which students complete accounting and other business courses. The MSA is designed as an affordable and accessible program for current and prospective accountants, auditors, and analysts who seek a curriculum that will prime them for success at both the regional and global levels. The program develops the broad analytical skills critical for candidates specializing in accounting or auditing and is particularly well suited for those looking to meet the requirements for the Uniform Certified Public Accountant examination in Massachusetts. In addition to readying students to sit for the exam, the program enables candidates to fulfill the Commonwealth's 150-credit hour CPA certification requirements. The College of Management's small classes provide students with personalized attention from faculty, while its close relationships with the professional accounting community extend the depth of its program of graduate accounting education.

The MSA program is designed to offer students of all backgrounds the opportunity to begin and/or broaden their accounting education. An undergraduate degree in a business field is not required to enter the MSA program. Students in the program may study either full-time or part-time. Students usually complete the MSA program in one to three years, depending upon the number of courses taken during the fall, spring, and summer terms and on course waivers granted for undergraduate or prior graduate credit.

The College of Management and the MSA program are fully accredited by the Association to Advance Collegiate Schools of Business (AACSB)—the International Association for Management Education.

Degree Requirements

Students must satisfactorily complete 14 courses, or 42 credits, and satisfy the mathematics requirement (through waiver or additional course work) to receive the MSA degree. Credits may be earned by successfully completing graduate courses at UMass Boston, by the transfer of up to six graduate credits from another university, or by waiver. A minimum of 8 MSA courses must be completed at UMass Boston. Students without sufficient previous preparation to meet the mathematics requirement must complete MBAMS 600 (Mathematical Analysis for Managers) as one of their first three courses. The degree must be completed within five (5) years of the date of entry.

Business Core Courses (4):

MBA AF 601 Economics for Managers

MBA AF 610 Accounting for Managers

MBA AF 620 Financial Management

MBAMGT 650 Organizational Analysis and Skills

Students who hold a four-year Bachelor's degree in Management or a related field (e.g., Business Administration, Commerce, Finance, Accounting, Marketing, Operations Management, or Management Information Systems) may petition the program director to waive the Business Core courses (up to 12 credits).

Accounting Foundation Courses (6):

MBA AF 611 Corporate Financial Reporting

MBA AF 612 Cost Accounting

MBA AF 613 Federal Tax Planning

MBA AF 614 Financial and Managerial Auditing

MBA AF 616 Financial Statement Analysis

MBA AF 618 Accounting Information Systems

Students who hold a four-year Bachelor's degree in Accounting may petition the program director to waive one course from the Accounting Foundation.

Accounting Electives (select one):

MBA AF 615 International Accounting

MBA AF 617 Management Accounting and Control

Accounting Capstone Course:

MBA AF 691 Financial Accounting Theory and Analysis

Business Electives (2-3):

Students may select electives—courses above the "core level"—from the graduate program offerings in accounting or business administration, but students must meet, through waiver or course work, the prerequisites for such electives. Students take two or three electives, depending on the number of core or foundation courses they have waived, to bring them to the minimum 30 credits required for the degree.

Courses

All accounting and finance courses and all MBA courses required for the MSA program are listed here. For a complete list of potential electives, please see under Business Administration in this publication.

MBAMS 600
Mathematical Analysis for Managers
This course provides the mathematical skills and applications necessary to pursue graduate study in the College of Management. Topics include a review of basic algebra; graphing; linear, polynomial, exponential, and logarithmic functions; functions of several variables; systems of linear equations; probability; differentiation and integration. 3 Lect Hrs, 3 Credits

MBA AF 601 (CORE)
Economics for Managers
This course introduces the student to economic principles of particular interest to the firm manager. The course is divided roughly into two parts that deal with macroeconomic and microeconomic issues. In the macro section such key aggregates as gross domestic product, unemployment rate, inflation rate, and balance of payments, which are of importance to the firm manager, are discussed. Discussions focus on a critical examination of how these aggregates are measured and determined in various competing theoretical models. The theory discussed here then serves as an analytical tool in understanding and evaluating economic policies related to such current economic issues as unemployment, inflation, and trade imbalances. In the micro section, emphasis is given to a) the theory of markets, how prices and quantities are determined in markets and factors that affect these prices and quantities; and b) how firms compete in different market environments. Besides concentrating on the

theory, special attention is given to how the concepts covered are applied to real-world microeconomic problems.
3 Lect Hrs, 3 Credits

MBA AF 610 (CORE)
Accounting for Managers
This course instructs students in the fundamentals of financial and managerial accounting. The financial accounting component presents techniques used to measure business transactions, preparation of financial statements, recording and valuation of assets, owners' equity, revenue, cost, and expenses. The managerial accounting component deals with techniques for managerial decision-making, planning, and control.
Prerequisites: MBAMS 600 and MBA AF 601.
3 Lect Hrs, 3 Credits

MBA AF 611 (ACC)
Intermediate Accounting
This course acquaints students with financial accounting theory. Particular emphasis is given to the relationship between theory and such practical problems as the limitations of traditional financial statements and asset and current liability items. Students acquire an understanding of issues unique to corporations and complete the study of the balance sheet by examining long-term debt and equity items.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 612 (ACC)
Cost Accounting
This course examines the use of cost accounting as a means of providing quantitative information for managerial decision-making and control. Emphasis is placed on analysis of cost behavior, cost-volume-profit relationships, budgeting, and performance measurement.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 613 (ACC)
Federal Tax Planning
This course introduces the concepts of gross income recognition, deductions, tax credits, and the income tax effects of property transactions, with emphasis on managerial decision-making and planning. These concepts are incorporated into discussion of alternative forms of business organization and the tax implications of each.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 614 (ACC)
Financial and Managerial Auditing
The objective of this course is to make students aware of, and develop working skills in, the techniques of financial and managerial auditing, and to help them develop judgment in using audit information. Topics include stewardship and the need for auditing; audit evidence and analytical techniques for sampling and drawing inferences; organizational issues in auditing; techniques and methods of managerial and strategic audits and audit reporting.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 615 (ACC)
International Accounting
This course examines the international dimensions of financial accounting and analysis; the environmental influence of specific countries on international accounting standards and their related impact on financial reporting; and disclosure and analysis worldwide. Specific attention is given to inflation accounting, foreign currency transactions, the translation of foreign financial statements, and the status of international accounting standards.
Prerequisite: MBA AF 610. MBA AF 611 is recommended, though not required.
3 Lect Hrs, 3 Credits

MBA AF 616 (ACC)
Financial Statement Analysis/Advanced Accounting
This course provides a framework for financial statement analysis. The course teaches students to understand how financial statements are generated by focusing on FASB principles. The course also encourages students to research current changes within the accounting framework and to understand how to use the framework to interpret company financial statements. Issues of ethics will also be incorporated into the course.
Prerequisite: MBA AF 610. MBA AF 611 is recommended, though not required.
3 Lect Hrs, 3 Credits

MBA AF 617 (ACC)
Management Accounting and Control
This course is designed to introduce students to the important role management accounting can play in helping managers make informed decisions. In particular, the course emphasizes modern theories of product cost, performance measurement, and management control systems. It uses cases to describe real-world problems and to illustrate such concepts as activity-based cost systems, productivity measurement, and total quality.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 618 (ACC)
Accounting Information Systems
This course examines information systems used for managerial decision making and external reporting, with specific emphasis on assuring systematic control over accounting information and on the reliability of that information. Computer and telecommunication systems are changing the way companies and not-for-profit organizations do business. As information becomes a competitive tool, line managers are encouraged to get more involved in decision making. Further, as communication between companies and investors continues to shift from lagged formal reports (i.e., financial statements) to tailored, on-line reports, the importance of computer-based accounting systems will increase.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 620 (CORE)
Financial Management
This course is intended to provide the student with a sound understanding and appreciation of the principles of corporate finance. The course covers the theory and practice of financial decision making by managers and describes how financial theory can be used to address practical problems and to illuminate institutional aspects of the financial world. Topics include the time value of money, capital budgeting, financial statement analysis, asset valuation, portfolio theory, capital structure, dividend policy, long-term financing, and issues of corporate control. The course enables students to develop the skills and intellectual framework for addressing a variety of financial problems.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBAMGT 650 (CORE)
Organizational Analysis and Skills
This course focuses on the organization of the future, identifying its characteristics and exploring the strategic design and political and cultural implications for working in and managing such an organization. It examines the impact of the new organization on the roles and careers of individual managers, the functioning of groups, the processes that exist within organizations, the relationships of organizations with their environments, and the learning and change practices needed to enhance global performance. First-semester MBA students are introduced to a variety of skills that they will be called upon to use throughout their MBA experience (case analysis, analytical writing, self-awareness, team-building, and oral communication).
3 Lect Hrs, 3 Credits

MBA AF 691 (ACC)
Financial Accounting Theory and Analysis
This course examines the role of accounting information in the capital markets. Financial statements are widely used by bankers, analysts and investors to evaluate a firm's past performance and judge future prospects. Preparation of effective financial statements requires understanding of a firm's business characteristics and strategy, and the accounting policies and practices and procedures that can best reflect true economic reality. The course explores a variety of financial reporting contexts, industries and business strategies, to provide students with an understanding of accounting information across various corporate environments.
3 Lect Hrs, 3 Credits

AMERICAN STUDIES (MA)

Faculty

Paul Atwood (Joiner Center), PhD, *Boston University* • War in American Culture • History of US Wars in the Twentieth Century

Jonathan Chu (History Department), MSL, Yale University, PhD, *University of Washington* • Colonial America • American Revolution • American Legal History

Linda Dittmar (English Department), PhD, *Stanford University* • Narrative Theory • Feminist Theory • Film • Women Writers

Reebee Garofalo (College of Public and Community Service), EdD, *Harvard University* • History of Popular Music • Race and Popular Music

James Green (Labor Studies Program), PhD, *Yale University* • Post-Civil War US Social and Political History • Labor and Protest Movements • Popular Expressions of Consciousness • Public History

Jean Humez (Women's Studies Department), PhD, *Yale University* • Nineteenth Century US Women's History and Culture • Afro-American Women's Autobiography • Shaker Women's History • Oral History

Peter Kiang (American Studies Department, Graduate College of Education), EdD, *Harvard University* • Education and Asian Minorities • Minority and Immigrant Community Development • Legacies of the Vietnam War

Bonnie Miller (American Studies Department), *PhD, Johns Hopkins University* • 19th Century US Cultural History • Visual Culture • History of Race, Gender, and American Empire

Rachel Rubin (American Studies Department), PhD, *Yale University* • American Popular Musics • Ethnic Literatures • American Literature and the Left

Lois Rudnick (American Studies Department, English Department), PhD, *Brown University* • Social and Cultural History • American and Ethnic Literatures • Literature and Arts of the Southwest

Judith E Smith (American Studies Department), PhD, *Brown University* • Ethnicity and Race • Cultural Studies • Twentieth Century US Social and Women's History

Shirley Suet-ling Tang (American Studies Department/Asian American Studies), PhD, *State University of New York (SUNY) Buffalo* • Comparative Race, Ethnicity, and Culture • Southeast Asian American Community Studies • Ethnography • Transnational Feminism

Lynnell Thomas (American Studies Department) PhD, *Emory University* • African American Studies • American Literature and Culture • New Orleans Culture and History

Paul Watanabe (Institute for Asian American Studies, Political Science Department, Director of American Studies Summer Institute), PhD, *Harvard University* • American Foreign Policy • Political Behavior • Ethnic Group Politics • Asian American Studies

Julie Winch (History Department), PhD, *Bryn Mawr College* • African-American History • Antebellum Free People of Color • Maritime History

The Program

The Master of Arts Program in American Studies serves

- students interested in the study of historically contested meanings of culture, community, democracy, citizenship, politics, race, ethnicity, gender, and sexuality in the United States;
- continuing and returning students seeking further grounding in American Studies and its interdisciplinary methods;
- professionals in education and government;
- journalists, community leaders, and organizers searching for a historical and cultural understanding of their own society.

The program provides the intellectual tools and theoretical background in historical and cultural analysis to enable students to reflect critically on historical and cultural changes and controversies in the US. The interdisciplinary core courses ask students to pay close attention to the interplay between political and social discourse and literary, artistic, and cultural expression; and to how public life and culture have been shaped by many groups with differing access to social and political power and cultural legitimacy.

Degree Requirements

Candidates for the MA degree in American Studies must satisfactorily complete 30 credits of graduate work, including a final project (AMST 688, 3 credits) based on original research. Students may choose to do a traditional MA thesis (6 credits) in lieu of a final project. This is a more substantial piece of original research, prepared under the guidance of an individual faculty advisor, and must be defended before a committee of three faculty members.

The curriculum is built around a core of six three-credit courses:

- AMST 601 (Introduction to American Studies)
- AMST 602 (Historical Sequence I: American Society and Political Culture: 1600-1865)
- AMST 603 (Historical Sequence II: Modern Political, Social, and Cultural History)
- AMST 604 (Gender and Sexuality in US History and Culture)
- AMST 605 (Ethnicity, Race, and Nationality)
- AMST 606 (Studies in Popular Culture and Technology)

Elective courses may be drawn from additional graduate and advanced undergraduate courses in American Studies, Anthropology, English, Women's Studies, Africana Studies, Politics, History, and Public Policy.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

The American Studies Admissions Committee will recommend admission to the program of those applicants who present evidence of their ability and appropriate preparation to do graduate work in American Studies. Such evidence will include:

1. A distinguished undergraduate transcript with generally at least an average of B or 3.0 in appropriate courses, such as those in American Studies, Ethnic Studies, Africana Studies, US History, US Literature, and Women's Studies.
2. The submission of Graduate Record Examination aptitude scores (verbal and mathematical), which is highly recommended, though not required.
3. Substantive recommendations from former teachers familiar with the applicant's most recent academic work. An applicant who has been out of school for a number of years and for whom this kind of recommendation is impracticable should speak with the program director about submitting other recommendations.

American Studies

4. A writing sample, demonstrating analytic ability in fields relevant to American studies (historical, literary, or social analysis). When possible, this writing sample should demonstrate independent research and the use of primary sources. An applicant who has been out of school for a number of years and for whom this kind of sample is not readily accessible should speak with the program director about a substitute for this writing sample. Please note that this writing sample is to be submitted in addition to the statement of intent described in the "Admissions" section of this publication.

Research Institutes

The William Monroe Trotter Institute for the Study of Black Culture, the Mauricio Gaston Institute for Latino Community Development and Public Policy, the Institute for Asian American Studies, the Research Center for Urban Cultural History, and the Center for Women in Politics and Public Policy all sponsor ongoing research which may offer special opportunities for graduate student research experience.

American Studies Summer Institute

A cooperative venture of the John F Kennedy Library and the American Studies Program with support from the Lowell Institute, this intensive two-week summer course is offered (as AmSt 687, 3 credits) over a two-week period. Topics vary from year to year, and the course can be taken more than once. It is designed to appeal to teachers and citizen activists outside the American Studies Program as well as to matriculated students within the program. The course serves as an elective for those seeking the MA degree, and either graduate standing or the permission of the instructor is required.

Courses

AMST 575L (ANTH 575L)
Cultural Theory in Anthropology
An historical survey of twentieth century socio-cultural theory, this course provides graduate students in historical archaeology and other disciplines with complementary background in cultural anthropology. Emphases are on American anthropologists, their theories of culture, the attention to history in these, and the discursive contexts within which various theoretical schools have emerged.
3 Lect Hrs, 3 Credits
Mr Silliman and Staff

AMST 601
Introduction to American Studies
This course focuses on interdisciplinary methods by comparing the ways different disciplines approach the study of American culture. It introduces students to the history of American Studies as a field, to the questions explored in greater depth in the other core courses, and to contemporary intellectual debates within the field. Readings are chosen to enable students to compare the questions asked and the methods and evidence used by scholars in the fields of social and cultural history, literary criticism, the new historicism, and cultural studies.
3 Lect Hrs, 3 Credits
Ms Smith

AMST 602L (HIST 602L)
Historical Sequence I: American Society and Political Culture: 1600-1865
This course concentrates on the individual's role in politics and society and traces the development of citizenship and national character (what it means to be an American) from the colonial period to 1860. Topics to be discussed include Puritan communalism, the relationship between American freedom and American slavery, contrasting assumptions regarding the individual in the Declaration of Independence and the Constitution, and the tension created by presumptions about race, gender, morality, and citizenship.
3 Lect Hrs, 3 Credits
Ms Miller and Staff

AMST 603
Historical Sequence II: Modern Political, Social, and Cultural History
This course focuses on the emergence of modern American society, culture, and politics from the post-Civil War era through the Great Depression, with emphasis on the following topics: the ideologies of modernism, progressivism, and socialism, and the political, economic, and social forces that constitute modernity; innovations in politics, the arts, and the social sciences, and their relationship to new technologies and the labor practices of industrial capitalism; the labor movement's struggle for industrial democracy; the emergence of feminism and civil rights.
3 Lect Hrs, 3 Credits
Ms Rudnick and Ms Thomas

AMST 604
Gender and Sexuality in US History and Culture
This course explores the historical construction of gender and sexuality in US social and political culture of different eras, through current historical scholarship, primary documents, and such cultural representations as literature or film. How are conceptions of manhood and womanhood, of heterosexuality and "deviant" sexualities, shaped and reshaped in response to historical forces, and linked to concepts of race and class? How are dominant definitions contested?
3 Lect Hrs, 3 Credits
Ms Humez

AMST 605
Ethnicity, Race, and Nationality
This course will explore the construction and maintenance of ethnic, racial, and national identities in the United States. Students will analyze various interdisciplinary texts which contain implicit and explicit expressions of gender, ethnic, racial, sexual, regional, and national identities. Various case studies will furnish material to train students in the methods and approaches used in American Studies.
3 Lect Hrs, 3 Credits
Ms Tang and Ms Thomas

AMST 606
Studies in Popular Culture and Technology
This course focuses on changing definitions of culture and methods of cultural studies; the changing meanings of "folk culture," "mass culture," and "popular culture"; and the changing dynamics among technology, the media, and culture. Topics for readings and discussion may include: the relations between changing technologies and the activity of audiences in shaping commercial popular culture; the social and economic context of technological innovation; the cultural imperatives of technological change.
3 Lect Hrs, 3 Credits
Ms Rubin

American Studies

AMST 687
Topics in American Studies
An advanced course offering intensive study of selected topics in American studies, presented in conjunction with the John F Kennedy Library. Course content varies according to the topic and will be announced prior to registration. This course may be repeated. For more information, see "American Studies Summer Institute" on page 56 of this publication.
3 Lect Hrs, 3 Credits

AMST 688
Final Project
A substantial research paper, drawing on systematic original research. The project may address a research topic in American studies or may construct a curriculum unit using primary sources and including a pedagogical and intellectual justification. The project will be determined in consultation with the student's advisor and must be approved by the advisor. A written proposal signed by student and advisor must be submitted to and approved by the director of the graduate program. Depending on faculty availability, students enrolled in AMST 688 during the spring semester may participate in a research and writing seminar to facilitate the completion of final projects.
3 Credits

AMST 691
Seminar in American Studies
An advanced course in interdisciplinary research on selected topics relating to American history and culture.
3 Disc Hrs, 3 Credits

AMST 695-696
Independent Study
An advanced course of independent reading in some aspect of American history or culture with the approval of the instructor and the director of the graduate program.
Hrs to be arranged, 3 Credits

AMST 697
Special Topics in American Studies
A field of current interest in American Studies is examined in detail.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-6 Credits

BIOLOGY (PhD, MS)

BIOLOGY (MS), BIOLOGY/ENVIRONMENTAL BIOLOGY TRACK (PhD), BIOLOGY/MOLECULAR, CELLULAR, AND ORGANISMAL BIOLOGY TRACK (PhD)

Faculty

Steven M Ackerman, PhD, *University of Pennsylvania* • Gene Regulation in Plants and Animals

Kamaljit S Bawa, PhD, *Punjab University* • Conservation Genetics

Gregory Beck, PhD, *State University of New York, Stony Brook* • Evolutionary Immunology

Solange Brault, PhD, *University of London* • Population and Conservation Ecology

Kenneth L Campbell, PhD, *University of Michigan* • Reproductive Endocrinology

Robert Chen (Department of Environmental, Earth, and Ocean Sciences), PhD, *University of California, San Diego* • Environmental Monitoring

Adan Colon-Carmona, PhD, *University of California, Irvine* • Plant Signal Transduction and Molecular Biology

Jeffrey Dukes, PhD, *Stanford University* • Plant Community and Ecosystem Ecology • Global Environmental Change

John P Ebersole, PhD, *University of California, Los Angeles* • Effects of Natural Events and Human Activities on Structure of Coral Reef Fishes

Ron J Etter, PhD, *Harvard University* • Evolution and Ecology of Marine Invertebrates

William Hagar, PhD, *Temple University* • Environmental Monitoring • Photobiology

Jeremy J Hatch, PhD, *Duke University* • Animal Behavior and Ecology

Linda Huang, PhD, *California Institute of Technology* • Signal Transduction • Regulation of Cell Morphology

Roderick Jensen, PhD, *Princeton University* • Functional Genomics and Systems Biology

Richard Kesseli, PhD, *University of California, Davis* • Population and Molecular Genetics

Kenneth C Kleene, PhD, *University of Washington* • Molecular and Developmental Biology

Alexia Pollack, PhD, *University of Virginia* • Neuropharmacology • Neuroanatomy

Michael A Rex, PhD, *Harvard University* • Deep-Sea Biology

William E Robinson (Department of Environmental, Earth, and Ocean Sciences), PhD, *Northeastern University* • Aquatic Toxicology

Michael P Shiaris, PhD, *University of Tennessee* • Microbial Ecology

Rachel C Skvirsky, PhD, *Harvard University* • Molecular Genetics

Robert Stevenson, PhD, *University of Washington* • Animal Physiology

Manickam Sugumaran, PhD, *Indian Institute of Science* • Protein Chemistry and Enzymology

Ying Tan, PhD, *Yale University* • Molecular Evolution

Alexey Veraksa, PhD, *University of California at San Diego* • Cell Signaling • Gene Regulation in Development

Brian White, PhD, *Massachusetts Institute of Technology* • Science Education

H Garrison Wilkes, PhD, *Harvard University* • Origin and Evolution of Maize and Its New World Relatives

The Program

The Graduate Program in Biology is designed to accommodate students of various backgrounds who wish rigorous training leading to the Master of Science degree in Biology, or to the PhD in Biology/Environmental Biology Track or Molecular, Cellular, and Organismal Biology Track. In most cases, students are supported by either teaching or research assistantships.

Students may choose to concentrate in one or more of these areas: biodiversity, cell biology, conservation biology, developmental biology, endocrinology, immunology, microbiology, molecular biology, neurobiology, physiology, plant sciences, population biology, reproductive biology, and science education. With the help of a faculty advisor, a cohesive course of study is designed from among the wide variety of faculty research and study interests.

Facilities and Resources

The Biology Department's modern facilities support a broad spectrum of research interests within the biological sciences. The well-equipped research laboratories contain facilities for automated DNA sequencing and analysis, real-time PCR, electron and light microscopy, filmless autoradiography and fluorescence imaging, protein analysis and chromatography, electrophysiology, immunoanalysis, video analysis, and animal care. In addition, ample field equipment, boats, a greenhouse, salt water tanks, and other support facilities are available for enhancing studies in marine, aquatic, and terrestrial environments.

Because the campus is located on Boston Harbor, one type of marine environment is readily accessible. Near the campus are island systems, protected bays, and exposed open ocean areas. Arrangements can be made for the use of the marine facilities and laboratories (Grace Grossman Environmental Center) on Nantucket Island that provide access to additional marine, aquatic, wetland, and terrestrial ecosystems. Through the cooperation of the Waltham Field Station of the University, facilities are available for large plantings of botanical materials. In addition, the Department runs the University's tropical greenhouse. The program also has informal arrangements with other institutions in the area, which provide access to additional specialized facilities.

PhD Requirements

The PhD in Biology /Environmental Biology Track

Course Work

For the PhD in Biology/Environmental Biology Track, sixty-four credits are required, distributed as follows:

- Required (core) courses (12 credits) and elective courses (20 credits)
- Journal readings (5 credits)
- Research (27 credits)

Required and elective courses: Students take four courses (12-13 credits) in the core course area. All students take Scientific Communication (BIOL 650), and at least one of the following three courses:

- Applied Statistics (EEOS 611)
- Biological Diversity and Evolution (BIOL 652)
- Environmental Policy and Administration (EEOS 616)

Students may also choose to take one or two of the following courses as part of the core:

- Molecular Genetics of Bacteria (BIOL 626)
- Computer Analysis of DNA and Protein Sequences (BIOL 664)
- Advanced Molecular Biology (BIOL 675 or 676)
- Advanced Eukaryotic Genetics (BIOL 677)

Each student takes at least 20 additional elective credits subject to the approval of the student's dissertation committee. As part of this group of elective credits, a stu-

Biology

dent may take up to 6 credits of Directed Readings (BIOL 672/673).

Journal readings: In addition to the 20 elective credits, students are required to take at least 5 credits of appropriate seminar and journal-reading (BIOL 653, Current Literature in Biology). These 1-credit courses focus on subfields within biology and are designed to enable students to stay abreast of recent scientific developments in the current literature and to provide opportunities for oral presentations.

Research: Students must take a minimum of 27 dissertation credits (BIOL 899).

The PhD in Biology/Molecular, Cellular, and Organismal Biology (MCOB) Track

Course Work

To receive the PhD in Biology/Molecular, Cellular, and Organismal Biology Track, the student must complete sixty-two credits, distributed as follows:

- Required (core) courses (15 credits) and elective courses (15 credits)
- Journal readings (5 credits)
- Research credit (27 credits)

The student must take five courses (15-16 credits) in the core course area. Students must take three courses selected from the following:

- Advanced Cell Biology (BIOL 612)
- Molecular Genetics of Bacteria (BIOL 626)
- Computer Analysis of DNA and Protein Sequences (BIOL 664)
- Advanced Molecular Biology (BIOL 675 or 676)
- Advanced Eukaryotic Genetics (BIOL 677)
- Environmental Physiology (BIOL 658L / EEOS 658L)

A minimum of 15 additional elective credits must be taken, subject to approval of the student's dissertation committee. As part of this group of elective credits, a student may take up to 6 credits of Directed Readings (BIOL 672/673).

Journal Readings: In addition to the 15 elective credits, students are required to take at least 5 credits of appropriate seminar and journal-reading (BIOL 653, Current Literature in Biology). These 1-credit courses focus on subfields within biology and are designed to enable students to stay abreast of recent scientific developments in the current literature and to provide opportunities for oral presentations.

Research: Students must take a minimum of 27 dissertation credits (BIOL 899).

Other Requirements

The requirements listed below apply to both PhD tracks.

Teaching

Students are required to participate in the teaching program as teaching assistants for at least two semesters. The teaching responsibility is intended to enhance the experience and skills of the PhD candidate.

GPA

To continue in the PhD program, the student must maintain a GPA of 3.0 and may not receive a grade of C in more than one course.

Written Comprehensive and Oral Qualifying Examinations

Students must pass two examinations administered by the Academic Advisory Committee (AAC), composed of the advisor and three other members acceptable to the Graduate Program Director (GPD) and the Biology Graduate Committee, before they undertake research at the doctoral level: 1) a written comprehensive examination to test the student's command and knowledge of four specific areas of biology, and 2) a subsequent oral qualifying examination based on a) the oral description and defense of the student's dissertation proposal, and b) comprehensive questioning focused on the four areas covered in the written exam.

The written comprehensive examination may be taken at the end of the student's first year, or after the completion of at least 18 credits of course work; it should generally be taken by the end of four semesters or 36 credits of course work. The student will defend four areas, drawn from the array of graduate courses offered in the department or from other areas acceptable to the AAC and approved by the Biology Graduate Committee.

A student who fails the written examination may, at the discretion of the Academic Advisory Committee, be permitted a second and final written examination after six months. A student failing the examination a second time may either 1) withdraw from the program or 2) formally petition the AAC for permission to work toward a master's degree in biology, in biotechnology and biomedical science, or in environmental sciences. A student may not continue in the PhD program after a second failure of the comprehensive examination.

Generally, within one month of the written exam, the student should submit his or her dissertation proposal (suitable for submission to external funding agencies) to the AAC and the GPD. Before taking the oral examination, the student should confer with members of the AAC on the soundness of the proposal. The student should also discuss any deficiencies in the written exam with the individual members of the AAC. Generally, the oral qualifying exam should be scheduled within one month after the submission of the dissertation proposal.

On successfully completing the qualifying examination, the student becomes a candidate for the PhD degree.

Departmental Presentation

Approximately nine to twelve months after the student's advance to candidacy, the student will present a seminar, based on his/her work in progress, to the entire department.

Dissertation Committee

After becoming a candidate for the PhD, the student must choose a dissertation advisor and committee. The dissertation committee will generally, but not necessarily, comprise three members of the AAC and one member from outside the department. With the approval of the GPD, the Graduate Committee, and the Dean of Graduate Studies, faculty from outside the Biology Department or non-UMass Boston faculty will be permitted to co-sponsor a student's dissertation work.

Dissertation Defense

A final public dissertation defense will be administered by a dissertation panel comprising at least five members, including a) the Dissertation Committee; and b) the Biology GPD or (if the GPD is already on the dissertation committee) a member of the Graduate Committee. The student's dissertation advisor will chair the defense; it will be scheduled after the student has submitted an advance draft of the manuscript to the dissertation panel and after the panel has agreed that the student is ready to defend it.

The Master of Science Degree in Biology

On admission, the student will be assigned an academic advisor, who must be a full-time member of the Biology Department faculty. Within six months, the student and

academic advisor will choose an Academic Advisory Committee (AAC) and will submit this proposed committee for approval to the Biology Graduate Program Director (GPD) and the Biology Graduate Committee, which oversees all aspects of graduate study in biology.

The AAC will comprise the academic advisor and at least two additional members in the student's area of interest. The student, in consultation with the AAC, will plan an appropriate course of study. The AAC will monitor the student's progress. The academic advisor and the student will provide a yearly progress report to the GPD and the Biology Graduate Committee. With the approval of the GPD, the student may change his/her academic advisor or rearrange his/her AAC.

The MS student may choose either of two options:

a) a program of study with a thesis, designed to provide competence for teaching, research, or further study; or

b) a program with a library research project, designed to meet the needs of a generalist. Under either option, students may gain valuable experience through supervised participation in the teaching of undergraduate laboratory courses.

Course Work Requirements

Thirty credits are required for the Master of Science degree in biology. Students may select courses at the 600 level or above, subject to the permission of the instructor. As part of the course work, all students must take BIOL 650 (Scientific Communication) (3 credits). Students choosing option "a" will have a thesis advisor and committee (often the same as the advising committee) and must enroll for at least ten credits in BIOL 699 (Thesis Research). These students are required to fulfill the remainder of their course work with electives acceptable to their AAC. Students choosing option "b" must enroll for at least six credits in BIOL 698 (Projects in Biology). All students must fulfill the remainder of their course work (17 credits for option "a" students, 21 credits for option "b" students) with electives acceptable to their academic advisory committees. All candidates for the master's degree must take a general oral examination. Each option "a" student must submit a thesis draft to his/her thesis committee for approval before taking the master's oral examination, which is not limited to the thesis topic.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

Submission of General Graduate Record Examination scores is required of applicants to the MS Program in Biology and to the PhD Program (Environmental Biology and Molecular, Cellular, and Organismal Biology Tracks).

An applicant is expected to have a grade point average of 3.0 in all undergraduate science and mathematics courses. The stated interests of a prospective student must coincide to an acceptable degree with faculty specialties represented in the program. The Biology Graduate Committee is responsible for reviewing applications and for recommending candidates to the Dean of Graduate Studies.

Eligibility for Courses

All 600-level courses with the exception of BIOL 698 and 699 are open to appropriately prepared advanced undergraduates with the permission of the instructor. Please consult UMass Boston's undergraduate catalog for complete information about the undergraduate courses listed below as required preparation for individual graduate-level courses. All 500-level courses are available to students with a bachelor's degree who are not part of the MS or PhD programs in the Biology Department.

500-Level Courses

Students who possess a bachelor's degree from an institution of recognized standing and meet individual course prerequisites are eligible to enroll in 500-level graduate courses offered by the Biology Department. This option may be especially useful for UMass Boston MEd students or science teachers completing coursework as non-matriculated students.

Courses

BIOL 510
Cell Biology and Genetics – A Human Approach
In-depth exploration of the biological principles, content knowledge and pedagogical strategies needed for teaching cell and molecular biology and genetics at the middle and high school levels. The course takes a human biology approach to these areas, using activities and examples drawn from the human body. Content is aligned with the Massachusetts state standards and national Science Education Standards. The course consists of explanation of concepts, laboratory activities, problem-solving exercises, classroom discussion, readings and other assignments. Emphasis is placed on gaining a rich understanding of biological concepts, while modeling the use of hands-on, inquiry-based teaching strategies.
3 Lect Hrs, 3 Credits

BIOL 513
Developmental Biology and Embryology (Lecture)
This course analyzes the development of multicellular animals and plants by examining major developmental processes; growth, gene expression, cell interaction, morphogenesis, and pattern regulation. Lectures use experimental evidence to explore the commonality of mechanisms in differing organisms. Basic labs provide experience with materials and methods, and help clarify changing three-dimensional relationships. Additional labs investigate vertebrate embryology in greater detail.
3 Lect Hrs, 3 Credits

BIOL 518
Neurobiology (Lecture)
This course examines the nervous system, beginning at the membrane and cellular level and then moving on to the organization of sensory and motor systems. Special topics include the biological basis of various neurological and psychiatric diseases.
3 Lect Hrs, 3 Credits
Ms Pollack

BIOL 519
Endocrinology (Lecture)
This course studies hormone physiology and biochemistry in the context of organismal regulation and coordination. Topics include hormone chemistry, control and regulation of hormone production, and the cellular and biochemical nature of hormone action. Emphasis is placed on mammalian systems and on laboratory and clinical investigations of the endocrine system.
3 Lect Hrs, 3 Credits
Mr Campbell

BIOL 523
Plant Physiology (Lecture)
This course studies plant function with emphasis on nutrition, translocation, metabolism, signal transduction and gene expression, photosynthesis and respiration, hormonal controls during vegetative and reproductive growth, and responses to environmental signals and stresses.
3 Lect Hrs, 3 Credits
Mr Colon-Carmona

Biology

BIOL 529
Plant Life (Lecture)
This course is an advanced survey of plant diversity, the major groups, their organization and reproduction, the elements of taxonomy and economic botany of vascular plants, and the major issues of conservation biology.
3 Lect Hrs, 3 Credits
Mr Wilkes

BIOL 533
Biology of Marine Invertebrates (Lecture)
This course provides an essential background for those planning to concentrate in organismic biology, evolution, ecology, or applied environmental science. The course covers life histories, ecological roles, adaptations, morphologies, evolution, and classification of marine invertebrate animals.
3 Lect Hrs, 3 Credits
Mr Rex

BIOL 534
Microbiology
This course focuses on the study of viruses, bacteria, algae, fungi, and protozoa, to include their characterization, classification, and relationship to humans and the environment. Lecture topics include microbial biochemistry, cell biology, genetics, taxonomy, pathogenic bacteriology, food and industrial microbiology, and ecology. The laboratory emphasizes aseptic techniques to isolate, culture, observe, and identify bacteria.
3 Lect Hrs, 3 Credits
Mr Shiaris

BIOL 535
Teaching Ecology, Evolution and the Diversity of Life
In-depth exploration of the biological principles, content knowledge, and pedagogical strategies needs for teaching cell and molecular biology and genetics at the middle and high school levels. The course takes a human biology approach to these areas, using activities and examples drawn from the human body. Content is aligned with the Massachusetts state standards and national Science Education Standards. The course consists of explanation of concepts, laboratory activities, problem-solving exercises, classroom discussion, readings, and other assignments. Emphasis is placed on gaining a rich understanding of biological concepts, while modeling the use of hands-on, inquiry-based teaching strategies.
3 Lect Hrs, 3 Credits

BIOL 538
Insect Life
This course considers physiological and other adaptations that account for the survival and success of insect life. The laboratory deals primarily with the diversity of insects. Brief consideration is also given to the relationship of insects to humans. Students registering for this course should have already completed BIOL 210 or 212, and 252 or 254 or equivalents.
3 Lect Hrs, 3 Lab Hrs, 4 Credits
Mr Stevenson

BIOL 539
Comparative Animal Physiology (Lecture)
This course considers physiological principles and problems in a phylogenetic perspective. An integrated view of physiological solutions from the cellular to organismal level is used to discuss adaptations to environments and constraints on life history. Major topics to be considered include temperature responses, biological clocks, allometry, respiration, circulation, energetics, locomotion, and salt and water balance.
3 Lect Hrs, 3 Credits
Mr Stevenson

BIOL 540
Marine Mammal Biology
This upper-level course covers the biologic ecology of marine mammals (*Pinnipeds, Cetaceans, Sirenians*), with emphasis on applied population ecology and conservation issues. Topics include adaptations to marine environments, effects of human exploitation, case studies of population recovery, and multispecies interactions. Many topics make use of mathematical equations.
3 Lect Hrs, 3 Credits
Ms Brault

BIOL 542
Ecology
This course studies population and community ecology. Topics include theory and case studies of population dynamics, competition, predation, niche concepts, life history strategies, behavioral interactions, energetics and productivity, community structure and organization, and biogeography.
3 Lect Hrs, 3 Credits
Mr Ebersole

BIOL 544
Ornithology
This course focuses on the biology of birds, with emphasis on problems of wider biological interest in ecology and behavior.
3 Lect Hrs, 3 Credits

BIO 545L / CRCRTH 645L
Biology in Society: Critical Thinking
Current and historical cases are used to examine the political, ethical, and other social dimensions of the life sciences. Close examination of developments in the life sciences can lead to questions about the social influences shaping scientists' work or its application. This examination, in turn, can lead to new questions and alternative approaches for educators, biologists, health professionals, and concerned citizens.
Prerequisites: CRCRTH 601 and 602, or permission of instructor.
3 Lect Hrs, 3 Credits

BIOL 548
Animal Behavior
This course deals with some topics in the physiology and development of behavior and more extensively with social organization, communication, and ecological aspects of behavior. Emphasis is placed on the function and evolution of behavior.
3 Lect Hrs, 3 Credits

BIOL 552
Evolution
This course focuses on evolution as the unifying concept of biology. Topics include population genetics, adaptive strategies, sex and breeding systems, speciation and population differentiation, fossil histories, and the evolution of man.
3 Lect Hrs, 3 Credits
Mr Etter

BIOL 560
Bioinformatics
This course provides a fundamental overview of bioinformatics, which is the collection, organization, and analysis of biological information. Topics include data searches and sequence alignments, substitution patterns, phylogenetics, genomics, protein and RNA structure prediction, and proteomics.
3 Lect Hrs, 3 Credits
Ms Tan

BIOL 572
Molecular Biology (Lecture)
This course studies the molecular biology and biochemistry of gene expression in prokaryotes and eukaryotes. Topics include DNA structure/physical biochemistry, recombinant DNA technology, techniques in research, DNA synthesis, RNA synthesis, protein synthesis, operons, chromatin structure and gene regulation, oncogenes, hormones and growth factors and signal transduction, transposons, mutagenesis and repair, flowering, photosynthesis, development, circadian rhythms.
3 Lect Hrs, 3 Credits
Mr Ackerman

BIOL 580
Introduction to Immunology (Lecture)
This course is an introduction to the principles of immunology, including definition of antigens and antibodies, specificity of the immune response, immunoglobulin structure, the genetics of immunoglobulin synthesis, cellular cooperation in the immune response, mechanism of inflammation, transplantation, and diseases associated with responsiveness of the immune system.
3 Lect Hrs 3 Credits
Mr Beck

BIOCHM 583
Biochemistry I
In the first of a two-semester sequence, the chemistry of life processes is discussed in terms of structure and biological function of proteins, nucleic acids, carbohydrates, lipids, and other cellular components. Special emphasis is given to protein structure and function, enzymology, carbohydrate metabolism, transport mechanisms, energy transformations, and photosynthesis. It is recommended that BIOCHM 385 be taken concurrently.
3 Lect Hrs, 3 Credits
Mr Hagar, Mr Sugumaran, Mr Pitcher

BIOCHM 584
Biochemistry II
In the second of a two-semester sequence, discussion of cellular function is continued. The topics are biochemistry and synthesis of nucleic acids and proteins, structural motifs in protein folding, metabolism of lipids and amino acids, nitrogen fixation, molecular immunology, hormones, ion channels, neurochemistry, biological applications of nuclear resonance, and biochemical evolution.
3 Lect Hrs, 3 Credits
Mr Hagar, Mr Sugumaran

BIOL 601
Marine Ecosystems
This course studies the structure and function of coastal marine habitats, including rocky intertidal areas, sandy beaches, tidal and mud flats, estuaries, salt marshes, soft bottom areas, and plankton. The course reviews the physical regime, flora, and fauna of these environments and case histories of community organization. Students registering for this course should have completed at least one undergraduate course in ecology.
Prerequisite: Permission of instructor.
3 Lect-Disc Hrs, 3 Credits

BIOL 602
Plant Molecular Biology and Physiology
This course focuses on molecular mechanisms of gene regulation, gene expression patterns during development and differentiation, molecular responses to light, plant genetics, the evolution of genomes, plant biotechnology, and the molecular biology of the regulation of physiological processes in plants. Lecture topics integrate molecular biology, plant genetics, plant physiology, and plant evolution. The syllabus includes a core of basic lectures introducing students to the field of plant molecular biology. Students registering for this course should have already completed BIOL 320, 321, 322, or 323 or equivalent.
Prerequisite: BIOL 675 or 676.
3 Lect Hrs, 3 Credits

BIOL 603
Theories of Community Structure
This course studies theoretical aspects of community development and organization, including demography, competition, predation, life history strategies, trophic structure, community stability, and equilibrium and non-equilibrium models of species diversity. The course emphasizes rigorous mathematical and graphical approaches. Students taking this course should have already completed BIOL 342 or equivalent, or have permission of the instructor.
3 Lect Hrs, 3 Credits

BIOL 605
Field Sampling Methods and Data Analysis
This course examines statistical principles of research design integrated with field techniques, to measure parameters of community structure. Field exercises involve application of the principles learned in lectures and the use of typical sampling equipment to solve environmental questions. Laboratory and field work components are included. Students taking this course should have already completed BIOL 342 and 343 or equivalents, or have permission of the instructor.
3 Lect Hrs, 6 Lab Hrs, 5 Credits

BIOL 608L (PHYSIC 608L)
Biophysical Instrumentation
This course is a lecture and laboratory course on the application of microcomputers and microprocessor-based electronics to laboratory experiments in the biological and physical sciences. Emphasis is placed on techniques for interfacing the microcomputer with laboratory experiments for automated data acquisition, data reduction and analysis, information display, and real-time control of experiments. (Course offered in the spring only.)
2 Lect Hrs, 4 Lab Hrs, 4 Credits

BIOL 612
Advanced Cell Biology
This course provides an analysis of gene transfer and expression at the cellular level, including the nature of metabolic systems and the factors governing their regulation.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3-5 Credits

BIOL 614
Advanced Cell Chemistry
This course studies the methodology of cell analysis, with emphasis on macromolecules and intermediary metabolites.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3-5 Credits

BIOL 615
Immunology
Selected topics in immunology are studied in depth, using the current literature. Topics are chosen for relevance and current interest, or for their challenging, even controversial, nature. Students taking this course should have already completed BIOL 378 or 380 or equivalent.
3 Lect Hrs, 3 Credits
Mr. Beck

BIOL 622
Concepts and Methods in Cytology
This course examines the structural basis of cellular and subcellular functions, with practical experience in methods of visualizing cellular structure.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-5 Credits

BIOL 626
Molecular Genetics of Bacteria
This course is an in-depth examination of genetic and molecular processes in bacteria and their associated viruses, covering classical bacterial-genetics as well as modern molecular genetic analysis. Topics include genetic transfer processes, gene regulation, mutagenesis and repair, plasmids, transposons, gene fusion methodologies, and protein secretion. Emphasis is given to current experimental approaches and research design. Students taking this course should have already completed BIOL 252 or equivalent.
3 Lect Hrs, 3 Credits
Ms Skvirsky

BIOL 627
Bacterial Physiology
This course provides a rigorous biochemical examination of the bacterial cell. Lectures

Biology

focus on bacterial cytology, growth, and metabolism. Areas of current research are emphasized. Students are expected to read primary and secondary scientific literature and to discuss course material. Students taking this course should have already completed BIOL 334 and BIOCHM 383 or equivalents.
3 Lect Hrs, 3 Credits
Mr Shiaris

BIOL 628
Microbial Ecology
This course examines the functions, roles, and ecology of microorganisms in the environment, emphasizing biogeochemical cycling of elements. Topics for special concentration are chosen from the following: microbial diversity, evolution, interactions, aquatic or soil microbiology, and sewage microbiology. The course focuses on relating molecular and biochemical mechanisms to ecological principles. Readings are assigned from classical and current scientific literature for class discussion. An in-depth review paper on a special topic is required. Students taking this course should have already completed BIOL 334 or 342 or equivalent.
3 Lect Hrs, 3 Credits
Mr Shiaris

BIOL 630
Evolutionary Bioinformatics
This course provides a review of current knowledge in molecular evolution/evolutionary bioinformatics. It covers basic theories/principles for understanding evolutionary forces governing molecular variation and divergence as well as applications of these principles in important evolutionary topics. Basic theories/principles covered include (1) models of nucleotide change in DNA sequences and nucleotide substitution estimation; (2) phylogenic tree reconstruction with molecular data; and (3) neural mutation hypothesis and different methods of detecting natural selection. Topics include molecular clocks, gene duplication and exon shuffling, concerted evolution of multigene families, evolution by transposition and horizontal gene transfer, genome organization and evolution, and comparative genomics. Students taking this course should have already completed BIOL 360 or BIOL 371 or equivalent.
3 Lect Hrs, 3 Credits

BIOL 632
Advanced Evolution
This course is an inquiry into the modern synthetic theory of evolution, with emphasis on population genetics, ecological genetics, evolution of dominance, genetic homeostasis, canalization, and genetic theory of polymorphism.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3 Credits

BIOL 635
Population Genetics and Diversity
This course provides a quantitative approach to the concept of populations and the evolutionary forces affecting them. The course analyzes the interactions among forces and the resulting dynamics of population structure. Toward the end of the semester, the course shifts its primary emphasis from lecture to discussion in order to cover current topics in population genetics. Topics include the theory and application of tools necessary for assaying genetic variation in natural populations, DNA fingerprinting in forensics, the evolution of sex, and the genetics of rare and endangered species. Students taking this course should have already completed BIOL 252 and 352 or equivalents.
3 Lect Hrs, 3 Credits
Mr Kesseli

BIOL 637
Climate Change: Mechanisms and Biological Impacts
This course studies responses of organisms to past and current changes in climate. It broadly follows topics addressed by the IPCC. Topics include the science of climate change, expected impacts, and possible adaptations.
3 Lect Hrs, 3 Credits

BIOL 638
Advanced Ecology
This course examines concepts of population and community ecology. Topics covered may include population dynamics, life history strategies, theory of r- and K-selection, competition, predation, community organization, and species diversity. Particular emphasis is placed on the relationship between theoretical and empirical ecology. A weekly tutorial provides the opportunity for greater discussion of material covered in lectures. Emphasis changes from year to year. Students taking this course should have already completed BIOL 342 or equivalent.
2 Lect Hrs, 1 Disc Hr, 3 Credits

BIOL 639
Conservation Biology
The principles of conservation biology are drawn from such various subdisciplines of biology as ecology, genetics, evolution, and biogeography. The course begins with an analysis of the distribution of biodiversity, proceeds to examine the patterns of biodiversity loss at all levels, from genes to ecosystems, and finishes with a discussion of the causes, consequences, and solutions of the crisis. Topics include assessment and monitoring of species diversity, conservation genetics, the theory of island biogeography, habitat loss and forest fragmentation, human impacts on biodiversity, the design of nature reserves, economic valuation of biodiversity, and sustainable use of biodiversity. Students taking this course should have already completed BIOL 342 and 352 or equivalents.
3 Lect-Disc Hrs, 3 Credits
Mr Bawa

BIOL 640
Principles of Qualitative Modeling in Biology
This course is a mathematical analysis of biological systems, with emphasis on qualitative rather than quantitative approaches. Signed digraphs (Loop Analysis), matrices, and computer programming are used. In addition, notions of feedback, stability, and other global properties of systems are presented. During the work section, students are grouped to solve problems. At the completion of the course, students are competent to distinguish the various methods, assess their strengths and limitations, and apply them to biological systems of interest.
3 Lect-Disc Hrs, 3 Credits

BIOL 641
Quantitative Population Modeling
This course presents the fundamentals of mathematical models of population dynamics. It examines single-species models, including stability analysis, life tables, and analysis of matrix models, as well as competition and predation model forms. More advanced topics include spatial structure, stochasticity, harvesting models, individual-based models, and population viability analysis. The course combines lectures, discussions, and hands-on model development. Students taking this course should have already completed MATH 130 or 135 or equivalent, BIOL 342 or equivalent.
3 Lect Hrs, 3 Credits
Ms Brault

BIOL 642
Biogeography
This course is a study of the distribution of organisms in space and time. It focuses on comparative and experimental tests of island biogeographic theory; the significance of spatial and temporal scale; the roles of dispersal and vicariance; phylogenetic implications; geographic patterns of species diversity in marine and terrestrial

ecosystems; contemporary analytical methods; mass extinctions and the fossil record; historical biogeography; macroecology; and the importance of biogeography for understanding conservation strategies and the global biodiversity crisis. The course is conducted in seminar format with student discussions. Students taking this course should have already completed BIOL 342
Hrs by arrangement, 3 Credits
Mr Rex

BIOL 643
The Behavior and Ecology of Seabirds
This course examines the adaptations of seabirds to the marine environment, with particular reference to breeding biology and feeding strategies; other topics of current interest in behavioral ecology. The course includes lectures or lectures and field work.
Prerequisite: Permission of instructor.
Hrs by arrangement, 2-5 Credits
Mr Hatch

BIOL 644
Bioinformatics for Molecular Biologists
The research of molecular biologists is facilitated by the numerous bioinformatics tools available on the Internet. Course topics include DNA and protein sequence databases, sequence alignment, searching databases, gene structure, protein-function prediction, molecular evolution, and whole genome sequences. The laboratory emphasizes hands-on experience and problem solving, and how to avoid being misled by errors in databases and improper use of computer programs.
3 Lect Hrs, 3 Credits

BIOL 645
Ecological and Evolutionary Aspects of Plant-Animal Interactions
Coevolution of plants and animals is examined in an ecological context. Interactions to be examined include pollination, seed predation, herbivory, and grazing. Topics of discussion include the role of these interactions in the regulation of community structure. Although the main emphasis is on tropical communities, there is also some discussion of alpine, temperate, and desert communities. Students taking this course should have already completed BIOL 290 or equivalent and 342 or 352 or equivalent.
3 Lect Hrs, 3 Credits
Mr Bawa

BIOL 646
Pollutants in Marine Food Chains
This course is an in-depth examination of the entry of selected pollutants into the oceans, their movements, distribution, and effects within marine organisms. Where possible, case studies from New England are used. Students taking this course should have already completed CHEM 253, BIOL 210, BIOL 342, or equivalent.

BIOL 650
Scientific Communication
This course covers the storage and retrieval of scientific information (including searching of computerized databases), the design of tables, figures, and other graphics, the writing of technical reports and papers, and the preparation of posters and publications. Writing, oral presentations, and other assignments, as well as attendance at the weekly departmental seminar, are required. This course is required of all biology master's and doctoral students and is usually taken in the second year.
Prerequisite: Matriculation in a biology program at either the master's or the doctoral level.
3 Credits

BIOL 652
Biological Diversity and Evolution
This course is an inquiry into the origin and evolution of patterns of biological diversity. It begins with an overview of the biogeochemical history of the Earth, theories of origin of life, diversification of metazoans during the Panerozoic, and the nature and causes of periodic mass extinction events. Biological diversity is considered at molecular, population, and community levels. This course counts toward the required core in the Environmental Biology PhD track. (Course offered in the fall only.)
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits
Mr Etter, Mr Rex

BIOL 653
Current Literature in Biology
This course is a series of one-credit seminar courses focusing on subfields of environmental biology to help students develop the habit of keeping up with recent developments through reading scientific journals. The seminars also provide a forum for oral presentations where students can get comment and critique on their scientific progress. Students must take a minimum of five seminars, for a total of five credits. This course is part of the required core in both the Environmental Biology and MCOB PhD tracks.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1 Credit

BIOL 658L (EEOS 658L)
Environmental Physiology
This is a discussion course exploring in detail the mechanisms by which organisms adapt to their environment and highlighting the interplay among cellular function, physiological function, and the ecology of the organism. Students taking this course should have already completed BIOL 210 or 212 or equivalent, and BIOL 337 or equivalent.
3 Lect Hrs, 3 Credits

BIOL 662
Photobiology
This course studies the photochemical reactions that occur in biological systems. Major topic areas are properties of light energy, utilization of light energy by photosynthetic organisms, mechanism of visual transduction, and photochemical triggering mechanisms for developmental processes.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits
Mr Hagar

BIOL 664
Computer Analysis of DNA and Protein Sequences
This is a lecture and laboratory course focusing on the use of computers to predict the structure of RNA and protein, to search DNA and protein sequence databases, to align protein and DNA sequences, to deduce the structure and mechanism of regulation of a gene from DNA sequences, to design cloning strategies, and to choose oligonucleotide primers for DNA sequencing and polymerase chain reactions. The course emphasizes the significance and limitations of computer analyses in biological research. Students taking this course should have already completed an advanced undergraduate course or a graduate course in molecular genetics (BIOL 370 or equivalent, BIOL 675, or BIOL 626).
1 1/2 Lect Hrs, 3 Disc Hrs, 3 Credits
Mr Kleene

BIOL 666
Mammalian Toxicology
This course provides a background in principles of toxicology in mammalian systems. It is an alternative to Environmental Toxicology, EEOS 635, as a core requirement for the Molecular, Cellular, and Organismal Biology doctoral track. Coverage includes: basic concepts of poisons and their commonalities with drugs and hormones; toxicant exposure routes, uptake, sites and mechanisms of action, storage, metabolism, activation, and clearance; toxicant roles in carcinogenesis, development, endocrine, and reproductive functions; roles of diet, lifestyle, and concurrent exposures; meth-

Biology

ods of toxicant evaluation emphasizing multigeneration and high-throughput testing; and environmental and medical implications of toxicant/toxin expores on individual and ecological health. Students taking this course should have already completed general chemistry and organic chemistry, general biology and one advanced course in cell biology, biochemistry, or physiology.
3 Credits
Mr Campbell

BIOL 668
Cellular and Molecular Endocrinology
This is a laboratory and seminar course on selected aspects of endocrinology, emphasizing laboratory investigations of such topics of current interest in endocrinology as molecular control of the synthesis of hormones, complete elucidations of the mechanisms of hormone action, and methods of modulating fertility and development. Students taking this course should have already completed CHEM 253, BIOL 317, or BIOCHM 383 or equivalent.
2 Lect-Seminar Hrs, 6 Lab Hrs, 4 Credits
Mr Campbell

BIOL 670
Tissue Culture
This is a seminar and laboratory course on the principles and methods of culturing cells, tissues, and organs of animals and plants. Topics include growth factors, differentiation and morphogenesis in vitro, cell cloning, protoplast fusion, and the production of hybridomas for monoclonal antibodies. Students also apply tissue culture methods to individual research projects. Students taking this course should have already completed BIOL 313 or equivalent.
2 Sem Hrs, 6 Lab Hrs, 4 Credits
Ms Davis, Mr Kleene

BIOL 672-673
Directed Readings in Biology
This course provides selected readings in advanced areas of biology with guidance and regular discussion.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-3 Credits

BIOL 674
Cell Signaling
This course will systematically investigate cell communication mechanisms, with an emphasis on developmental examples of cell signaling. General properties of signaling cascades will be discussed, followed by specific examples of conserved signaling pathways, such as Notch, Wnt, Hedgehog, TGF/BMP, JAK/STAT, nuclear receptors, and receptor tyrosine kinases (RTKs). Normal and aberrant receptor signaling will be examined using experimental evidence obtained in model genetic organisms. Implications of disrupting cell communication pathways in human disease will be discussed. The course will emphasize readings from the current literature. Upon completion of this course, students will have a solid understanding of the molecular mechanisms and control principles of cellular communication in normal and pathological conditions.
3 Lect Hrs, 3 Credits

BIOL 675
Advanced Molecular Biology
This is a lecture and laboratory course covering the biosynthesis and regulation of RNA, DNA, and proteins in eukaryotic organisms. The course examines the importance of gene regulation in oncogenesis, levels of gene expression, and development, as well as regulation by structure and function (chromosome structure and translational regulation); basic research techniques; and current recombinant DNA methodology. Please note: Labs meet every other week, for a total of seven hours every two weeks. Students taking this course should have already completed BIOL 370 or 372 or equivalent.
3 Lect Hrs, 3 1/2 Lab Hrs, 4 Credits
Mr Ackerman, Mr Kleene

BIOL 676
Advanced Molecular Biology Lecture
This is a lecture-only course covering the same material as BIOL 675; no lab work is required. Students taking this course should have already completed BIOL 370 or 372 or equivalent.
3 Lect Hrs, 3 Credits

BIOL 677
Advanced Eukaryotic Genetics
This course provides a broad spectrum of readings in plant, animal, and fungal genetics on such topics as segregation distortion, the control of sex determination, modes of asexual reproduction, inheritance of cytoplasmic genomes, self-incompatibility systems, transposable elements, and genetic mapping. Students taking this course should have already completed BIOL 252 or equivalent.
3 Lect Hrs, 3 Credits
Mr Kesseli

BIOL 678
Protein Chemistry and Enzymology
This is a lecture and laboratory course on various aspects of protein chemistry and enzymology. Emphasis is on purification, characterization, structure, function, mechanism of action, kinetics, and regulatory aspects of enzymes. Topics also include the practical and theoretical aspects of affinity chromatography and other separation techniques, immobilization of enzymes and other biomolecules, enzyme kinetics, and the analytical and industrial use of soluble and insoluble enzymes. Students taking this course should have already completed BIOCHM 383 and BIOL 372 or equivalents.
3 Lect Hrs, 6 Lab Hrs, 5 Credits
Mr Sugumaran

BIOL 679
Protein Chemistry and Enzymology Lecture
This is a lecture-only course covering the same material as BIOL 678; no lab work is required. Students taking this course should have already completed BIOCHM 383 and BIOL 372 or equivalents.
3 Lect Hrs, 3 Credits
Mr Sugumaran

BIOL 680L / CHEM 680L
Physical Biochemistry
This course serves as an introduction to analytical methods and instrumentation available to the interdisciplinary scientist. While no course can be comprehensive in this field, this course will examine a broad base of analytical methods through introductory theory and will highlight applications and recent developments in these methods through current primary literature.

BIOL 685
Biomedical Tracers
This is a seminar and laboratory course describing the types and uses of physical tracers in the biomedical sciences. It covers theory and application of various tracers (immunoglobins, radioisotopes, lectins, enzymes, chromogen labels, spin labels, heavy isotopes, and particles), instrumentation for their detection, and general methods. The laboratory includes demonstrations and short projects chosen by the students and the instructor. Students taking this course should have already completed CHEM 253, and BIOCHM 383 (or BIOL 317 or 319) or equivalents.
2 Lect-Seminar Hrs, 6 Lab Hrs, 4 Credits
Mr Campbell

Biology

BIOL 690
Advanced Ethology
This course is an in-depth examination of topics in the biological study of behavior-ethology with particular reference to communication and the evolution of social behavior. The course includes lecture-discussions, occasional lab exercises and field trips. Students taking this course should have already completed BIOL 348 or equivalent.
Prerequisites: Graduate or senior standing; and permission of instructor.
Hrs by arrangement, 3 Credits
Mr Hatch

BIOL 691
Seminar in Developmental Biology
This course examines current problems in developmental biology. Topics include molecular and cellular differentiation and pattern determination. Students taking this course should have already completed BIOL 312 or 314 or equivalent.
3 Sem-Disc Hrs, 3 Credits

BIOL 692
Advanced Physiology
This course examines in-depth experimental studies of two or three selected areas of organismal and cellular physiology, focusing on sensory and nervous systems and membrane transport. Provisions will be made for independent projects during the course. The course includes one weekly seminar plus one weekly lab meeting. Students taking this course should have already completed BIOL 337, BIOCHM 383, and PHYSIC 107 or equivalents.
1 Sem Hr, 3-4 Lab Hrs, 3-4 Credits

BIOL 693
Seminar in Neurobiology
This course provides a discussion of current literature in neuropharmacology and drug and behavior interactions. The course is a combination of lectures and student presentations. Students taking this course should have already completed BIOL 316 or 318 or equivalent.
3 Lect Hrs, 3 Credits
Ms Pollack

BIOL 697
Special Topics in Biology
A field of current interest in biology is examined in detail.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-6 Credits

BIOL 698
Projects in Biology
This course consists of a substantial written report based on library research or an original project such as curriculum design, design of teaching aids and exercises, or critique of a book or theory. No more than 6 credits of this course may be applied to the master's degree. The credits may be applied over more than one semester. Students may not receive credit for both BIOL 698 and BIOL 699.
Hrs by arrangement, 1-6 Credits

BIOL 699
Thesis Research
This course consists of substantial laboratory or field research resulting in a master's thesis. No more than 10 credits of this course may be applied to the master's degree. The credit may be applied over more than one semester. Students may not receive credit for both BIOL 698 and BIOL 699.
Hrs by arrangement, 1-10 Credits

BIOL 720
Cell Ultrastructure
This course examines concepts of cell ultrastructure and methods of electron microscopy.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3-5 Credits

BIOL 899
Dissertation Research
This course consists of research conducted under Biology Department faculty supervision and leading to the presentation of a doctoral dissertation in biology for students in the Environmental Biology or Molecular, Cellular, and Organismal Biology tracks of the PhD program.
Prerequisite: Permission of the instructor.

BIOMEDICAL ENGINEERING AND BIOTECHNOLOGY: MULTICAMPUS JOINT PROGRAM (PhD)

Boston Faculty

Steven M Ackerman (Biology Department), PhD, *University of Pennsylvania* • Gene Regulation in Plants and Animals

Gregory Beck (Biology Department), PhD, *State University of New York, Stony Brook* • Evolutionary and Molecular Immunology

Kenneth L Campbell (Biology Department), PhD, *University of Michigan* • Reproductive Endocrinology

Robert Chen (EEOS Department), PhD, *University of California San Diego* • Environmental Monitoring

Adan Colon-Carmona (Biology Department), PhD, *University of California Irvine* • Plant Signal Transduction and Molecular Biology

Ron J Etter (Biology Department), PhD, *Harvard University* • Evolution and Ecology of Marine Invertebrates

William Hagar (Biology Department), PhD, *Temple University* • Environmental Monitoring • Photobiology

Linda Huang (Biology Department), PhD, *California Institute of Technology* • Signal Transduction • Regulation of Cell Morphology

Richard Kesseli (Biology Department), PhD, *University of California at Davis* • Population Genetics

Kenneth C Kleene (Biology Department), PhD, *University of Washington* • Molecular and Developmental Biology

Curtis Olsen (EEOS Department), PhD, *Columbia University* • Ecological Processes and Bioremediation

Alexia Pollack (Biology Department), PhD, *University of Virginia* • Neuropharmacology • Neuroanatomy

William E Robinson (EEOS Department), PhD, *Northeastern University* • Aquatic Toxicology

Michael P Shiaris (Biology Department), PhD, *University of Tennessee* • Microbial Ecology

Rachel C Skvirsky (Biology Department), PhD, *Harvard University* • Molecular Genetics

Robert Stevenson (Biology Department), PhD, *University of Washington* • Animal Physiology

Manickam Sugumaran (Biology Department), PhD, *Indian Institute of Science* • Protein Chemistry and Enzymology

Ying Tan (Biology Department), PhD, *Yale University* • Molecular Evolution

The Program

The Multicampus Joint PhD Program in Biomedical Engineering and Biotechnology (BMEBT) is a cross-disciplinary program designed to link research and graduate education at the Boston, Dartmouth, Lowell, and Worcester campuses of the University of Massachusetts. The BMEBT program exemplifies the advantages of bringing together a broad array of allied disciplines (biology, chemistry, computer science, clinical laboratory science, engineering, physics) that emphasizes the development of new technologies and application of research to contemporary biomedical health problems. The BMEBT program is unique in that it is open to a wide range of baccalaureate degree recipients with engineering, physical science, life science, and related backgrounds and that it emphasizes a multidisciplinary, team approach in course/seminar presentations, laboratory rotations, and joint projects prior to dissertation topic specialization. Students enrolled in the BMEBT program take a range of courses across the four UMass campuses.

Each campus involved in this program has different strengths that will appeal to different subsets of BMEBT students. The Boston campus accepts applicants to the BMEBT program whose primary interest is in the Biotechnology specialization within the program, as that specialization is optimally aligned with the research interests and strengths of campus faculty. Students interested in Biomedical Engineering specializations should apply to other UMass campuses. Applicants may submit only one application to the BMEBT program; they may not apply separately to separate campuses.

Applicants to the BMEBT program at UMass Boston are encouraged to identify a faculty member performing research that fits well with their own research interests before application to the program. BMEBT researchers at UMass Boston integrate basic research in cellular, molecular, and organismal biology of bacteria, plants, invertebrates, and mammals.

Facilities and Resources

The UMass Boston Biology Department's modern facilities support a broad spectrum of research interests. The well-equipped research laboratories contain facilities for automated DNA sequencing and analysis, electron, light, and fluorescence microscopy, filmless autoradiography and fluorescence imaging, protein analysis and chromatography, electrophysiology, molecular biology, video analysis, and animal care. In addition, ample field equipment, boats, a greenhouse, saltwater tanks, and other support facilities are available for enhancing studies in marine, aquatic, and terrestrial environments. BMEBT researchers at UMass Boston are supported by grant awards from the NSF, NIH, USDA, NOAA, ONR, and National Sea Grant.

Degree Requirements

Course Work

To receive the PhD in Biomedical Engineering and Biotechnology, the student must complete sixty-three credits, distributed as follows:

- Required (core) courses (16 credits) and specialization courses (12 credits);
- Directed studies (3 credits) and doctoral seminar (2 credits); and
- Research credit (30 credits).

The student must take 16 credits (six courses) in the core course area. These courses are:

- Introduction to Biomedical Engineering and Biotechnology
- Instrumentation and Laboratory Experience
- Applied Math for Life Sciences or Advanced Numerical Methods
- Quantitative Physiology
- Bioethics
- Advanced Cell and Molecular Biology

A minimum of 12 additional specialization credits (four courses) must be taken, subject to the approval of the student's dissertation committee. Students may specialize in: Biomaterials, Biomedical Information Systems, Biomedical Instrumentation, Biomechanics, Medical Imaging, Medical Physics, Agricultural Biotechnology, Applied Microbiology, and Molecular Biotechnology.

Biomedical Engineering and Biotechnology: Multicampus Joint Program (PhD)

Relevant courses available at UMass Boston include the following. Full course descriptions may be found in the "Biology" section of this publication:

BIOL 602 Plant Molecular Biology and Physiology

BIOL 608L/PHYSIC 608L Biophysical Instrumentation

BIOL 612 Advanced Cell Biology

BIOL 614 Advanced Cell Chemistry

BIOL 615 Immunology

BIOL 622 Concepts and Methods in Cytology

BIOL 626 Molecular Genetics of Bacteria

BIOL 628 Microbial Ecology

BIOL 635 Population Genetics and Diversity

BIOL 640 Principles of Qualitative Modeling in Biology

BIOL 645 Ecological and Evolutionary Aspects of Plant-Animal Interactions

BIOL 646 Pollutants in Marine Food Chains

BIOL 650 Scientific Communication

BIOL 653 Current Literature in Biology

BIOL 658L/EEOS 658L Environmental Physiology

BIOL 662 Photobiology

BIOL 664 Computer Analysis of DNA and Protein Sequences

BIOL 666 Mammalian Toxicology

BIOL 668 Cellular and Molecular Endocrinology

BIOL 670 Tissue Culture

BIOL 672, 673 Directed Readings in Biology

BIOL 675 Advanced Molecular Biology

BIOL 676 Advanced Molecular Biology Lecture

BIOL 677 Advanced Eukaryotic Genetics

BIOL 678 Protein Chemistry and Enzymology

BIOL 679 Protein Chemistry and Enzymology Lecture

BIOL 680L/CHEM 680L Physical Biochemistry

BIOL 685 Biomedical Tracers

BIOL 691 Seminar in Developmental Biology

BIOL 692 Advanced Physiology

BIOL 693 Seminar in Neurobiology

BIOL 697 Special Topics in Biology

BIOL 698 Projects in Biology

BIOL 720 Cell Ultrastructure

Project/Directed Studies and Doctoral Seminar: In addition to their 12 specialization credits, students are required to take at least 5 credits of appropriate project studies and seminar courses. Project/Directed Studies courses are team-based, cross-disciplinary collaborations with other scientists that will result in a written or oral presentation at a multicampus research symposium. The Doctoral Seminar course is a seminar series with intercampus emphasis, with outside speakers and student presentations.

Research: Students must take a minimum of 30 dissertation credits through BIOL 899 (Dissertation Research).

Other Requirements

Teaching

Students are required to participate in the teaching program as teaching assistants for at least two semesters. The teaching responsibility is intended to enhance the experience and skills of the PhD candidate.

GPA

To continue in the PhD program, the student must maintain a GPA of 3.0 and may not receive a grade of "C" in more than one course.

Written Comprehensive and Oral Qualifying Examinations

Students must pass two examinations before they undertake research at the doctoral level: 1) a written comprehensive examination to test the student's command and knowledge of four specific areas of biology, and 2) a subsequent oral qualifying examination based on a) the oral description and defense of the student's dissertation proposal, and b) comprehensive questioning focused on the four areas covered in the written exam.

The written comprehensive examination may be taken at the end of the student's first year, or after the completion of at least 18 credits of course work; it generally should be taken by the end of four semesters or 36 credits of course work. The student will defend four areas, drawn from the array of graduate courses offered in the department or from other areas acceptable to his/her AAC (Academic Advisory Committee) and approved by the Graduate Committee.

A student who fails the written examination may, at the discretion of the academic advisory committee, be permitted a second and final written examination after six months. A student failing the examination a second time may either 1) withdraw from the program or 2) formally petition the AAC for permission to complete a master's degree. A student may not continue in the PhD program after a second failure of the written examination.

Generally, the oral qualifying exam should be scheduled within one month after the submission of the dissertation proposal. In preparing for the oral examination, the student should consult with individual members of his/her AAC to discuss any deficiencies in his/her written examination. Before the oral examination is scheduled, the student must submit a brief description of his or her dissertation proposal to the AAC and the GPD and confer with members of the AAC on the soundness of the proposal.

On successfully completing the oral qualifying examination, the student becomes a candidate for the PhD degree.

Departmental Presentation

Approximately nine to twelve months after the advance to candidacy, the student will present a seminar, based on his/her work in progress, to the entire department.

Dissertation Committee

After becoming a candidate for the PhD, the student must choose a dissertation advisor and committee. The dissertation committee will generally, but not necessarily, comprise the three members of his/her AAC and one member from outside the department. With the approval of the GPD and the Graduate Committee, faculty from outside the Biology Department or non-UMass Boston faculty will be permitted to co-sponsor a student's dissertation work. Dissertation committees for

Boston-based students must be approved by the Dean of Graduate Studies and meet the university-wide requirements for such committees as described in the "Doctoral Degree Requirements" section of this bulletin.

Dissertation Defense

A final public dissertation defense will be administered by a dissertation panel of at least five members, including a) the Dissertation Committee; and b) the Biology GPD or (if the GPD is already on the dissertation committee) a member of the Biology Department Graduate Committee. The defense will be chaired by the student's dissertation advisor and will be scheduled after the student has submitted an advance draft of the manuscript to the dissertation panel, and all members of the panel have agreed that the student is ready to defend it.

Biomedical Engineering and Biotechnology: Multicampus Joint Program (PhD)

Admission Requirements

Interested students may apply for the PhD program in Biomedical Engineering and Biotechnology to any ONE of the four UMass campuses (Boston, Dartmouth, Lowell, Worcester), depending upon their research interests. Upon degree completion, all campuses will be listed on the student's diploma.

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Applicants must present:

- A distinguished undergraduate transcript with at least a 3.0 overall grade point average.
- Official transcripts of all graduate and undergraduate work. (Two copies of each transcript must be sent directly to the University's Office of Graduate Admissions and Records. A final transcript showing that the bachelor's degree has been awarded must be received before the student may enter the program.)
- Evidence of completion of the following prerequisite courses or their equivalents:
  - BIOL 252 Genetics
  - CHEM 253/CHEM 254 Organic Chemistry
  - BIOL 334 Microbiology
  - BIOL 371-372 Cell Biology and Biochemistry I and II
  - BIOL 373-374 Methods in Cell Biology and Biochemistry I and II
  - CS 110 Introduction to Computing
  - PHYSIC 107-PHYSIC 108 College Physics I and II
  - PHYSIC 181-PHYSIC 182 Physics Laboratory I and II
- Strong scores on the Graduate Record Examination (GRE) Combined Aptitude Test.

Please note that the stated research interests of a prospective student must coincide to an acceptable degree with the faculty specialties represented in the program. The Biology Graduate Committee, in conjunction with the Biology Graduate Program Director, is responsible for reviewing applications and for recommending candidates for admission to the Dean of Graduate Studies.

Courses

For descriptions of the Boston-based courses in the program, see the "Biology" section in this publication.

BIOTECHNOLOGY AND BIOMEDICAL SCIENCE (MS, GRADUATE CERTIFICATE)

BIOTECHNOLOGY AND BIOMEDICAL SCIENCE (MS), BIOTECHNOLOGY (GRADUATE CERTIFICATE)

Faculty

Steven Ackerman (Biology Department), PhD, *University of Pennsylvania* • Molecular Biology

Kamaljit Bawa (Biology Department), PhD, *Punjab University* • Plant Ecology and Genetics

Gregory Beck (Biology Department), PhD, *State University of New York, Stony Brook* • Immunology • Cytokine Evolution

Kenneth Campbell (Biology Department), PhD, *University of Michigan* • Cell Physiology • Endocrinology

Robert Chen (Department of Environmental, Earth, and Ocean Sciences), PhD, *University of California, San Diego* • Organic Geochemistry • In Situ Instrumentation

Adan Colón-Carmona (Biology Department), PhD, *University of California, Irvine* • Plant Signal Transduction and Molecular Biology

Ron Etter (Biology Department), PhD, *Harvard University* • Ecology and Evolution

William Hagar (Biology Department), PhD, *Temple University* • Photosynthesis

Linda Huang (Biology Department), PhD, *California Institute of Technology* • Signal Transduction • Regulation of Cell Morphology

Roderick Jensen (Biology Department), PhD, *Princeton University* • Functional Genomics and Systems Biology

Richard Kesseli (Biology Department), PhD, *University of California, Davis* • Plant Population Genetics • Molecular Genetics

Kenneth Kleene (Biology Department), PhD, *University of Washington* • Developmental Molecular Biology

Alexia Pollock (Biology Department), PhD, *University of Virginia* • Neuropharmacology • Neuroanatomy

William Robinson (Department of Environmental, Earth, and Ocean Sciences), PhD, *Northeastern University* • Aquatic Toxicology

Michael Shiaris (Biology Department), PhD, *University of Tennessee* • Microbiology • Ecology

Rachel Skvirsky (Biology Department), PhD, *Harvard University* • Molecular Genetics • Microbiology

Robert Stevenson (Biology Department), PhD, *University of Washington* • Comparative Animal Physiology

Manickam Sugumaran (Biology Department), PhD, *Indian Institute of Science* • Protein Chemistry and Enzymology • Insect Biochemistry

Ying Tan, PhD, *Yale University* • Molecular Evolution

Alexey Veraksa (Biology Department), PhD, *University of California at San Diego* • Cell Signaling • Gene Regulation in Development

Brian White (Biology Department), PhD, *Massachusetts Institute of Technology* • Science Education

Garrison Wilkes (Biology Department), PhD, *Harvard University* • Plant Genetics and Evolution

The Program

The Program in Biotechnology and Biomedical Science offers both the Master of Science degree in Biotechnology and Biomedical Science, and a Graduate Certificate in Biotechnology.

Facilities

The modern facilities of the University's Biology Department support current research techniques in biotechnology and biomedical science. Graduate students can work in special, well-equipped research laboratories with amino acid analyzers, computer facilities, controlled environment chambers, electron microscopes, electrophysiological equipment, high-speed and refrigerated centrifuges, spectrophotometers, high-pressure liquid chromatography systems, immunoanalysis, polymerase chain reaction and DNA sequencing facilities, real-time PCR, and radiation counters. Excellent tissue culture facilities are available for graduate student research.

The Master of Science Degree in Biotechnology and Biomedical Science

Students learn the theory and acquire the laboratory techniques used in biotechnology and biomedical science—two high-technology areas of expanding national and local importance. The program provides a firm foundation in the principles underlying modern biotechnological techniques and integrates this theoretical understanding with intensive training in a variety of laboratory skills and in computer applications to biotechnology.

The curriculum of the program consists of required courses in biology and biophysics, a required two-semester research experimentation course (BIOL 696), and elective courses in biology, chemistry, environmental sciences, and/or physics. Work in these courses is particularly appropriate for students with interests in the emerging fields of biotechnology, molecular genetics, tissue culture, and advanced computerized laboratory technology.

The program can accommodate cooperative arrangements with various private and public sector laboratories, in which some students will do supervised research as interns. Interchange between these laboratories and the University will ensure that all students receive training that is congruent with the needs of the private and public sectors.

Degree Requirements

On admission, the student will be assigned an academic advisor, who must be a full-time member of the Biology Department faculty. Within six months, the student and academic advisor will choose an Academic Advisory Committee (AAC) and will submit this proposed committee for approval to the Biology Graduate Program Director (GPD) and the Biology Graduate Committee, which oversees all aspects of graduate study in biotechnology and biomedical science.

The AAC will comprise the academic advisor and two additional members in the student's area of interest. The student, in consultation with the AAC, will plan an appropriate course of study. The AAC will monitor the student's progress. The academic advisor and the student will provide a yearly progress report to the GPD and the Biology Graduate Committee. With the approval of the GPD, the student may change his/her academic advisor or rearrange his/her AAC.

Course Work

A minimum of thirty credits is required for the master of science degree in biotechnology and biomedical science.

All students must complete the following courses (9 credits):

BIOL 650 (Scientific Communication)

BIOL 696 (Research Experimentation in Biology)

Note: Two semesters of BIOL 696 must be taken.

Biotechnology and Biomedical Science

All students must complete at least four of the following courses (12-15 credits):

BIOL/PHYSIC 608L (Biophysical Instrumentation)

BIOL 615 (Immunology)

BIOL 626 (Molecular Genetics of Bacteria)

BIOL 627 (Bacterial Physiology)

BIOL 664 (Computer Analysis of DNA and Protein Sequences)

BIOL 670 (Tissue Culture)

BIOL 675 or 676 (Advanced Molecular Biology)

BIOL 677 (Advanced Eukaryotic Genetics)

BIOL 678 (Protein Chemistry and Enzymology)

Students must complete an additional nine credits by taking elective courses chosen from the following list, of which two must be biology courses (at least 9 credits).

BIOL 602 (Plant Molecular Biology and Physiology)

BIOL 612 (Advanced Cell Biology)

BIOL 614 (Advanced Cell Chemistry)

BIOL 622 (Concepts and Methods in Cytology)

BIOL 653 (Current Literature in Biology)

BIOL 662 (Photobiology)

BIOL 666 (Mammalian Toxicology)

BIOL 668 (Cellular and Molecular Endocrinology)

BIOL 672-673 (Directed Readings in Biology)

BIOL 685 (Biomedical Tracers)

BIOL 692 (Advanced Physiology)

BIOL 693 (Seminar in Neurobiology)

BIOL 699 (Thesis Research)*

CHEM 653 (Polymer Chemistry)

CHEM 658 (Medicinal Chemistry)

EEOS 611 (Applied Statistics)

PHYSIC 603 (Nuclear Radiation Physics and Biophysics Laboratory)

PHYSIC 604 (Cryogenics and Vacuum Technology)

PHYSIC 609 (Physics of Medical Imaging)

PHYSIC 610 (Topics in Medical Imaging)

*Open as an elective only to those students choosing the thesis option. This course may be taken for a maximum of 4 credits.

Students wishing to substitute any other courses for those on this list of electives must have prior approval from their advising committee, the Biotechnology and Biomedical Science program advisor, and the graduate program director. Note that students have generally gained more benefit from Scientific Communication (BIOL 650) if it is taken after they have developed a thesis topic (generally later than the first year).

Students may choose either an internship option (which will enable them to pursue a thesis research project in a laboratory outside of the department) or a thesis option (which will enable them to pursue a thesis research project in the laboratory of a faculty member). Thesis students have the option of taking BIOL 699 (4 research credits) as one of their elective options. This course, in combination with two semesters of BIOL 696, will allow for a maximum of 10 research credits that may be counted toward the degree.

Each student must prepare a written report (internship option) or thesis (thesis option) on his/her research work and must also take an oral examination, which will not necessarily be limited to the topic of the report or thesis. The student must submit an outline of his/her report or thesis to the AAC before taking the oral examination.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

Each applicant to the MS Program in Biotechnology and Biomedical Science must submit Graduate Record Examination scores; a score for one advanced test is also suggested. An applicant is expected to have a grade point average of 3.0 in all undergraduate science and mathematics courses.

It is expected that entering students will have completed the following undergraduate courses or their equivalents (please consult UMass Boston's undergraduate catalog for complete information about these courses):

BIOL 252 (Genetics)

CHEM 253 and 254 (Organic Chemistry I and II)

BIOL 334 (Microbiology)

BIOCHM 383 (Biochemistry I)

BIOCHM 384 (Biochemistry II)

BIOCHM 385 (Biochemistry Lab I)

BIOCHM 386 (Biochemistry Lab II)

CS [Computer Science] 110 (Introduction to Computing)

PHYSIC 107 and 108 (College Physics I and II)

PHYSIC 181 and 182 (Physics Laboratory I and II)

Students who are missing some of these prerequisites may be admitted provisionally and asked to complete additional undergraduate course work before full admission to the graduate program.

The stated interests of a prospective student must coincide to an acceptable degree with faculty specialties represented in the program. The Biology Graduate Committee, in conjunction with the director of the program, is responsible for reviewing applications and for recommending candidates to the Dean of Graduate Studies.

The Graduate Certificate in Biotechnology

Students choosing to pursue the graduate certificate in biotechnology are given a sound theoretical background for working in the research and development divisions of biotechnology companies or biomedical research laboratories.

To earn the certificate, students must complete 15 credits, with a grade-point average of at least 3.0. Courses may be chosen from the list below:

BIOL/PHYSIC 608L (Biophysical Instrumentation) (4 credits)

BIOL 612 (Advanced Cell Biology) (3 credits)

BIOL 615 (Immunology) (3 credits)

BIOL 626 (Molecular Genetics of Bacteria) (3 credits)

BIOL 627 (Bacterial Physiology) (3 credits)

BIOL 664 (Computer Analysis of DNA and Protein Sequences) ?(3 credits)

BIOL 670 (Tissue Culture) (4 credits)

BIOL 675 (Advanced Molecular Biology) (with Laboratory) ?(4 credits)

BIOL 676 (Advanced Molecular Biology Lecture) (without laboratory) (3 credits)

BIOL 677 (Advanced Eukaryotic Genetics) (3 credits)

BIOL 678 (Protein Chemistry and Enzymology) (with Laboratory) ?(5 credits)

BIOL 679 (Protein Chemistry and Enzymology Lecture) (without laboratory) (3 credits)

BIOL 685 (Biomedical Tracers) (4 credits)

BIOL 693 (Seminar in Neurobiology) (3 credits)

At least two of the student's courses must include laboratory work with biochemical or cellular techniques. BIOL 670, 675, or 678 all fulfill this laboratory requirement. Studies for the certificate must be completed within four years. Part-time students may be granted an additional year to complete their studies by petitioning the Biology Graduate Program Director and the Office of Graduate Studies.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Applicants are expected to have a grade point average of 3.0 in all undergraduate science and mathematics courses.

Entering students must have a bachelor's degree, and must have completed the following UMass Boston undergraduate courses or their equivalents at another university (please consult UMass Boston's undergraduate catalog for information about these courses).

BIOL 252 (Genetics)

CHEM 253 and 254 (Organic Chemistry I and II)

BIOL 334 (Microbiology)

BIOCHM 383 (Biochemistry I)

BIOL 372 (Molecular Biology)

CS 110 (Introduction to Computing)

PHYSIC 107 and 108 (College Physics I and II), and

PHYSIC 181 and 182 (Introductory Physics Lab I and II)

Descriptions of courses required of all MS students appear below. Descriptions of elective courses may be found in the biology, chemistry, environmental sciences, and applied physics sections of this publication.

Courses

BIOL 608L (PHYSIC 608L)
Biophysical Instrumentation
This is a lecture and laboratory course on the application of microcomputers and microprocessor-based electronics to laboratory experiments in the biological and physical sciences. Emphasis is on techniques for interfacing the microcomputer with laboratory experiments for automated data acquisition, data reduction and analysis, information display, and real-time control of experiments.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

BIOL 612
Advanced Cell Biology
This course focuses on the analysis of gene transfer and expression at the cellular level, including the nature of metabolic systems and the factors governing their regulation.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3-5 Credits

BIOL 615
Immunology
Selected topics in immunology are studied in depth, using the current literature. Topics are chosen for relevance and current interest, or for their challenging, even controversial nature. Students registering for this course should have already completed BIOL 378 or 380 or equivalents.
3 Lect Hrs, 3 Credits
Mr Beck

BIOL 626
Molecular Genetics of Bacteria
This course focuses on in-depth examination of genetic and molecular processes in bacteria and their associated viruses and on classical bacterial genetics, as well as modern molecular genetic analysis. Topics include genetic transfer processes, gene regulation, mutagenesis and repair, plasmids, transposons, gene fusion methodologies, and protein secretion. Emphasis is given to current experimental approaches and research design. (Course offered in the spring only.) Students registering for this course should have already completed BIOL 252 or equivalent.
3 Lect Hrs, 3 Credits
Ms Skvirsky

BIOL 627
Bacterial Physiology
This course provides a rigorous biochemical examination of the bacterial cell. Lectures focus on bacterial cytology, growth, and metabolism. Areas of current research are emphasized. Students are expected to read primary and secondary scientific literature and to discuss course material. Students registering for this course should have already completed BIOL 334 and BIOCHM 383, or equivalents.
3 Lect Hrs, 3 Credits
Mr Shiaris

BIOL 650
Scientific Communication
This course, which is required of all master's and doctoral students in biology, is usually taken in the second year. The course covers the storage and retrieval of scientific information (including searching of computerized data bases), the design of tables, figures, and other graphics, the writing of technical reports and papers, and the preparation of posters and publications. Writing, oral presentations, and other assignments, as well as attendance at the weekly departmental seminar, are required.
3 Credits

BIOL 664
Computer Analysis of DNA and Protein Sequences
This is a lecture and laboratory course focusing on using computers to predict the structure of RNA and protein, to search DNA and protein sequence databases, to align protein and DNA sequences, to deduce the structure and mechanism of regulation of a gene from DNA sequences, to design cloning strategies, and to choose oligonucleotide primers for DNA sequencing and polymerase chain reactions. The course emphasizes the significance and limitations of computer analyses in biological research. Students registering for this course should have already completed an advanced undergraduate course or a graduate course in molecular genetics (BIOL 370 or equivalent, BIOL 675, or BIOL 626).
Prerequisite: Permission of instructor.
1 1/2 Lect Hrs, 3 Disc Hrs, 3 Credits
Mr Kleene

BIOL 666
Mammalian Toxicology
This course provides a background in principles of toxicology in mammalian systems. Coverage includes: basic concepts of poisons and their commonalities with drugs and hormones; toxicant exposure routes, uptake, sites and mechanisms of action, storage, metabolism, activation, and clearance; toxicant roles in carcinogenesis, development, endocrine, and reproductive functions; roles of diet, lifestyle, and concurrent exposures; methods of toxicant evaluation emphasizing multigeneration and high-throughput testing; and environmental and medical implications of toxicant/toxin expores on individual and ecological health. Students registering for this course should have already completed general chemistry and organic chemistry, general biology, and one advanced course in cell biology, biochemistry, or physiology.
3 Credits
Mr Campbell

Biotechnology and Biomedical Science

BIOL 670
Tissue Culture
This is a seminar and laboratory course on the principles and methods of culturing cells, tissues, and organs of animals and plants. Topics include growth factors, differentiation and morphogenesis in vitro, cell cloning, protoplast fusion, and the production of hybridomas for monoclonal antibodies. Students also apply tissue culture methods to individual research projects. Students registering for this course should have already completed BIOL 313 or equivalent.
2 Sem Hrs, 6 Lab Hrs, 4 Credits
Ms Davis, Mr Kleene

BIOL 675
Advanced Molecular Biology
This is a lecture and laboratory course covering the biosynthesis and regulation of RNA, DNA, and proteins in eukaryotic organisms. The course examines the importance of gene regulation in oncogenesis, levels of gene expression and development; as well as regulation by structure and function (chromosome structure and translational regulation); basic research techniques; and current recombinant DNA methodology. Please note: Labs meet every other week, for a total of seven hours every two weeks. Students registering for this course should have already completed BIOL 370 or 372 or equivalent.
Prerequisite: BIOL 670.
3 Lect Hrs, 3 1/2 Lab Hrs, 4 Credits
Mr Ackerman, Mr Kleene

BIOL 676
Advanced Molecular Biology Lecture
This is a lecture-only course covering the same material as BIOL 675; no lab work is required. Students registering for this course should have already completed BIOL 370 or 372 or equivalent.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits
Mr Ackerman, Mr Kleene

BIOL 677
Advanced Eukaryotic Genetics
This course focuses on a broad spectrum of readings in plant, animal, and fungal genetics, on such topics as segregation distortion, the control of sex determination, modes of asexual reproduction, inheritance of cytoplasmic genomes, self-incompatibility systems, transposable elements, and genetic mapping. Students registering for this course should have already completed BIOL 252 or equivalent.
3 Lect Hrs, 3 Credits
Mr Kesseli

BIOL 678
Protein Chemistry and Enzymology
This is a lecture and laboratory course on various aspects of protein chemistry and enzymology. Emphasis is on purification, characterization, structure, function, mechanism of action, kinetics, and regulatory aspects of enzymes. Topics also include the practical and theoretical aspects of affinity chromatography and other separation techniques, immobilization of enzymes and other biomolecules, enzyme kinetics, and the analytical and industrial use of soluble and insoluble enzymes. Students registering for this course should have already completed BIOCHM 383 and BIOL 372 or equivalents.
Prerequisite: Permission of instructor.
3 Lect Hrs, 6 Lab Hrs, 5 Credits
Mr Sugumaran

BIOL 679
Protein Chemistry and Enzymology Lecture
This is a lecture-only course covering the same material as BIOL 678; no lab work is required. Students registering for this course should have already completed BIOCHM 383 and BIOL 372 or equivalents.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits
Mr Sugumaran

BIOL 685
Biomedical Tracers
This is a seminar and laboratory course describing the types and uses of physical tracers in the biomedical sciences and covering theory and application of various tracers (immunoglobins, radioisotopes, lectins, enzymes, chromogen labels, spin labels, heavy isotopes, and particles), instrumentation for their detection, and general methods. The laboratory includes demonstrations and short projects chosen by the students and the instructor. Students registering for this course should have already completed CHEM 253, BIOCHM 383 (or BIOL 317 or 319) or equivalents.
Prerequisite: Permission of instructor.
2 Lect-Seminar Hrs, 6 Lab Hrs, 4 Credits
Mr Campbell

BIOL 693
Seminar in Neurobiology
This course focuses on discussion of current literature in neuropharmacology and drug and behavior interactions.

BIOL 696
Research Experimentation in Biology
This independent course, taken twice in sequential semesters, provides students with sustained experience in a research laboratory. Each student pursues a specific research project, which may originate in a public or private sector laboratory or at the University. Each student's project should involve the student in ideas and laboratory skills and should permit the student to produce work of publishable quality.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3 Credits

BUSINESS ADMINISTRATION (MBA)

Faculty

Noushin Ashrafi, PhD, *University of Texas at Arlington* • Management Science and Information Systems

Arindam Bandopadhyaya, PhD, *Indiana University* • Accounting & Finance

Pratyush Bharati, PhD, *Rensselaer Polytechnic Institute* • Management Science and Information Systems

Roger Blake, MS, *Massachusetts Institute of Technology* • Management Science and Information Systems

Julia Brennan, PhD, *University of Kentucky* • Accounting & Finance

Martin Calkins, PhD, *University of Virginia* • Management and Marketing

Atreya Chakraborty, PhD, *Boston College* • Accounting & Finance

Lal Chugh, PhD, *Harvard University* • Accounting & Finance

Michael Collins (Chancellor), MD, *Tufts University School of Medicine* • Management & Marketing

Elizabeth Connors, PhD, *Michigan State University* • Accounting & Finance

Varghese George, PhD, *Massachusetts Institute of Technology* • Management & Marketing

Arthur Goldsmith, PhD, *Cornell University* • Management & Marketing

J **Oscar Gutierrez**, PhD, *London School of Economics and Political Science* • Management Science and Information Systems

Mohsin Habib, PhD, *University of North Carolina at Chapel Hill* • Management & Marketing

Eric Hayden, PhD, *Johns Hopkins University* • Accounting & Finance

Thomas Hogan, PhD, *University of Massachusetts Amherst* • Accounting & Finance

Peter Ittig, PhD, *Cornell University* • Management Science and Information Systems

Holly Hansen Johnston, PhD, *Carnegie-Mellon University* • Accounting & Finance

Anne Jones, DBA, *Boston University* • Accounting & Finance

Jeffrey Keisler, PhD, *Harvard University* • Management Science and Information Systems

Jean-Pierre Kuilboer, PhD, *University of Texas at Arlington* • Management Science and Information Systems

David Levy, DBA, *Harvard University* • Management & Marketing

Benyamin Lichtenstein, PhD, *Boston College* • Management & Marketing

Raymond Liu, PhD, *University of Oregon* • Management & Marketing

Sathasivam Mathiyalakan, PhD, *University of Kentucky* • Management Science and Information Systems

Peter McClure, DBA, *Indiana University* • Management & Marketing

Michael Novak, PhD, *University of Cincinnati* • Management & Marketing

Sherry Penney, PhD, *State University of New York, Albany* • Management & Marketing

Philip Quaglieri, PhD, *Stevens Institute of Technology* • Management Science and Information Systems

Mary Lou Roberts, PhD, *University of Michigan* • Management & Marketing

Edward Romar, PhD, *City University of New York* • Management & Marketing

Maureen Scully, PhD, *Stanford University* • Management & Marketing

Daniel Shimshak, DBA, *City University of New York* • Management Science and Information Systems

Lucia Silva-Gao, PhD, *Boston University* • Mergers and Acquisitions • Valuation of Intellectual Property

Kiran Verma, PhD, *Michigan State University* • Accounting & Finance

Frenck Waage, PhD, *The University of California, Berkeley* • Management Science and Information Systems

Janet Wagner, PhD, *Massachusetts Institute of Technology* • Management Science and Information Systems

Theodora Welch, PhD, *Concordia University* • Management & Marketing

Sally Wright, DBA, *Boston University* • Accounting & Finance

Peng Xu, PhD, *Georgia State University* • Management Science and Information Systems

Wei Zhang, DBA, *Boston University* • Management Science and Information Systems

Leon Zurawicki, PhD, *Warsaw University* • Management & Marketing

The Program

The College of Management's demanding and internationally accredited MBA program provides opportunities for its diverse students to succeed in the regional and global economy. It is comprehensive, introducing students to the fundamental analytical and organizational skills expected of any modern manager, while also offering students a number of opportunities for specialization. The strengths of the program are a knowledgeable, experienced, and student-centered faculty, small classes, a diverse student population, and flexibility. Faculty are accessible to students both inside and outside the classroom and give students personal attention to help them meet their goals.

The MBA program is designed to offer students of all backgrounds the opportunity to begin and/or broaden their management education. An undergraduate degree in a business field is not required to enter the MBA program. Students in the program may study either full-time or part-time. All classes meet once a week; in order to assist students in completing the program, course schedules offer a variety of choices (including Saturdays). Students may complete the MBA program in one to five years, depending upon the number of courses taken during the fall, spring, and summer terms and on course/credit waivers granted for undergraduate preparation.

The College of Management and the MBA program are fully accredited by the Association to Advance Collegiate Schools of Business (AACSB)—the International Association for Management Education.

Degree Requirements

Students must satisfactorily complete 18 courses, or 54 semester credits, and satisfy the mathematics requirement (through waiver or additional course work) to receive the MBA degree. These credits may be earned by successfully completing graduate courses at UMass Boston, by the transfer of up to six graduate credits from another university, or by waiver. A minimum of 11 MBA courses must be completed at UMass Boston. The degree must be completed within five (5) years of the date of entry.

Business Administration

Core Requirements

First Semester Required Integrated Experience:

MBAMGT 650 (Organizational Analysis and Skills)

The MBA core consists of MBAMGT 650 and nine additional courses required of all students:

MBA AF 601 (Economics for Managers)

MBA AF 610 (Accounting for Managers)

MBA AF 620 (Financial Management)

MBAMS 630 (Statistical Analysis for Managers)

MBAMS 635 (Operations Management)

MBAMS 640 (Computers and Information Processing Systems)

MBAMGT 660 (Business and Its Environment)

MBAMKT 670 (Marketing Management)

MBAMGT 689 (Strategic Management) – Capstone Course

A maximum of 21 credits of the MBA core may be waived for students who have satisfactorily completed appropriate courses at the undergraduate level. (See "Course Waivers" below.) MBAMGT 660 and 689 may not be waived.

Elective Requirements

In addition to the core courses, students must satisfactorily complete at least 24 semester credits in advanced courses. Students may choose to use some of their elective credits to specialize in a particular area of management,and must take at least one elective course devoted primarily to international management issues.

Students may choose to specialize in one of the following functional areas:

Accounting

Environmental Management

Finance

Human Resource Management

International Management

Internet Marketing

Management Information Systems

Marketing

Operations Management

Additionally, in order to maintain the broad-based focus of the MBA program, and so that each student will leave the program with a strong and diverse skill set and body of knowledge, students are required to distribute their electives across a variety of business areas. Thus, whether or not they choose a specialization, students must complete electives in at least four functional areas. The functional area for each advanced course is noted in parentheses after its title in the course description section below. Functional areas include Accounting (ACC), Finance (FIN), Management Information Systems (MIS), Marketing (MKT), Operations Management (OPM), Management (MGT), and Business Communication (COM). A detailed explanation of the elective requirements is available in the MBA Student Handbook.

Sequencing of Courses

Organizational Analysis and Skills (MBAMGT 650) must be taken by all students in their first semester. Students without sufficient previous preparation to meet the mathematics requirement must complete MBAMS 600 (Mathematical Analysis for Managers) as one of their first three courses. Four core courses must be successfully completed (or waived) before students may enroll in advanced courses. Students must successfully complete the core course in a given subject area before enrolling in an advanced course in that area. Strategic Management (MBAMGT 689) is the "capstone" course for the program and is taken in the final semester of study.

Course Waivers

The MBA core is designed to provide instruction in what business schools define as the common body of knowledge in management. Some applicants, as part of their undergraduate degree programs, have received instruction in some areas of the common body of knowledge. Such applicants may be eligible for course/credit waivers in the MBA program. If a student has 1) taken sufficient undergraduate course work in the last seven years from an institution of recognized standing in a subject included in the core, and 2) received a minimum of B in those courses, the student, on admission to the program, may submit a request for waiver of credits to the program director. Judgments concerning eligibility for course/credit waivers are based on analysis of transcripts, course syllabi, examination, or other relevant material and are not guaranteed. No more than 21 credits shall be waived. A minimum of 11 courses must be taken at UMass Boston.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

The Master of Business Administration (MBA) Admissions Committee will recommend admission for applicants who show evidence of high promise of success in the MBA program. For a student profile, please visit www.management.umb.edu/mba/mba_factsheet.php. Candidates are evaluated on the basis of their:

1. Undergraduate and any previous graduate performance
2. Professional work experience
3. GMAT scores
4. Application essays
5. Recommendations
6. Interview (optional)

The MBA Admissions Committee will consider all of the above in making admissions decisions. Admission to the program is very competitive, and students are judged in relation to other applicants that semester. Grade point averages and GMAT ranges are published each semester and distributed at MBA Information Sessions for the use of applicants in preparing for admission.

Course Information

In order to enroll in MBA courses, students must be matriculated in the program. MBA courses award three credits and meet once per week for three class hours, twice per week in the two summer sessions. In the listings below, a prefix identifies each course according to the following code: MBA AF (Accounting and Finance), MBAMGT (Management), MBAMKT (Marketing), MBAMS (Management Science and Information Systems), MBAACM (Analysis and Communication for Managers).

MBAMS 600
Mathematical Analysis for Managers
This course provides the mathematical skills and applications necessary to pursue graduate study in the College of Management. Topics include a review of basic algebra; graphing; linear, polynomial, exponential, and logarithmic functions; functions of several variables; systems of linear equations; probability; differentiation and integration.
3 Lect Hrs, 3 Credits

Business Administration

MBA AF 601 (CORE)
Economics for Managers
This course introduces the student to economic principles of particular interest to the firm manager. The course is divided roughly into two parts that deal with macroeconomic and microeconomic issues. In the macro section such key aggregates as gross domestic product, unemployment rate, inflation rate, and balance of payments, which are of importance to the firm manager, are discussed. Discussions focus on a critical examination of how these aggregates are measured and determined in various competing theoretical models. The theory discussed here then serves as an analytical tool in understanding and evaluating economic policies related to such current economic issues as unemployment, inflation, and trade imbalances. In the micro section, emphasis is given to a) the theory of markets, how prices and quantities are determined in markets and factors that affect these prices and quantities; and b) how firms compete in different market environments. Besides concentrating on theory, special attention is given to how the concepts covered are applied to real-world microeconomic problems.
3 Lect Hrs, 3 Credits

MBA AF 603 (FIN)
Massachusetts in the Global Economy
This course has four goals. It seeks to provide students with 1) an understanding of the evolving business structure of Massachusetts and its place in U.S. and world goods and service industries; 2) an introduction to country and regional analysis, especially macro-economic analysis and social and organizational analysis, as they pertain to understanding customer-markets, competitors, and comparative investment locations; 3) an introduction to major global economic, technological, and political trends, including changing demographics and regulation, technological "creative destruction," emerging markets, and transitions to capitalism; and 4) an introduction and overview of industry analysis, focusing on key Massachusetts industries, including financial services and banking, health care products and services, and computer hardware and software. The course involves intensive student research projects and team presentations.
3 Lect Hrs, 3 Credits

MBA AF 610 (CORE)
Accounting for Managers
This course instructs students in the fundamentals of financial and managerial accounting. The financial accounting component presents techniques used to measure business transactions, preparation of financial statements, recording and valuation of assets, owners' equity, revenue, cost, and expenses. The managerial accounting component deals with techniques for managerial decision-making, planning, and control.
Prerequisite: MBA AF 601.
3 Lect Hrs, 3 Credits

MBA AF 611 (ACC)
Corporate Financial Reporting
This course acquaints students with financial accounting theory. Particular emphasis is given to the relationship between theory and such practical problems as the limitations of traditional financial statements and asset and current liability items. Students acquire an understanding of issues unique to corporations and complete the study of the balance sheet by examining long-term debt and equity items.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 612 (ACC)
Cost Accounting
This course examines the use of cost accounting as a means of providing quantitative information for managerial decision-making and control. Emphasis is placed on analysis of cost behavior, cost-volume-profit relationships, budgeting, and performance measurement.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 613 (ACC)
Federal Tax Planning
This course introduces the concepts of gross income recognition, deductions, tax credits, and the income tax effects of property transactions, with emphasis on managerial decision-making and planning. These concepts are incorporated into discussion of alternative forms of business organization and the tax implications of each.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 614 (ACC)
Financial and Managerial Auditing
The objective of this course is to make students aware of, and develop working skills in, the techniques of financial and managerial auditing, and to help them develop judgment in using audit information. Topics include stewardship and the need for auditing; audit evidence and analytical techniques for sampling and drawing inferences; organizational issues in auditing; techniques and methods of managerial and strategic audits and audit reporting.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 615 (ACC)
International Accounting
This course examines the international dimensions of financial accounting and analysis; the environmental influence of specific countries on international accounting standards and their related impact on financial reporting; and disclosure and analysis worldwide. Specific attention is given to inflation accounting, foreign currency transactions, the translation of foreign financial statements, and the status of international accounting standards.
Prerequisite: MBA AF 610. MBA AF 611 is recommended, though not required.
3 Lect Hrs, 3 Credits

MBA AF 616 (ACC)
Financial Statement Analysis/Advanced Accounting
This course provides a framework for financial statement analysis. The course teaches students to understand how financial statements are generated by focusing on FASB principles. The course also encourages students to research current changes within the accounting framework and to understand how to use the framework to interpret company financial statements. Issues of ethics will also be incorporated into the course.
Prerequisite: MBA AF 610. MBA AF 611 is recommended, though not required.
3 Lect Hrs, 3 Credits

MBA AF 617 (ACC)
Management Accounting and Control
This course is designed to introduce students to the important role management accounting can play in helping managers make informed decisions. In particular, the course emphasizes modern theories of product cost, performance measurement, and management control systems. It uses cases to describe real-world problems and to illustrate such concepts as activity-based cost systems, productivity measurement, and total quality.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 618 (ACC)
Accounting Information Systems
This course examines information systems used for managerial decision making and external reporting, with specific emphasis on assuring systematic control over accounting information and on the reliability of that information. Computer and telecommunication systems are changing the way companies and not-for-profit organizations do business. As information becomes a competitive tool, line managers

Business Administration

are encouraged to get more involved in decision making. Further, as communication between companies and investors continues to shift from lagged formal reports (i.e., financial statements) to tailored, online reports, the importance of computer-based accounting systems will increase.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 620 (CORE)
Financial Management
This course is intended to provide the student with a sound understanding and appreciation of the principles of corporate finance. The course covers the theory and practice of financial decision-making by managers and describes how financial theory can be used to address practical problems and to illuminate institutional aspects of the financial world. Topics include the time value of money, capital budgeting, financial statement analysis, asset valuation, portfolio theory, capital structure, dividend policy, long-term financing, and issues of corporate control. The course enables students to develop the skills and intellectual framework for addressing a variety of financial problems.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBA AF 621 (FIN)
Advanced Corporate Finance
This course is a natural extension of MBA AF 620, the core financial management course. It builds on the principles and concepts developed there and introduces such new topics as real options, convertible securities, lending, mergers, and acquisitions.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

MBA AF 622 (FIN)
Global Portfolio Investment Management
The aim of this course is to explore portfolio investment management, i.e., the management of wealth in the form of readily marketable securities, in a global context. The focus is on extensions of investment theory and practice to a multi-country field of portfolio choice. Of special concern are variables and constraints that modify concepts and practices useful in the domestic US market. These include the problems of investing in a world of many currencies, differential economic growth, divergent institutional and legal environments, differing national accounting systems, and national valuation norms and practices. The course is of special interest to students preparing for possible careers in brokerage houses; in pension and mutual fund management; and as financial planners.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

MBA AF 623 (FIN)
Financial Modeling
This course introduces the principles and techniques for building financial models, especially in an uncertainty framework. Topics covered include decision support systems, risk analysis, portfolio theory, and capital budgeting under uncertainty. The course integrates financial, accounting, and statistical concepts and techniques to construct financial models and to perform analyses using popular software applications, as well as emphasizing the application of financial modeling techniques in identifying and implementing business solutions. The course is of special interest to students seeking more hands-on experience in constructing financial models and more in-depth knowledge in financial software.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

MBA AF 624 (FIN)
Managing Mutual Funds
This course discusses issues related to the financial management of mutual funds. It covers such unique aspects of mutual funds as their role in the financial markets; the impact on mutual funds of technology and regulatory systems; different types of mutual funds; security valuation; portfolio models; international diversification related to funds; and asset valuation and custodial services. The course is conducted through a combination of lectures and case analyses.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

MBA AF 625 (FIN)
Derivative Securities
Derivative securities are securities such as futures contracts and call options whose value is determined by the value of some other underlying variable. Derivative securities have become an essential tool used in both corporate risk management and portfolio management. This course explores the institutional details of the various markets in which derivatives trade. It introduces the theories which govern the pricing of futures, options, and swap contracts. Practical methods of implementing derivatives-related strategies for hedging risks and gaining specified portfolio exposures are covered, as well as methods used to evaluate the outcomes of these strategies.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

MBA AF 626 (FIN)
International Financial Management
This course describes the body of knowledge, attitudes, and skills required of financial decision-makers operating in a global setting. The phenomenal rise in importance of multinational business finance and concomitant issues is explored in light of recent theoretical and empirical research. Specific topics include foreign exchange risk management, financing decisions in the long and short run, currency translation, accounting, and taxation.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

MBA AF 627 (FIN)
Health System Financial Management
This course addresses the financial management theory, techniques, and issues applicable to public and private health organizations. Specific topics include budgeting, capital formation, cost finding, reimbursement alternatives, financial analysis, and performance evaluation. The course also evaluates contemporary policy issues affecting the health care administrator.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

MBA AF 628 (FIN)
Portfolio Analysis and Investment Management
This course provides the student with an understanding of capital market securities, operations, valuation, and investment techniques. Specifically, the course covers definitions of various investment vehicles, operation of the NYSE and NASDAQ markets, portfolio theory (CAPM and APT), valuation of stocks and bonds, and investor capital allocation decisions—including discussions of mutual fund selection.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

MBA AF 629 (FIN)
Managing Financial Institutions
This course focuses on the financial management of financial institutions and covers the management of liquidity, loan portfolio, and capital, as well as overall asset-liability management in depository-type institutions. The course also discusses the strategic implications for such institutions of changing financial and regulatory environment. The course is oriented toward managerial decision-making in the changing environment facing these institutions. The course is conducted through the analysis of cases and through discussions of the kinds of issues that affect decisions.
Prerequisite: MBA AF 620.
3 Lect Hrs, 3 Credits

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MBAMS 630 (CORE)
Statistical Analysis for Managers
This course acquaints students with statistical techniques used in management decision-making and develops their ability to characterize management problems that can be solved by such techniques. Topics include descriptive statistics, probability distributions, sampling, estimation, hypothesis testing, simple and multiple regression and correlation, chi square testing, analysis of variance, and decision theory. Students make use of computers and appropriate software to apply what they are learning.
3 Lect Hrs, 3 Credits

MBAMS 635 (CORE)
Operations Management
This course familiarizes students with the analysis, planning, and control of operations and operating resources in both production and service organizations. Topics covered include product design and process selection, capacity planning, location and layout decisions, and inventory control. Analytical techniques used in system design and operations planning and control problems are also discussed. Students make use of computers and appropriate software to apply what they are learning.
Prerequisite: MBAMS 630.
3 Lect Hrs, 3 Credits

MBAMS 636 (OPM)
Forecasting
This course considers the major approaches to forecasting sales or customer volume in business applications. The forecasting activity is an essential prelude to decisions involving planning and budgeting, staffing, scheduling, and inventory management. The subject is important in both service-sector and production organizations. Topics include time series methods, causal methods, treatment of seasonal effects, trend effects, the business cycle, and combinations of forecasts.
Prerequisites: MBAMS 635 and 640.
3 Lect Hrs, 3 Credits

MBAMS 638 (OPM)
Management Decision Models
Using the framework of 1) data, 2) models, and 3) decisions, this course familiarizes the student with the systematic use of data and models in decision-making. The student acquires an appreciation of management science approaches to solving problems in business or government, public or private and profit or not-for-profit sectors. Examples of problems from various sectors and from various functional areas are discussed. Students gather data about these problems, develop models, and explore solutions, using computer-based analysis and managerial judgment. In addition, "what if" analyses are used to determine the sensitivity of model solutions to uncertainties in data inputs. The course is computer-based, using many of the advanced features on Excel and/or other software packages.
Prerequisites: MBAMS 635 and 640.
3 Lect Hrs, 3 Credits

MBAMS 639 (OPM)
Quality Management
This course addresses the issues of managing for quality, in both service systems producing intangible goods and manufacturing systems producing tangible goods. It explores concepts of total quality management, including continuous process improvement, business process design, benchmarking, and organizational change. It also includes statistical quality-control techniques and discussion of quality in information systems.
Prerequisites: MBAMS 635 and 640.
3 Lect Hrs, 3 Credits

MBAMS 640 (CORE)
Computers and Information Processing Systems
This course examines the role of information technology (IT) in supporting an organization's operations, strategy, and change efforts. The course offers a comprehensive review of modern information technology architectures, covering current approaches to the organization and management of computer technology, telecommunications, data organization, and information system applications. Major emphasis is given to the critical role that computer technology and information systems methodology play in the re-design of business processes under different organizational settings. The course makes extensive use of case scenarios to describe and to research further some issues involved in the planning, development, and implementation of streamlined organizational processes and information system applications. Some modules may involve the hands-on use of personal computers.
3 Lect Hrs, 3 Credits

MBAMS 645 (MIS)
Systems Analysis and Design
This course covers recent approaches to the analysis and design of computer-based information systems, including hands-on use of Computer-Aided Software Engineering (CASE) tools for real-world problem-solving. The changing role of the systems analyst in today's organizations is examined. This course critically analyzes systems development methodologies, including life cycle, prototyping, evolutionary, and participative models; discusses effective diagramming and notational techniques now available to define and document functional requirements; and examines current methods used to test and evaluate the accuracy, completeness, and usability of documented requirements and convert them into efficient system design. Participants discuss the concept of quality as applied to information systems as well as the role of information systems in managing quality within the organization.
Prerequisite: MBAMS 640.
3 Lect Hrs, 3 Credits

MBAMS 646 (MIS)
Database Management Systems
This course examines the goals and objectives of integrated databases in today's competitive world and discusses data as a resource for total quality management. It critically examines database modeling techniques and design methods and reviews the nature of database management software. Data analysis techniques and supporting modeling tools are applied in individual and group projects. Database management systems are used extensively in both mainframe and microcomputer environments.
Prerequisite: MBAMS 640.
3 Lect Hrs, 3 Credits

MBAMS 647 (MIS)
Information Technology for Quality and Competitive Management
This course exposes students to the concepts and frameworks required to manage information technology (IT) towards strategic goals. Discussions include the characteristics of new technologies such as groupware, client/server, Internet, intranets, and high-bandwidth communication networks. The course develops linkages between strategic goals and technology characteristics and considers the impact of these technologies on organizations, ranging from small, entrepreneurial companies to large corporations. Topics include developing a technology strategy for a firm, creating technology-based alliances, managing a technology portfolio, and exploiting the potential of electronic commerce to re-engineer the value chain in an industry. Cases focus on companies that have succeeded as a result of imaginative use of IT and those that have failed as a result of inability to exploit IT. No IT background is presumed.
Prerequisite: MBAMS 640.
3 Lect Hrs, 3 Credits

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MBAMS 649 (MIS)
Computer Networks for Management
Communication networks are changing the way businesses are organized in areas such as the retailing, brokerage, automotive, and banking industries. The objective of the course is to familiarize students with the rapidly evolving technology in the areas of data, video, and voice communication. The course studies managerial issues relating to the use and management of advanced technology. Students learn how to exploit the technology for business purposes like producing innovative services, improving quality, reducing cost, and providing real-time customer service. The course helps develop an ability to manage technologies such as ISDN, advanced intelligent networks, multimedia, fiber optics, and virtual networks towards goals such as growth and portability.
Prerequisite: MBAMS 640.
3 Lect Hrs, 3 Credits

MBAMGT 650 (CORE)
Organizational Analysis and Skills
This course focuses on the organization of the future, identifying its characteristics and exploring the strategic design and political and cultural implications for working in and managing such an organization. It examines the impact of the new organization on the roles and careers of individual managers, the functioning of groups, the processes that exist within organizations, the relationships of organizations with their environments, and the learning and change practices needed to enhance global performance. First-semester MBA students are introduced to a variety of skills that they will be called upon to use throughout their MBA experience (case analysis, analytical writing, self-awareness, team-building, and oral communication).
3 Lect Hrs, 3 Credits

MBAMS 650 (MIS)
Object-Oriented Information Systems
This course reviews systems development principles with an object orientation as they relate to the analysis and design of database applications, knowledge base systems, and object-oriented programming. The C++ programming language is used extensively to illustrate such characteristic properties of current object-oriented programming techniques as encapsulation, inheritance, and polymorphism.
Prerequisite: MBAMS 640.
3 Lect Hrs, 3 Credits

MBAMGT 651 (MGT)
Personnel Management and Human Resources Planning
This course familiarizes students with concepts of human resources management and the principles of planning and forecasting for human resources needs. Issues to be addressed include career planning and internal labor market analysis, equal employment opportunity and affirmative action practices. Students examine job design and pay systems, methods of personnel selection and training, issues of productivity and hours of work, the effect of government regulations on working conditions, and personnel administration.
Prerequisite: MBAMGT 650.
3 Lect Hrs, 3 Credits

MBAMS 651 (MIS)
Project Management
The pervasive nature of information systems and information technology (IS/IT) now influences most operational and managerial facets of modern organizations. Project management of the planning, designing, and implementation of information systems to meet corporate goals and objectives is an essential management process that can determine the success or failure of IS/IT projects. Topics include software development, life cycle models and paradigms, software cost estimation, project planning and risk analysis, work breakdown structure, project execution and control, project scheduling activities, automated project management tools, CASE tool and object-oriented applications, software maintenance and reuse, and software capability maturity models.
Prerequisite: MBAMS 640.
3 Lect Hrs, 3 Credits

MBAMGT 652 (MGT)
Labor-Management Relations and the Collective Bargaining Process
This course familiarizes students with the practice of labor-management relations in the United States. The nature of labor-management conflict, the development of the US labor movement, and a comparison to other Western labor movements provide the theoretical and historical framework needed to assess the effectiveness of current practice and trends in the development of new practices and institutions. The major areas of study are the tactics and strategies of management and union representatives and the legal and economic constraints on their behavior in the organization of unions, contract negotiation, and contract administration and interpretation.
Prerequisite: MBAMGT 650.
3 Lect Hrs, 3 Credits

MBAMGT 653 (MGT)
Organizational Diagnosis and Change
This course focuses on the theory, research, and techniques of organizational diagnosis and change. Students learn how to engage in systematic structural and behavioral analyses and to design effective strategies for intervention and change.
Prerequisite: MBAMGT 650.
3 Lect Hrs, 3 Credits

MBAMS 654 (MIS)
Supply Chain Management
This course focuses on the management of supply and distribution chains. It is the supply chain that creates the values customers purchase. Optimizing that value, while minimizing the costs of creating and delivering it, requires decisions and policy-making that involve the entire supply chain. The course puts the student in the leadership position for such chains, while presenting the methods that have, in recent years, emerged out of quantitative methods, operations, and information systems to manage integrated supply chain problems, improving the capabilities of businesses and creating a sustainable competitive advantage through synchronization of the flow of all material and of all information with customers' demand.
Prerequisites: MBAMS 635 and 640.
3 Lect Hrs, 3 Credits

MBAMGT 660 (CORE)
Business and Its Environment
This course looks at the relationship of business to the external environment and considers business in relation to legal, social, political, and economic systems, focusing in particular on the impact of governmental regulation on business. The course also addresses the functioning of the US business enterprise in the context of the international business environment. Finally, through an examination of the role of ethics in management decision-making, the course explores how business organizations can operate effectively and responsibly in the context of the external environment.
3 Lect Hrs, 3 Credits

MBAMGT 664 (MGT)
The Legal Environment of Business
This course seeks to help students broaden their understanding of our legal and regulatory system and how it affects them as business managers. Businesses have become increasingly subject to laws and regulations. Legal and regulatory provisions pervade such aspects of business as the sale of securities; marketing practices; product liability; and business relationships with

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employees, customers, and other interested parties. This course assists students in developing their ability to meet the legal and regulatory demands and responsibilities of contemporary business.
Prerequisite: MBAMGT 660.
3 Lect Hrs, 3 Credits

MBAMGT 665 (MGT)
International and Comparative Management
This course introduces students to the perspectives and dimensions of management and organizations in settings that span national boundaries. Course materials stress the nature, structure, dynamics, and problems faced by international and multinational organizations. Adaptive and competitive strategic behaviors of firms working in cross-national environments are analyzed, as well as the array of economic, socio-cultural, and political determinants of managerial behavior in these settings.
Prerequisites: MBAMGT 650 and MBAMGT 660.
3 Lect Hrs, 3 Credits

MBAMGT 667 (MGT)
Entrepreneurship
This course sensitizes students to the entrepreneurial process from the conception of an idea to the creation of a new venture. The course provides conceptual frameworks, tools, and techniques to understand different aspects of entrepreneurial process and helps students evaluate the entrepreneurial career for themselves. Students learn about assessing business opportunities, developing a business plan, understanding various ways of mobilizing resources, creating different forms of new ventures, and building a top management team for the growth of the venture.
Prerequisite: MBAMKT 670. MBA AF 620 is recommended, but not required.
3 Lect Hrs, 3 Credits

MBAMGT 668 (MGT)
Real Estate and Local Economic Development
This course introduces students to the field of urban economic development in the context of real estate development. Students will explore the principles of economic development, focusing on the role of real estate developers, companies, community organizations, and government agencies in the decline and revitalization of neighborhoods, cities, and regions. They will be exposed to diverse issues involved in economic development, with particular emphasis on practical aspects. Topics to be covered in this course include opportunity and impact assessments, stakeholder analysis, and project management. A combination of lectures, site visits, case studies, and group projects will help students to gain an appreciation of the role of real estate in urban economic development and develop the skills required to lead and assess development projects.
Prerequisite: MBAMGT 660.
3 Lect Hrs, 3 Credits

MBAMKT 670 (CORE)
Marketing Management
This course focuses on the strategic decisions necessary to match organizational resources with market opportunities. Students learn to analyze market opportunities, to develop marketing plans and marketing mix strategies, and to manage implementation and control of the marketing plan.
Prerequisite: MBA AF 610.
3 Lect Hrs, 3 Credits

MBAMGT 671 (MGT)
Introduction to Environmental Management
This course gives students an understanding of current environmental issues as they relate to managerial decision-making. The issues are examined from the worldwide perspectives of business and society. The course focuses on issues of waste and recycling, air quality (including ozone depletion, global warming, and acid rain), water quality, resource management, biodiversity, and sustainable economic growth.
Prerequisite: MBAMGT 660.
3 Lect Hrs, 3 Credits

MBAMKT 672 (MKT)
Services Marketing
This course examines what differentiates services marketing from the marketing of products. Special attention is given to the unusually intricate coordination of planning and interaction that the marketing of services requires among the traditional management functions of marketing, operations, human resources, and finance.
Prerequisite: MBAMKT 670.
3 Lect Hrs, 3 Credits

MBAMKT 673 (MKT)
Marketing Communications
This course helps students develop an integrated communications strategy, blending individual external elements such as advertising, personal selling, sales promotion (including direct marketing and trade shows), and publicity with internal communications. The course is managerial in nature and provides the student with the necessary ability to analyze, plan, implement, and control marketing communications programs.
Prerequisite: MBAMKT 670.
3 Lect Hrs, 3 Credits

MBAMKT 674 (MKT)
International Marketing
This course introduces the student to a systematic treatment of marketing on a global scale. Topics include the world market environment and its characteristics; identifying opportunities; and the development, implementation, and control of multinational marketing programs.
Prerequisite: MBAMKT 670.
3 Lect Hrs, 3 Credits

MBAMGT 675 (MGT)
Managing in the Global Economy
This course provides students with the opportunity to acquire an in-depth conceptual and operational understanding of a group of countries, with the purpose of acquiring the technical skills necessary to enter, network, structure, manage, and eventually exit effectively from a foreign environment.
Prerequisites: MBA AF 601 and MBAMKT 670.
3 Lect Hrs, 3 Credits

MBAMKT 675 (MKT)
Business to Business Marketing
This course examines the strategic and tactical issues of marketing business products and services. Special focus is laid on high technology and other areas in which markets are fragmenting, life cycles are accelerating, and pressures for cost containment are increasing, while margins are decreasing.
Prerequisite: MBAMKT 670.
3 Lect Hrs, 3 Credits

MBAMKT 676 (MKT)
Computer-Assisted Market Analysis and Planning
This course provides students with state-of-the-art, practical, computer-assisted approaches to such current marketing issues as segmentation and targeting, market measurement, strategic marketing analysis and planning, product positioning, new product development, advertising and promotion planning and budgeting, pricing and distribution strategy, customer satisfaction, and post-purchase management. The computer-assisted approaches include choice-based segmentation, attribute/similarity-based perceptual mapping, multidimensional scaling, product portfolio, conjoint analysis, new product diffusion, advertising response, market/sales response, and pricing. This course emphasizes active participation. Each approach entails software implementation and a business case whose resolution can be enhanced through the use of the software.
Prerequisite: MBAMKT 670.
3 Lect Hrs, 3 Credits

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MBAMGT 677 (MGT)
International Perspectives on Business and Government
This course focuses on the conduct of business and the practice of government with respect to business. For business, the course explores differences in managerial practice and the cultural norms and values which help shape them, considering specifically management decision-making patterns, recruitment and promotion practices, and labor-management relations. For government, the course considers the main kinds of politico-economic systems within which managers operate, and how these affect industrial policy, planning, and labor-management relations.
Prerequisites: MBAMGT 650 and 660.
3 Lect Hrs, 3 Credits

MBAMKT 677 (MKT)
Internet Marketing
The contemporary environment requires more demonstrated cost effectiveness from every marketing program than ever before. Meanwhile, the customer demands quality, value, service, and quick delivery. The primary way to resolve these potentially conflicting mandates is through information-driven relationship marketing programs. This course examines the customer database as the key element in marketing programs of this type. It considers strategic implications in both business and consumer markets, for both products and services. It pays special attention to the role of interactive media, including the Internet. It aims to develop a reasonable level of technical sophistication in terms of what information technology can and cannot accomplish.
Prerequisite: MBAMKT 670.
3 Lect Hrs, 3 Credits

MBAMGT 678 (MGT)
Environmental Management: Implementation Issues
This course is intended to introduce students to the issues companies encounter when trying to implement sound environmental practices through their organizations. Issues to be discussed fall in the functional areas of accounting, finance (e.g., full cost accounting concepts, information systems), the value and structure of environmental management systems (including ISO 14001), operations management (process redesign and pollution prevention), marketing (incorporating "green" considerations into product design and promotion), organizational design, and strategic management (strategic advantages and sustainable operations). The course also includes an identification of the "green consumer" and an assessment of consumer attitudes and buying behavior toward environmental issues. Students gain an appreciation of the difficulties in implementing "green" considerations into all of the functional areas listed above.
Prerequisite: MBAMGT 671.
3 Lect Hrs, 3 Credits

MBAMKT 679 (MKT)
Export Development and Foreign Sourcing
This course introduces techniques and procedures for conducting international operations and trade. The course focuses on operations, government agencies, import/export channel networks, pricing, and the evaluation of international opportunities. It is designed for students who are considering the formation or acquisition of their own international enterprise and who view exporting as a necessary activity. Since international business is a two-way street, the course also raises the issue of foreign buying and importing.
Prerequisite: MBAMKT 670.
3 Lect Hrs, 3 Credits

MBAMGT 680 (MGT)
Management of Health Organizations
This course explores the roles of the health systems manager as planner, organizer, leader, and integrator of health programs. Particular attention is given to how these roles differ from industry's roles, as well as to the special demands made of the manager in a health systems organization.
Prerequisite: MBAMGT 650.
3 Lect Hrs, 3 Credits

MBAACM 681 (ACM)
Analytical Writing in Management
This course prepares the management graduate student for advanced writing in other MBA courses, and for effective writing in management. Topics include key ingredients in effective managerial writing; writing as a managerial problem; interpreting and reporting quantitative information; and representative managerial writing situations (e.g., feasibility reports, policy recommendations, research reports).
3 Lect Hrs, 3 Credits

MBAMGT 681 (MGT)
The Health System and Public Policy
This course examines the interface of government, health, and the private sector, while exploring the various roles government plays as promoter, regulator, and buyer of health services.
Prerequisite: MBAMGT 660.
3 Lect Hrs, 3 Credits

MBAACM 682 (ACM)
Oral Communication for Managers
This course helps students improve their oral communication skills. Its purpose is to improve 1) students' organizational effectiveness as managers, and 2) students' personal effectiveness as speakers. Course topics include the communication process, communicating in organizations, the substance of oral communication (argument and persuasion), and the form of communication (organization and delivery).
3 Lect Hrs, 3 Credits

MBAMGT 683 (MGT)
Leadership Management in the 21st Century
This course explores leadership as it is practiced in corporate and public-sector environments, emphasizing the role of leaders in guiding organizations through turbulent business climates, in motivating subordinates and teams, and in crafting strategic visions for their organizations. Change management, globalization, and human resource management factor strongly into discussions and readings.
Prerequisite: MBAMGT 650.
3 Lect Hrs, 3 Credits

MBAMGT 685 (MGT)
Global Industry and Competitive Analysis
This course examines techniques of industry and competitive analysis and ways of applying these techniques to gain a better understanding of industry trends and company strategies in sectors of significant importance to the regional economy.
Prerequisites: MBAMGT 650 and 660.
3 Lect Hrs, 3 Credits

MBAMGT 689 (CAPSTONE)
Strategic Management
This course considers the diverse situations typically confronted by upper-level management and strategies for managing these situations, using knowledge acquired through study of the MBA Core. These strategies are based on an analysis of the internal conditions of the firm and the constraints and opportunities afforded by the external environment. Students learn to develop strategy implementation plans that provide detailed descriptions of appropriate executive action.
Prerequisite: This course is to be taken in the student's final semester of study.
3 Lect Hrs, 3 Credits

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MBA AF 691 (ACC)
Financial Accounting Theory and Analysis
This course examines the role of accounting information in the capital markets. Financial statements are widely used by bankers, analysts, and investors to evaluate a firm's past performance and judge future prospects. Preparation of effective financial statements requires understanding of a firm's business characteristics and strategy, as well as the accounting policies and practices and procedures that can best reflect true economic reality. The course explores a variety of financial reporting contexts, industries, and business strategies, to provide students with an understanding of accounting information across various corporate environments.
3 Lect Hrs, 3 Credits

MBAACM, MBA AF, MBAMGT, MBAMS, MBAMKT 696
Independent Study
Independent study credit is granted only for academic work not normally offered in advanced courses. A student must find a faculty sponsor for his/her independent study project and then file a proposal for the project in the MBA Office. The proposal should be signed by both the student and the faculty sponsor.
Hrs by arrangement, 3 Credits

MBAACM, MBA AF, MBAMGT, MBAMS, MBAMKT 697
Special Topics
This course addresses a specific topic in a particular discipline. Courses under this title are offered as one-time supplements to a given department's curriculum.

MBAMGT 698
Practicum
This course is limited to students pursuing professional internships for credit.
Hrs by arrangement, 3 Credits

CHEMISTRY (PhD, MS, BS/MS)

CHEMISTRY (MS, BS/MS), CHEMISTRY/GREEN CHEMISTRY TRACK (PhD)

Faculty

Joseph S Alper (emeritus), PhD, *Yale University* • Physical Chemistry • Theoretical Chemistry

Jean-Pierre Anselme, PhD, *Polytechnic Institute of Brooklyn* • Organic Chemistry • Synthesis and Mechanisms of Organic Polynitrogen Compounds

Robert L Carter, PhD, *University of Kansas* • Inorganic Chemistry • Structural Studies of Ionic Inorganic Solids by Infrared and Raman Spectroscopy

Timothy Dransfield, PhD, *Harvard University* • Physical Chemistry • Gas-Phase Chemistry of the Middle and Lower Atmosphere

Jason Evans, PhD, *University of Delaware* • Analytical Chemistry • Biological Mass Spectrometry

Michelle Foster, PhD, *University of Texas at Austin* • Physical Chemistry • Heterogeneous Atmospheric Reactions of the Troposphere

Stuart Licht, PhD, *Weizman Institute* • Physical/Analytical Chemistry • Renewable Energy Chemistry • Green Chemistry • Electrochemistry

Thomas N Margulis, PhD, *University of California, Berkeley* • Physical Chemistry • X-ray Crystallography of Drugs and Natural Products

Deyang Qu, PhD, *University of Ottawa* • Physical/Analytical Chemistry • Electrochemical Sensors • Fuel Cells • Battery Materials • Super-capacitors

Marietta E Schwartz, PhD, *University of Wisconsin* • Charge-transfer Complexation • Synthesis and Study of Strained Hydrocarbons

Hannah Sevian (Department of Curriculum and Instruction), PhD, *University of Wisconsin* • Science Education • Chemistry Education • Physical Chemistry • Chemical Physics

Bela Torok, PhD, *University of Szeged* • Green Chemistry • Asymmetric Catalysis • Chiral Fluorine Chemistry • Medicinal Chemistry

Hans van Willigen (emeritus), PhD, *University of Amsterdam* • Physical Chemistry • Application of Electron Spin Resonance in the Study of Structure and Dynamics

Leverett J Zompa, PhD, *Boston College* • Inorganic Chemistry • Chemistry of Transition Metal Complexes

Facilities and Resources

The Department of Chemistry is housed in the University's modern and well-equipped Science Building. A variety of modern, specialized laboratory equipment (FTIR, STM, NMR, HPLC, TGA, DSC, UV-Vis, X-Ray diffractometer, Raman spectrometer, AA/AES, AFM, ESR, GCMS, LCMS-MS) is available for use by students pursuing MS theses and Green Chemistry dissertations. Facilities include laboratory space for faculty and graduate student research; glass blowing, machine and electronics shops; and access to the Healey Library's science collections. The department's library and equipment resources are augmented through cooperative arrangements with other area educational and industrial institutions.

The PhD in Chemistry/Green Chemistry Track

Green chemistry involves an ecologically sustainable view of chemical research, development, and manufacture. Toxicological consequences and environmental fate are important factors in understanding the entire life cycle of any product or process. Issues related to energy, the environment and human health provide some of the most exciting and important research topics facing chemists today.

This Green Chemistry PhD Track within the Chemistry Program was the first such program in the world. It focuses specifically on providing chemistry doctoral students with the skills and tools necessary to design and carry out chemistry that reduces or eliminates impact on human health or the environment. The program aims to provide chemistry doctoral students with the tools and experiences needed to understand and modify the impact of chemicals and chemical processes on the world around us and to conduct research in new, fundamental, and applied physical, analytical, organic, and inorganic chemistries. Examples of research topics include renewable energies, environmental sensors, atmospheric reaction pathways, minimizing the negative impact of manufacturing processes from "cradle to grave," understanding the hazards associated with pollution, and reducing toxicological impacts on the biosphere. Fundamental processes that can be investigated include new synthetic and analytical methodologies, photon/matter interactions, reaction theory, fate and transport of chemicals, surface chemistry, charge transfer, and biochemical interactions.

The strength of the Green Chemistry curriculum lies in its overlapping, interdisciplinary themes of research. Students completing the Green Chemistry program will be prepared for conventional chemistry jobs in industry, government, and academia. In addition, required and elective courses from the Environmental, Earth, and Ocean Sciences Department (EEOS) and the Biology Department will provide graduates with a broad scientific base not usually provided in traditional chemistry PhD programs.

The Green Chemistry PhD track is administered by the Chemistry Department and leads to a PhD in Chemistry. The multidisciplinary complement of Chemistry, EEOS, and Biology Department faculty has enabled the University of Massachusetts Boston to create this unique, interdisciplinary Green Chemistry doctoral program.

PhD Requirements

Please see the general statement of degree requirements for doctoral programs in the "Regulations, Procedures, and Degree Requirements" section of this publication.

For the PhD in Chemistry/Green Chemistry Track, 60 credits are required from courses, seminars (CHEM 691 and 692), and Dissertation Research (CHEM 899), distributed as follows:

- Three Fundamental Graduate Courses in Chemistry, one from each of the areas of physical chemistry (CHEM 601 - Thermodynamics and Kinetics, CHEM 602 - Quantum Mechanics and Spectroscopy), inorganic chemistry (CHEM 611 - Inorganic Chemistry: Synthesis and Analysis, CHEM 612 - Inorganic Chemistry: Structure and Reactivity), and organic chemistry (CHEM 621 - Synthetic Organic Chemistry, CHEM 622 - Physical Organic Chemistry). These courses must be passed with grades of B or better.
- CHEM 671 - Introduction to Green Chemistry and EEOS 635 - Environmental Toxicology. Both CHEM 671 and EEOS 635 must be passed with grades of B or better.

Chemistry

- One elective course selected from either the list of Fundamental Graduate Courses in Chemistry, the list of Elective Graduate Courses in Chemistry (CHEM 651, CHEM 653, CHEM 658, CHEM 666, CHEM 687, CHEM 688, CHEM 689, CHEM 690, CHEM 696), or a list of Approved Elective Courses Outside of Chemistry (available from the Department) given by Biology or EEOS. Other graduate courses outside of Chemistry may be taken to fulfill this requirement, with the approval of the Graduate Program Director, if particularly relevant to the student's research. Beyond this requirement, students are encouraged to take additional elective courses relevant to their programmatic focus.
- CHEM 691 (Seminar I) and CHEM 692 (Seminar II) in every semester of attendance.
- Literature seminar presentation, based on review of the scientific literature related to a selected topic of current chemical interest. The literature seminar must be completed within the first two years of matriculation.
- A Written Comprehensive Examination and an Oral Examination to be admitted to candidacy.
- Dissertation and defense based on original research relevant to Green Chemistry.
- All students must acquire at least one semester of teaching or work experience in chemistry, subject to approval by the Graduate Program Director.

On first matriculation, all students are given placement tests in the three subdisciplines of physical, inorganic, and organic chemistry. Satisfactory performance on a subdiscipline placement test permits enrollment in graduate courses in that area. Students with an unsatisfactory score on any placement test are advised to take one or more appropriate undergraduate courses in that area. Grades of B or better in such remedial undergraduate courses or satisfactory performance on retaking the subdiscipline examination admit the student to graduate course work in that area. Credits received in remedial undergraduate courses are not counted toward fulfilling the degree requirements, although they are counted for purposes of establishing full-time status and eligibility for financial support in the semester in which they are taken.

The Master's Program

The requirements for the MS Program in Chemistry have been designed with a flexibility that accommodates not only students interested in the usual areas of concentration in chemistry, but also those with interests in other, interdisciplinary, chemistry-related fields. As many as nine of the required thirty-three graduate credits may be earned in a related area of study. In addition to the traditional subdivisions within the field of chemistry, candidates may work in such areas as chemical physics and chemical biology, or in such divergent fields as chemical economics, and chemical writing or editing.

All candidates for the master of science degree take required courses in each of three areas: physical, inorganic, and organic chemistry. A group of elective courses allows the student to specialize in a field of his or her choice. For students hoping to continue their studies in a research-oriented PhD program, the curriculum offers the opportunity for both extensive course work and a research project. This flexible program is designed for recent graduates as well as for people who hold positions in high schools, community colleges, and industry and who are seeking advancement through further professional training. Attempts will be made to arrange schedules for those who must study part-time.

MS Degree Requirements

For the MS in Chemistry, 33 credits are required from courses, seminars (CHEM 691 and 692), and Thesis Research (CHEM 699), distributed as follows:

- Three Fundamental Graduate Courses in Chemistry, one from each of the areas of physical chemistry (CHEM 601 - Thermodynamics and Kinetics, CHEM 602 - Quantum Mechanics and Spectroscopy), inorganic chemistry (CHEM 611 - Inorganic Chemistry: Synthesis and Analysis, CHEM 612 - Inorganic Chemistry: Structure and Reactivity), and organic chemistry (CHEM 621 - Synthetic Organic Chemistry, CHEM 622 - Physical Organic Chemistry). These courses must be passed with grades of B or better.
- Three elective courses selected from either the list of Fundamental Graduate Courses in Chemistry, the list of Elective Graduate Courses in Chemistry (CHEM 651, CHEM 653, CHEM 658, CHEM 666, CHEM 671, CHEM 687, CHEM 688, CHEM 689, CHEM 690, CHEM 696), or a list of Approved Elective Courses Outside of Chemistry (available from the Department) given by Biology or EEOS. Other graduate courses outside of Chemistry may be taken to fulfill this requirement, with the approval of the Graduate Program Director, if particularly relevant to the student's research. Beyond this requirement, students are encouraged to take additional elective courses relevant to their programmatic focus.
- Literature seminar presentation, based on review of the scientific literature related to a selected topic of current chemical interest. The literature seminar must be completed within the first two years of matriculation.
- Thesis and defense based on original research in chemistry.
- All students must acquire at least one semester of teaching or work experience in chemistry, subject to approval by the Graduate Program Director.

The BS/MS Degree in Chemistry

The Chemistry Department offers a combined BS/MS, designed to offer talented and motivated students the opportunity to attain a bachelor's and master's degree in five years. Students who plan to enter this program should have a solid high school record, particularly in chemistry, mathematics, physics, and English.

BS/MS Degree Requirements

Requirements for this degree include

1. All the chemistry courses required for the BA.
2. The requirements for the MS degree in chemistry.
3. A minimum of 11 credits of elective chemistry courses, chosen from departmental offerings.

The student completing these requirements will receive both the BS in chemistry and the MS in chemistry. No degree is awarded until the requirements are complete. To be retained in the program, students must maintain a GPA of 2.0 in undergraduate chemistry and biochemistry courses and grades of B or better in graduate chemistry courses. Admission to this program is by application only. Complete information is available at the department office.

Chemistry

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication. The Chemistry Program will recommend admission to either the Green Chemistry track of the PhD or the MS program for those applicants who present evidence of their ability to do graduate work with distinction. Applicants should present:

1. Graduate Record Examination (GRE) scores (aptitude and advanced tests). Applicants to the MS programs who have graduated from American or Canadian colleges or universities are not required to present these scores but are strongly urged to do so. The GRE is required of all PhD applicants and all master's applicants with undergraduate degrees from foreign institutions.
2. Three letters of recommendation.
3. A personal statement of purpose in pursuing a graduate degree in chemistry at UMass Boston.
4. Applicants to the PhD program must present a cumulative undergraduate grade point average of at least 3.0 in all science and mathematics courses.

Students intending to pursue the BS/MS must satisfy the University's undergraduate admissions requirements.

Teaching and Research Assistantships

The Chemistry Department offers a limited number of teaching assistantships to highly qualified new and continuing students in its MS program and PhD programs. Students in the BS/MS program who have achieved at least 120 credits may also be eligible for teaching assistantships. These awards, which include a stipend, waiver of tuition and some fees, and a health insurance benefit, require recipients to serve as laboratory instructors in certain of the Chemistry Department's undergraduate courses. Subject to availability, continuing students may be appointed as research assistants with the support of external grant funding provided through their research directors.

Course Prerequisites

Please consult UMass Boston's undergraduate catalog for complete information about the undergraduate courses listed here as prerequisites for individual graduate-level courses.

Courses

CHEM 501
Chemistry I—The Particulate Nature of Matter
This course, designed especially for secondary school teachers, and guided by state and national standards for the teaching of chemistry in secondary and middle schools, offers an in-depth exploration of fundamental principles of chemistry. Primary focus will be on the particulate nature of matter, energy transfer, gas laws, chemical periodicity, and the scientific method. Students are exposed to current research within the scientific community through laboratory activities, readings, presentations, and discussions. Students will also participate in laboratory exercises drawn from middle and high school instructional materials allowing them to review and assess these teaching materials and methods.
3 Lect Hrs, 3 Credits

CHEM 601
Thermodynamics and Kinetics
Advanced physical chemistry with an emphasis on thermodynamics, chemical kinetics, and statistical mechanics with applications to problems in chemistry. Students taking this course should have taken CHEM 321, or its equivalent, prior to registration.
Prerequisite: Matriculation in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 4 Credits

CHEM 602
Quantum Mechanics and Spectroscopy
Advanced physical chemistry with an emphasis on modern theories of the structure of matter, including the principles of quantum mechanics, the electronic structure of atoms and molecules, chemical bonding, and atomic and molecular spectra. Students taking this course should have taken CHEM 369, or its equivalent, prior to registration.
Prerequisite: Matriculation in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 4 Credits

CHEM 611
Inorganic Chemistry: Synthesis and Analysis
Study of the determination of chemical structures by various methods such as UV-Vis, infrared and nuclear magnetic resonance spectroscopy, mass spectroscopy, and X-ray diffraction. Students taking this course should have taken CHEM 370, or its equivalent, prior to registration.
Prerequisite: Matriculation in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 4 Credits

CHEM 612
Inorganic Chemistry: Structure and Reactivity
Study of structural aspects of modern chemistry based on valence bond and molecular orbital theories. Group theoretical principles are used to understand structural and spectroscopic properties of molecules. Topics include: Walsh diagrams, projection operators, ligand field theory, angular overlap model, and symmetry controlled reactions. Examples are taken from representative and transition metal compounds. Students taking this course should have taken CHEM 370, or its equivalent, prior to registration.
Prerequisite: Matriculation in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 4 Credits

CHEM 621
Organic Synthesis and Mechanisms
Discussion of the mechanisms of fundamental reactions used in organic synthesis. Critical analysis of the tactics and strategy of the use of these reactions for the construction of organic compounds. Discussion of the mechanisms of fundamental reactions used in organic synthesis. Critical analysis of the tactics and strategy of the use of these reactions for the construction of organic compounds. Students taking this course should have taken two semesters of undergraduate Organic Chemistry (CHEM 253 and CHEM 254), or their equivalents, prior to registration.
Prerequisite: Matriculation in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 4 Credits

CHEM 622
Physical Organic Chemistry
Modern theories of organic reaction mechanisms, particularly the use of physical-chemical principles to predict the effects of changing reaction variables, especially reactant structures, on reactivity. The structure, stability, and reactivity of carbanions and carbocations, as well as SN1 and SN2 reactions, are discussed. Molecular orbital theory and symmetry as applied to organic reactions is also a focus. Students taking this course should have taken two semesters of undergraduate Organic Chemistry (CHEM 253 and CHEM 254), or their equivalents, prior to registration.

Chemistry

Prerequisite: Matriculation in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 4 Credits

CHEM 651
Spectrometric Identification of Organic Compounds
A survey of spectral methods for organic structure determination. The course will introduce the major spectroscopic techniques with an emphasis on the application to structural analysis. The basic theory and methodology of each type of spectroscopy will be presented. Topics covered include IR, UV-vis, NMR, and mass spectrometry. Students taking this course should have taken CHEM 254, or its equivalent, prior to registration.
Hrs by arrangement, 4 Credits

CHEM 653
Polymer Chemistry
An introductory survey of polymer chemistry including polymer structure and stereochemistry, characterization of polymers, categories of polymers, synthesis of monomers, and polymerization reactions and their mechanisms. Why and how polymers are tailor-made is exemplified. Emphasis is given to polymer chemistry as an interdisciplinary field and as a unique area of chemical science. Students taking this course should have taken CHEM 254, or its equivalent, prior to registration.
Hrs by arrangement, 3 Credits

CHEM 658
Medicinal Chemistry
This graduate and upper-level professional course presents the principles of medicinal chemistry. Organized along pharmacological lines, the course considers the development and design of drugs, those a) acting on the central and peripheral nervous system; b) acting on the cardiovascular, hematopoietic and renal systems; and c) acting as chemotherapeutic agents, vitamins, and hormones. Special emphasis is given to drugs used in emergencies and to drugs described in the United States Pharmacopoeia and the National Formulary. Syntheses of important compounds in the various categories are presented. Students taking this course should have taken CHEM 254, or its equivalent, prior to registration.
Hrs by arrangement, 3 Credits

CHEM 666
Electrochemistry
This course provides an advanced study in the field of electrochemistry. Electro-chemistry will include an overview of the theories of ionics, electrodiscs, and charge transfer. These theories will then be applied to the understanding of a variety of electroanalytical techniques and electrochemical applications such as contemporary batteries and fuel cells. Electroanalytical techniques to be discussed include static and dynamic methods for application of controlled voltage (potentiometric) and controlled current (coulometric) as well as ion detection, electro-separation, and conductometric methods. Specific topics emphasized will include electrochemical instrumentation, reference electrodes, cyclic voltametry, microelectrochemistry, and contemporary ion selective electrode analysis.
Prerequisite: Matriculation in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 4 credits

CHEM 671
Introduction to Green Chemistry
The goal of this course is to provide a global perspective on Green Chemistry. The first of three sections will identify an environmental problem such as global warming, ozone depletion, or water pollution. The second section will look at real-world implications of Green Chemistry—for example, from a manufacturing, toxicological, or economic perspective. The third section will present an array of representative topics: renewable energy, atmospheric chemistry, chemical reactions in water and soil, or benign chemical syntheses, for example. Combined, the three sections provide an understanding of chemistry designed to benefit society and provide pathways to minimize environmental impact.
Prerequisite: Matriculation in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 4 Credits

CHEM 687
Topics in Chemistry
Graduate-level readings in various areas of chemistry under the supervision of a faculty member.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-10 Credits

CHEM 688
Topics in Physical Chemistry
Topical discussions, each based on elementary principles of physical chemistry and progressing toward recent developments in the field. Open to graduates and advanced undergraduates. Students taking this course should have taken CHEM 312 and CHEM 369, or their equivalents, prior to registration.
Hrs by arrangement, 3 Credits

CHEM 689
Topics in Organic Chemistry
Discussions of selected topics of current interest in organic chemistry. Open to graduates and advanced undergraduates. Students taking this course should have taken CHEM 254, or its equivalent, prior to registration.
Hrs by arrangement, 3 Credits

CHEM 690
Topics in Inorganic Chemistry
Discussions of selected topics of current interest in inorganic chemistry. Open to graduates and advanced undergraduates. Students taking this course should have taken CHEM 370, or its equivalent, prior to registration.
Hrs by arrangement, 3 Credits

CHEM 691
Seminar I
Students take CHEM 691 or 692 during every semester they are enrolled in the program.
Prerequisite: Enrollment in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 1 Credit

CHEM 692
Seminar II
Students take CHEM 691 or 692 during every semester they are enrolled in the program.
Prerequisite: Enrollment in a graduate chemistry program or permission of instructor.
Hrs by arrangement, 1 Credit

CHEM 696
Independent Study
Study of a particular area of chemistry under the supervision of a faculty member.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-10 Credits

CHEM 697
Special Topics in Chemistry
A field of current interest in chemistry is examined in detail.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-6 Credits

CHEM 699
Master's Thesis
Open to degree candidates.
Hrs by arrangement, 1-10 Credits

CHEM 899
Dissertation Research
Research, conducted under faculty supervision, which leads to the presentation of a doctoral dissertation.
Hrs by arrangement, 1-10 Credits

CLINICAL PSYCHOLOGY (PhD)

Faculty

Jane Adams, PhD, *New Mexico State University* • Psychobiology • Behavioral Teratology • Human Electrophysiology

Erik Blaser, PhD, *University of California, Irvine* • Experimental Psychology • Psychophysics • Visual Perception

Alice Carter, PhD, *University of Houston* • Child Clinical Psychology • Child Assessment • Developmental Psychopathology • Child Development

Sheree Conrad, PhD, *Boston University* • Personality Psychology • Adult Political Attitudes and Emotion • Dissociation in PTSD, BPD, and Eating Disorders • Media Violence

Sherry Tiffany Cunningham, PhD, *Northeastern University* • Psychobiology • Physiological and Behavioral Mechanisms of Substance Abuse • Psychopharmacology

Estelle Disch (Sociology Department), PhD, *Tufts University* • Sociology • Racism and Mental Health • Feminist Therapy

Roxanne Donovan, PhD, *University of Connecticut* • Abnormal Psychology Personality • Racial and Cultural Issues • Psychology of Gender • Racial and Class Disparities in Mental Health Treatment • African American Studies

Zsuzsa Kaldy, PhD, *Rutgers University* • Cognitive Development • Memory in Infants • Visual Perception in Infants

Susan Gore (Sociology Department), PhD, *University of Pennsylvania* • Medical Sociology • Social Relationships and Mental Health • Stress and Health • Adolescent Stress

Joan Liem, PhD, *Boston University* • Clinical Psychology • Family Processes • Stress and Coping • Schizophrenia • Sexual Abuse • Adolescent to Adult Transitions

David Lisak, PhD, *Duke University* • Clinical Psychology • Gender and Culture • Treatment of Trauma • Psychological Origins of Violence

Michael Milburn, PhD, *Harvard University* • Social Psychology • Attitudes and Behavior • Social Cognition • Political Psychology

Celia Moore, PhD, *Rutgers University* • Developmental Psychobiology • Neuroendocrine Systems and Behavior • Development of Species-Typical Behavior

Paul Nestor, PhD, *Catholic University* • Clinical Neuropsychology • Forensic Psychology • Attention in Schizophrenia • Violence and Psychosis

John Perez, PhD, *Yale University* • Developmental Psychopathology • Cognitive-Behavioral Theory and Therapy • Social and Cultural Factors in Major Mental Illness • Spirituality and Health • Prevention and Treatment of Depression • Cultural Factors in Depression • Latino Mental Health

Jean E Rhodes, PhD, *DePaul University* • Clinical-Community Psychology • Mentoring • Urban Adolescents • Women's Issues

Liz Roemer, PhD, *Pennsylvania State University* • Clinical Psychology • Emotion Suppression • Generalized Anxiety Disorder • Post-traumatic Stress Disorder

Ester Shapiro, PhD, *University of Massachusetts Amherst* • Clinical Psychology • Family Life Cycle Transitions • Family Development

Timothy Sieber (Anthropology Department), PhD, *New York University* • Urban Anthropology • Social Class and Ethnicity • Cultural Issues in Urban Development • Schooling

Carol Smith, PhD, *Harvard University* • Developmental Psychology • Cognitive Development • Conceptual Change in Children and Adults • Developing Scientific Concepts

Karen L Suyemoto, PhD, *University of Massachusetts Amherst* • Clinical Psychology • Asian American Studies • Mental Health and Identity in Asian Americans • Multiracial Issues • Identity Development and Issues of Diversity (Ethnicity, Race, Gender, and Sexual Orientation)

Castellano Turner, PhD, *University of Chicago* • Clinical Psychology • Racial Attitudes • Social Issues in Psychotherapy

Laurel Wainwright, PhD, *Boston University* • Physiological Psychology • Social and Cognitive Development • Developmentally Delayed Children

The Program

UMass Boston's PhD Program in Clinical Psychology, housed in the Psychology Department of the University's College of Liberal Arts (CLA), is designed to prepare students to work in a variety of settings, as clinicians, clinical researchers, and academics, addressing the mental health problems of children, adolescents, or adults.

Accredited by the American Psychological Association, the program follows the scientist-practitioner model of clinical training. It provides a strong theoretical background in psychology and related social science disciplines, as well as training in essential clinical skills and in conducting research. Its graduates function as professional psychologists who can translate their basic knowledge into practical applications and who can advance understanding of key problems through research or other scholarly activities.

The program particularly emphasizes:

- Theoretical issues in normal and abnormal development from infancy through adolescence and adulthood. Childhood, adolescence, and adulthood are each studied from a variety of perspectives within the broader context of the total life cycle.
- Sociocultural, ethnic, and minority issues. The course work highlights social and cultural approaches to normal and abnormal development, especially as they help to build an understanding of the perspectives of ethnic minority and low-income groups. The clinical training prepares graduates to conduct sensitive assessment and therapeutic interventions with members of these groups.
- A biopsychosocial approach to explaining and treating problems in living, symptomatic behavior, and mental illness, and opportunities for interdisciplinary study. Recognizing that normal and abnormal development are multi-determined, the program draws not only on faculty from the Psychology Department who adopt a biopsychosocial perspective, but also from other departments, including the Departments of Anthropology and Sociology and the University's Research Institutes. Research training gives students skills for analyzing problems from a variety of social science perspectives.
- Specialized assessment and intervention skills. The program trains students in a broad array of assessment and intervention skills that will not only enable them to treat problem behavior, but will help them promote healthy adaptation and prevent individual and social problems from developing.

Degree Requirements

The Program in Clinical Psychology involves five to six years of full-time study. Its requirements include:

Clinical Psychology

1. Completion of 18 required and 6 elective courses, taken during the first three years of the program. (Note: All courses must be completed with a grade of B or better.) The required courses are designed to expose students to the specific emphases within the program on human development across the life span, and on ethnic and minority concerns and the role of culture in mental health. They also provide students with research training and basic clinical skills in preparation for the practica and internship. Required courses include the following:

   PSYCH 601 (Assessment and Testing I)

   A second testing course selected from among three (depending on career goals):

   PSYCH 602 (Testing and Assessment II)—covers personality assessment)—or

   PSYCH 701 (Advanced Neuropsychology Assessment), or

   PSYCH 710 (Child Psychological Assessment).

   PSYCH 610 (Culture and Mental Health)

   One Additional Diversity Course

   PSYCH 611 and 612 (Developmental Psychopathology I and II)

   PSYCH 620 (Intervention Strategies)

   One additional Interventions/Psychotherapy course

   PSYCH 641 and 642 (Life Span Development I and II: Cognitive and Affective Bases for Behavior and Social and Cultural Bases of Behavior)

   PSYCH 660 (Biological Bases of Behavior)

   PSYCH 670 (Advanced Statistics I)

   PSYCH 675 (Research Methods in Clinical Psychology)

   PSYCH 680 (History and Systems of Psychology)

   PSYCH 699 (Master's Research Seminar)

   PSYCH 785 and 786 (Clinical Practicum Seminar I and II)

   PSYCH 787 and 788 (Clinical Practicum Seminar III and IV)

   PSYCH 790 (Professional Standards and Ethics)

   Students also take six elective courses drawn from the following four categories (at least one from each):

   Group 1 - Psychotherapy Elective:

   PSYCH 720 (Family Systems and Family Therapy)

   PSYCH 721 (Child Therapy)

   PSYCH 726 (Cognitive Behavioral Therapy)

   Group 2 - Assessment Elective:

   PSYCH 602 (Assessment and Testing II: Personality Assessment)

   PSYCH 701 (Advanced Neuro-Psychological Assessment)

   PSYCH 710 (Child Psychological Assessment)

   Group 3 - Methods/Analysis Elective:

   PSYCH 770 (Multivariate Statistics and Causal Modeling)

   PSYCH 775 (Qualitative Methods in Psychological Research)

   Group 4 - Diversity Elective:

   PSYCH 645 (The Psychology of Gender)

   PSYCH 720 (Family Systems and Family Therapy)

   PSYCH 742 (Social Construction of Self and Identities)

   Two additional electives from any of the above groups or from the General Electives listed below:

   PSYCH 614 (Forensic Psychology)

   PSYCH 662 (Psychopharmacology)

   PSYCH 628 (Trauma: Psychological Response and Recovery)

   PSYCH 719 (Severe Psychopathology)

   PSYCH 724 (Health Psychology)

2. A research apprenticeship in the first year. Each student works closely with a faculty research mentor during the first year, gaining exposure to the faculty member's program of research and designing and implementing a master's research project.

3. A master's thesis. Students are not admitted into the Clinical Psychology Program for a terminal master's degree. A master's degree is granted, however, usually sometime after the second year, and after the student has completed 48 credits of course work, one year of part-time practicum, and an approved master's thesis. This thesis gives students an opportunity to apply the knowledge acquired in the three-course research methods sequence (PSYCH 670, 675, and 699). The project done for the master's thesis may be conducted in either a field or laboratory setting. Students enroll for PSYCH 699 (Master's Research Seminar) in the spring of their first year and up to six master's research credits (PSYCH 698) during their second year.

4. Completion of two years of clinical practicum. One of the key components of the Clinical Psychology Program is systematic intensive training in the application of basic knowledge to the solution of human problems. Such training is achieved through the required practica, which students complete during the second and third years of the program. Students spend two days a week in practice in the University's Mental Health Counseling Center or in a field agency (e.g., a community mental health center; school for emotionally disturbed children; training hospital). The practicum provides supervised experience with client problems and the opportunity to apply a wide range of assessment and intervention techniques. Along with the field component, students attend a required clinical seminar on campus each semester (PSYCH 785-786 in the second year and PSYCH 787-788 in the third year).

5. The qualifying examination (usually taken in the third year) has several goals and purposes. It is intended to challenge students to prepare a critical, synthetic review of a limited body of literature in the area in which they plan to do their doctoral dissertation. Students are expected to consider sociocultural and developmental contexts in selecting the literature to be reviewed and/or in crafting the organizational framework that shapes their review. The review is intended to serve as evidence of the student's readiness to begin doctoral work and, at the same time, to expose students to literature that stimulates their thinking in ways that will move their doctoral work forward. The literature review for the qualifying examination may be thought of as the first iteration of the more comprehensive literature review that will ultimately be required for the dissertation. At the same time, it may be somewhat broader in scope than the review for the dissertation, given the specific challenge to integrate developmental and sociocultural perspectives in the qualifying paper.

   Students completing the qualifying examination successfully are admitted to doctoral candidacy.

6. A doctoral dissertation, which is usually completed by the end of the fifth or

Clinical Psychology

sixth year. Completion of a dissertation is one of the most important requirements of the doctoral program. The dissertation is an original empirical project that makes a substantive contribution to the knowledge base in human development or clinical psychology. The dissertation is supervised by a primary advisor and a doctoral committee consisting of at least two additional faculty members, one of whom comes from an area outside clinical psychology. The committee is responsible for approving the dissertation proposal, overseeing the data collection and analysis, and reviewing the dissertation. The dissertation must be approved by the doctoral committee, and an oral defense must be successfully completed.

7. An internship, typically done in the fifth or sixth year, after the student has completed all other requirements. It involves the satisfactory completion of a one-year, full-time (or two years, half-time) APA-approved clinical internship in an outside agency. The internship is the logical extension of the practica. It is designed to complete the student's preparation for functioning as an independent professional clinician.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

Students are admitted to the Clinical Psychology Program to work toward the PhD degree only; the program does not offer a terminal master's degree. Applications are due in the Graduate Admissions Office of the University by December 1 for enrollment the following September. There are no spring semester admissions in the Clinical Psychology Program.

Students wishing to apply for admission to the program must complete the University of Massachusetts Boston Graduate Admission Application Form. Special attention should be paid to the personal statement, which should include all relevant background experience, academic interests, and professional goals. A copy of all application materials can be found at the back of this publication.

Students must also present the following:

- A minimum of 6 courses in psychology or a closely related social science field, including a course in statistics.
- Scores on the general aptitude (verbal, quantitative, and analytic) and advanced psychology sections of the Graduate Record Examination (GRE).

The Clinical Psychology Program is especially interested in receiving applications from individuals who have strong research training and have some experience in a human service field, or have worked in a mental health setting. Highly qualified applicants who have a demonstrated commitment to a career serving the needs of urban populations will be given priority. In keeping with the mission of the University, and the particular emphases of the program, individuals from a variety of ethnic and minority backgrounds are strongly encouraged to apply.

Another important criterion for admission is the fit between student research interests and the research interests of the faculty teaching in the program. During the admissions process, each student is matched with a research mentor, based on his/her research and clinical interests. The research mentor works closely with the student, helping to plan course work and select practicum opportunities, as well as guiding the student's research training.

The admissions committee schedules interviews for all finalists, once applications have been reviewed. Interviews are considered an important part of the application process, and whenever possible are held on campus. The program expects to admit eight to ten students each year.

Eligibility for Course Enrollment

Graduate courses in the Clinical Psychology Program are ordinarily open only to regularly matriculated students in the program. Students matriculated in other graduate programs who wish to enroll in a graduate psychology course need permission of the instructor and of the program director.

Courses

Please note: Not all courses are offered every semester. The most current information is available from the program office.

PSYCH 550L (CRCRTH 651L)
Cognitive Psychology
This course gives a survey of the field of cognitive psychology from an information-processing viewpoint. The course considers how people encode, organize, transform, and output information. Emphasis is given to such topics as concept formation, problem-solving, and creative thinking. This course does not count toward the Clinical Psychology doctoral program.
Prerequisites: CRCRTH 601 and CRCRTH 602, or permission of instructor.
3 Lect Hrs, 3 Credits

PSYCH 601
Assessment and Testing I
As part one of a two-semester foundations course on diagnostic testing and assessment, this course trains students to administer, score, and interpret tests of cognitive and intellectual functioning. Issues pertaining to test construction and the standards and ethics of psychological testing provide the context for assessment training. In addition, students learn to conduct an assessment interview and are encouraged to articulate for themselves a philosophy of testing. Special attention is given to the issue of cultural bias in standard psychological tests.
4 Lect Hrs, 4 Credits

PSYCH 602
Assessment and Testing II
This course, a continuation of PSYCH 601, is part two of the clinical diagnostic testing and assessment sequence. It instructs students on the administration, scoring, and interpretation of objective and projective tests that assess the personality and the social/emotional functioning of children, adolescents, and adults. Emphasis is placed on the integration of cognitive, intellectual, and personality test data in presenting a comprehensive and culturally congruent assessment of individuals.
4 Lect Hrs, 4 Credits

PSYCH 610
Culture and Mental Health
This course focuses on three issues: 1) the role of culture in the development of psychological health and psychopathology; 2) variations across cultures in defining and understanding mental health and deviant behavior; and 3) the importance of cultural context in constructing ways to prevent and/or ameliorate psychological problems. Emphasis is placed on the social-cultural contexts of United States minority groups and on what such contexts imply for mental health policy and intervention strategies.
3 Lect Hrs, 3 Credits

Clinical Psychology

PSYCH 611
Developmental Psychopathology I
The first course in a two-semester sequence focusing on the development of psychopathology across the life span, this course introduces students to the field of childhood psychological disorders, their etiology, epidemiology, diagnosis, and treatment. It examines biological, normative developmental, familial, and sociocultural factors involved in childhood symptomatology.
Prerequisite: PSYCH 641, or permission of instructor.
3 Lect Hrs, 3 Credits

PSYCH 612
Developmental Psychopathology II
This course focuses on psychological problems and disorders that typically manifest themselves during adolescence or early or later adulthood. Adult disorders are examined from biological, psychological, and sociocultural perspectives. Students become familiar with the major syndromes classified In DSM IV. This course is a continuation of PSYCH 611.
3 Lect Hrs, 3 Credits

PSYCH 614
Forensic Psychology
This course examines the intersection of criminal law and clinical psychology. Topics include those that are frequently the concern of forensic mental health clinicians, namely recidivism, violence risk assessment, insanity, legal competence, and false memory. These topics are studied from cultural and developmental (childhood, adolescence, adult) perspectives.
3 Lect Hrs, 3 Credits

PSYCH 620
Intervention Strategies
An introduction to effective, health-promoting psychotherapeutic interventions designed to address a wide range of clinical and developmental problems. Greatest attention is paid to the theory and practice of individual psychotherapy with adults, although therapeutic interventions with children and adolescents and with families are also introduced. The course adopts an integrative approach to psychotherapy, an approach that combines aspects of interpersonal psychodynamic, humanistic, cognitive-behavioral, and family systems perspectives.
3 Lect Hrs, 3 Credits

PSYCH 628
Trauma: Psychological Response and Recovery
This course examines the psychological and biological consequences of trauma by integrating theoretical, research, and clinical material from several disciplines. Students become familiar with the prevailing theoretical models in the field; with common features of the aftermath of different forms of trauma; with the neurobiological consequences of trauma; and with the methods of treatment that have evolved from the field's expanding empirical base. Developmental issues are given special consideration with a particular focus on childhood abuse. The course also focuses on historical and current sociocultural issues that comprise the context of trauma and its aftermath, both personal and collective.
3 Lect Hrs, 3 Credits

PSYCH 641
Cognitive and Affective Bases of Behavior: Life Span Development I
This is part one of a two-semester course sequence. The aim of part one is to provide a broad perspective on a number of themes that are of enduring importance throughout the life cycle and thus merit special attention. The themes have been selected for the significance they hold for the study of normal as well as atypical development. They provide us with a vantage point from which to consider some of the prerequisites for normal development, and they set the stage for a discussion of mental health and of problem prevention, atypical mental development, psychopathology, and remedial intervention.
3 Lect Hrs, 3 Credits

PSYCH 642
Social and Cultural Bases of Behavior: Life Span Development II
This course, a continuation of PSYCH 641, introduces students to sociological and anthropological perspectives on human development across the life span. A major focus is on "points of transition" in the human life cycle, with special emphasis on phases of adolescent and adult human development.
3 Lect Hrs, 3 Credits

PSYCH 645
The Psychology of Gender
This course examines metatheoretical perspectives on the meaning of gender, its relationship to sex, the development of gender identity, and the application of gender analysis to the practice of psychotherapy. The course draws from diverse perspectives, including women's studies, men's studies, psychobiology, anthropology, neoanalytic and social learning models, all with the aim of understanding and interpreting the psychological research on gender.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

PSYCH 660
Biological Bases of Behavior
This course provides an overview of basic concepts in neuroanatomy, neurophysiology, and neurochemistry, with particular emphasis on recent development in these areas of particular relevance to clinical psychology. The course also emphasizes the basic assumptions and limitations of the techniques utilized to investigate brain-behavior relationships.
Prerequisite: Permission of the instructor.
3 Lect Hrs, 3 Credits

PSYCH 662
Psychopharmacology
The aims of this course are threefold: 1) to understand the cellular and molecular mechanisms of action of psychoactive drugs, 2) to understand the facts and theories underlying the use of drugs in the treatment of neurobehavioral ("mental") and neurological disorders, and 3) to understand the processes of addiction and the properties of drugs of use/abuse. The course focuses first on the fundamental aspects of neurochemical activity in the brains of normal individuals, then on each of the major neurotransmitters, related neurological diseases and/or "mental" disorders, and the major drugs that act on each particular neurotransmitter system. The student should gain 1) an understanding of why pharmacological approaches to therapy are used, how they work, and relevant side effects, and 2) an understanding of the pharmacodynamics of substances of abuse. For the clinician, this understanding should permit informed management of future clients who are dependent on the use of psychoactive compounds.
Prerequisite: PSYCH 660 or permission of instructor.
3 Lect Hrs, 3 Credits

PSYCH 670
Advanced Statistics I
This course instructs students in advanced statistical topics and provides training in the use of the corresponding computer methods. The course emphasizes the statistical methods of most general interest and importance to social scientists: multiple regression analysis and analysis of variance. Students taking this course should have already had PSYCH 270 or an equivalent undergraduate course in statistics.
3 Lect Hrs, 3 Credits

PSYCH 675
Research Methods in Clinical Psychology
This course focuses on the basic principles and techniques of research in clinical psy-

Clinical Psychology

chology. Topics include developing research hypotheses, the nature of correlational and causal relationships, survey research, group-comparison experimental research, single-subject and quasi-experimental research, and ethical issues in clinical research.
Prerequisite: PSYCH 670.
3 Lect Hrs, 3 Credits

PSYCH 680
History and Systems of Psychology
This course explores the theoretical and methodological problems of contemporary psychology from a historical perspective. It provides a broad overview of psychology's development as an independent discipline, and of the development of the various subspecialties in the field. By examining intellectual antecedents and underlying assumptions, the course seeks to evaluate the significance of new movements and methods.
3 Lect Hrs, 3 Credits

PSYCH 698 AND 699
Master's Research /Master's Research Seminar
Students are given individual supervision in research by a member of the psychology department faculty or faculty in related fields and attend a master's research seminar. Each student is helped to design and carry out an original master's thesis using an appropriate methodology. Both courses must be taken, for a total of six credits. The six credits are awarded to the student when the thesis is approved.
Hrs by arrangement, 3 Credits

PSYCH 701
Advanced Neuropsychological Assessment
This course emphasizes the neuropsychological assessment of adult brain dysfunction. It presents neuropsychological models of memory, attention, language, perception, and emotion, in relation to various adult brain disorders. Students learn to apply clinical neuropsychological tests and procedures for both descriptive and diagnostic purposes. They complete various learning modules that emphasize neuropsychology across the life span, beginning with developmental neuropsychology and culminating in geriatric neuropsychology.
3 Lect Hrs, 3 Credits

PSYCH 710
Child Psychological Assessment
This course provides an overview of psychological assessment of children and adolescents, combining didactic training in various approaches to social development and psychological assessment with practical hands-on training in several instruments routinely employed in traditional child psychological assessment batteries. Tests to be covered span the domains of cognitive functioning, language, academic achievement, neuropsychological functions, adaptive behavior, and social-emotional/personality functioning. They include both structured and semi-structured methods. Participants become familiar with the procedures for administering, scoring, and interpreting such instruments as the Mullen Scales of Early Learning, the Kaufman Assessment Battery for Children, the Wechsler Individual Achievement Test (WIAT), and the Vineland Adaptive Behavior Scales.
Prerequisite: PSYCH 601.
3 Lect Hrs, 3 Credits

PSYCH 719
Severe Psychopathology
This seminar considers the domain of severe psychopathology. Its focus is on schizophrenia; other disorders are considered in relation to what is generally considered this most disruptive and chronic of psychopathologies. Participants consider in depth the conceptual and empirical status of schizophrenia as a discrete diagnosable disturbance. In light of that consideration of schizophrenia, they go on to evaluate, on metatheoretical, theoretical, and empirical grounds, the validity of different models of etiology. Finally, consideration is given to effective treatments for schizophrenics, and to the social repercussions of ineffective treatments, as seen through issues of institutionalization and deinstitutionalization, and the plight of homeless severely disturbed individuals.
Prerequisite: PSYCH 612.
3 Lect Hrs, 3 Credits

PSYCH 720
Family Systems and Family Therapy
The course builds on the introduction to family therapy provided by PSYCH 620. It focuses on the historical and conceptual background of family therapy; the major theoretical models and key concepts guiding practitioners in the field; current research findings regarding the effectiveness of family interventions; contemporary critiques of family theory and therapy; and assessments of the appropriateness of various family therapy models for low income, ethnic minority, and immigrant families. Through videotapes and clinical case material, students are exposed to the work of some of the major family therapists practicing today.
Prerequisite: PSYCH 620.
3 Lect Hrs, 3 Credits

PSYCH 721
Child Therapy
This course provides an introduction to theoretical perspectives, empirically tested interventions, and therapy technique that are relevant for children. Students will gain general skills for working with children and parents in clinical settings and learn specific techniques for psychosocial interventions with children who are experiencing difficulties across multiple domains of functioning. Empirically supported treatment programs for children and families will be examined. Approaches for tailoring treatment goals and methods to fit the specific lifestyle needs of families will be discussed. It is hoped that students will begin to develop specific skills necessary for the individual and team-oriented practice of child clinical psychology.
3 Lect Hrs, 3 Credits

PSYCH 724
Health Psychology
This course introduces students to the disciplines of health psychology and behavioral medicine, providing them with historical and conceptual background; a look at the major theoretical models, with a focus on social learning theory; key concepts in the field; and current research findings of importance to health psychology and behavioral medicine. Intervention models reviewed range from community-based public health interventions to individual psychotherapy.
3 Lect Hrs, 3 Credits

PSYCH 726
Cognitive Behavioral Therapy
This course will enhance students' theoretical, empirical, and practical understanding of cognitive, behavioral, and cognitive/behavioral approaches to psychological and behavioral change.
Approximately half the class will be devoted to obtaining sufficient familiarity with theories and research in this area to be able to appraise current research critically and, most importantly, to be able to develop a well-thought-out, individualized treatment plan for a range of presenting problems.
The other half of the class will be devoted to obtaining practical skills in a range of cognitive/behavioral strategies (e.g., progressive muscle relaxation, systematic desensitization, cognitive restructuring, direct therapeutic exposure).

PSYCH 742
Social Construction of Self and Identities
A broad exploration of self and identities from constructivist and social constructivist

Clinical Psychology

views. This course provides an overview of constructivist and social constructionist theory in clinical psychology and addresses the general question of the nature of self and identities, how self and identities develop, and how social contexts and constructions (including power) influence the perception and construction of self and identities. It will then explore in more depth specific identities/topics chosen by students (e.g., racial identities; gender identities; identities in relation to sexual orientation; class identities; identity in relation to ability/disability; identity related to trauma).
3 Lect Hrs, 3 Credits

PSYCH 770
Advanced Statistics II
This course is designed for students who have had a previous course covering analysis of variance and multiple regression. It will equip students with the skills and analytic background to use a variety of multivariate statistical techniques, including discriminate function analysis, factor analysis, logistic regression and multivariate analysis of variance. In addition, a substantial portion of the course will be devoted to covering structural equation modeling, a procedure used increasingly in the social sciences today. Extensive computer training is included.
Prerequisite: PSYCH 670 or equivalent.
3 Lect Hrs, 3 Credits

PSYCH 775
Qualitative Methods in Psychological Research
This course introduces students to qualitative methods used in psychological research. Students will be exposed to the philosophies and foundations of qualitative methodology and the ways in which quantitative and qualitative methods are similar, different, and complementary to each other and to quantitative methods. The course will survey the various qualitative methodologies used in the field of psychology, addressing issues of question formation, data collection, validity, data analysis, and interpretation. Students will participate in a qualitative research project that will help them develop skills in collecting, managing, analyzing, and interpreting qualitative data.
3 Lect Hrs, 3 Credit

PSYCH 785
Clinical Seminar/Practicum I
The first of four required clinical seminars accompanied by supervised clinical training experiences in field settings. The seminars provide the theoretical and empirical foundations necessary for students to establish competence in diagnosing or defining problems through psychological testing and assessment and formulating and implementing intervention strategies. The practicum placements on campus and in community agencies provide students with the opportunity to apply a range of assessment and intervention techniques under close supervision.
3 Lect Hrs, Practicum Hrs by arrangement, 6 Credits

PSYCH 786
Clinical Seminar/Practicum II
This is the second of four required clinical seminars accompanied by supervised clinical training experiences in field settings. (See PSYCH 785.)
3 Lect Hrs, Practicum Hrs by arrangement, 6 Credits

PSYCH 787
Clinical Seminar/Practicum III
This is the third of four required clinical seminars accompanied by supervised clinical training experiences in field settings. (See PSYCH 785.)
3 Lect Hrs, Practicum Hrs by arrangement, 6 Credits

PSYCH 788
Clinical Seminar/Practicum IV
This is the fourth of four required clinical seminars accompanied by supervised clinical training experiences in field settings. (See PSYCH 785.)
3 Lect Hrs, Practicum Hrs by arrangement, 6 Credits

PSYCH 790
Professional Standards and Ethics
The primary goal of this course is to insure that students are familiar with the current professional standards and ethical principles of the American Psychological Association. It studies conduct in research and teaching. Because program emphasis is on clinical psychology, the course focuses particularly on the standards and principles which guide the professional behavior of clinical psychologists. Students learn, through a close inspection of each of the ethical principles and the use of case studies, how to analyze and respond to a range of problems and situations.
3 Lect Hrs, 3 Credits

PSYCH 891
Seminar in Teaching
This seminar is required of all fourth-year students who are teaching undergraduate psychology courses and open to teaching assistants in other disciplines. The seminar provides didactic presentations combined with class discussion and supervision on a variety of topics, including pedagogy, techniques for effective teaching, teaching diversity in psychology, writing and delivering lectures, and conceptualizing exams.
Prerequisite: Status as third- or fourth-year graduate student in Clinical Psychology Program or permission of instructor.
3 Sem Hrs, 3 Credits

PSYCH 896
Independent Study in Clinical Psychology
This course involves the comprehensive study of a particular topic in clinical psychology under the direction of a faculty member. An independent study course can fulfill one elective requirement. A detailed proposal must be submitted to the faculty member prior to registration.
Hrs by arrangement, 3 Credits

PSYCH 897
Special Topics in Clinical Psychology
This advanced course offers intensive study of selected topics in clinical psychology. A special topics course can be used to fulfill one area elective requirement (see "Degree Requirements"). Course content varies according to the topic and is announced before registration each time the course is offered.
Hrs by arrangement, 1-6 Credits

PSYCH 898
Internship in Clinical Psychology
Doctoral candidates in clinical psychology are required to complete this one-year, full-time predoctoral internship in a setting approved by the American Psychological Association. During the internship, students have a variety of clinical experiences, including assessments and therapeutic interventions. They are closely supervised by mental health professionals, some of whom must be licensed clinical psychologists. A letter from the on-site internship director documenting satisfactory completion must be in the student's file at the University before the degree can be granted.
18 Credits (9 for each semester)

PSYCH 899
Dissertation Research
Research is conducted under supervision of the doctoral committee, leading to the presentation of a doctoral dissertation.
Hrs by arrangement, 1-9 Credits

COMPUTER SCIENCE (PhD, MS, GRADUATE CERTIFICATE)

Faculty

Ethan Bolker, PhD, *Harvard University* • Performance Measurement and Modeling

William R Campbell, PhD, *University of St Andrews* • Object-Oriented Software Engineering • Programming Language Design and Implementation

Song Ci, PhD, *University of Nebraska-Lincoln* • Wireless Networking • Sensors and Sensor Networks • Telecommunication Networks

Robert Cohen, PhD, *Brown University* • Information Security • Algorithms and Data Structures • Graph Drawing • Accessibility • Computer Science Education

Richard H Eckhouse, PhD, *State University of New York at Buffalo*, Professor Emeritus

Peter Fejer, PhD, *University of Chicago* • Theoretical Computer Science • Mathematical Logic

Robert A Morris, PhD, *Cornell University* • Biodiversity Informatics

Kenneth Newman, PhD, *Cornell University* • Computer Performance Modeling • Parallel Compilers

Elizabeth J O'Neil, PhD, *Harvard University* • Database Engines • Database Isolation Levels

Patrick O'Neil, PhD, *Rockefeller University* • Access Methods in Database Systems • Concurrency Control • Query Performance in Database Systems

Carl Offner, Industrial Professor, PhD, *Harvard University* • Compilers

Gregory Piatetsky-Shapiro, Adjunct Professor, PhD, *New York University* • Data Mining

Marc Pomplun, PhD, *University of Bielefeld* • Human Vision • Computer Vision • Human-Computer Interaction

Dan A Simovici, PhD, *University of Bucharest* • Data Mining • Database Theory • Computational Biology • Multiple-Valued Logic

Jun Suzuki, PhD, *Keio University* • Software Engineering • Biologically Inspired Computing • Computer Networks

Richard L Tenney, Professor Emeritus, PhD, *Cornell University*

The Programs

The Department of Computer Science offers programs of graduate study leading to the PhD and the MS in computer science and a graduate certificate in database technology. Faculty interests in computer science include compilers, computability theory, computer communication protocols, database systems, formal languages, office automation systems and electronic publishing, operating systems, programming languages, queuing theory, semantics, and software engineering.

The computer laboratory of the department operates a network of SUN workstations using the UNIX operating system, as well as several other kinds of computing equipment. The department is also a member of the Internet. All graduate courses are scheduled in late afternoon and evening. The program is open to full-time and part-time students as well as those who want to strengthen specific skills by taking single courses.

The PhD Program

The Computer Science PhD Program prepares students for research careers in the software industry and in academia. It combines a commitment to theory with significant experience in software development. The areas in which students may carry out dissertation research are currently programming languages, databases, digital typography, neural networks, computer architecture, computer networks, and operating systems.

Degree Requirements

The program requires 48 credits of course work, a minimum of 15 credits of dissertation research, at least one year of full-time status, several examinations, and a doctoral dissertation containing original results. A GPA of 3.5 must be maintained at all times.

Several courses in theory (CS 720 and CS 724) and software development (CS 680-CS 683) are required.

Other requirements include the following:

A. After 30 credits of graduate work have been completed, each candidate takes a written examination to verify the breadth of his or her knowledge. The examination covers theoretical computer science and two of the following three areas:
   - Programming Languages
   - Databases
   - Systems

   Candidates who leave the program after passing the written exam will be awarded a master's degree in computer science if their course work satisfies the requirements specified for the MS degree in Computer Science.

B. After 48 credits of graduate work have been completed, and after passing the oral qualifying examination, each candidate presents a dissertation proposal to the thesis committee. This proposal must be presented within one year of passing the oral qualifying examination. The thesis committee may accept or reject the proposal.

Both the written and oral examination may be retaken once.

The Major Advisor and the Thesis Committee

Every incoming PhD student will have a temporary advisor appointed by the department, until a major advisor is appointed through the procedure described below.

When a candidate has found a faculty member with whom to work, the faculty member (referred to as the major advisor) applies to the computer science graduate faculty for permission to direct the dissertation. The selection of the major advisor must take place no later than the semester when the student intends to take the oral examination. The major advisor is appointed by the graduate program director after approval by a meeting of the Computer Science graduate faculty. The major advisor is then responsible for monitoring the candidate's progress. After the candidate passes the oral qualifying examination, the major advisor will propose a dissertation committee. This committee is appointed immediately after the student passes the oral qualifying examination.

The program must be completed in seven years.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication. All applicants for the PhD program must have the equivalent of a bachelor's degree in computer science and must present scores for the general Graduate Record Examination. Applicants from countries where English is not the primary language must submit TOEFL scores. The department reviews applications and recommends candidates to the Dean of Graduate Studies for admission to the PhD program.

Computer Science

The Master of Science Program

The MS program is intended as preparation for professional careers in research and commercial applications, although it also provides the background for further graduate work leading to the PhD degree. The program stresses the integration of theoretical knowledge with practical applications. The central course in the curriculum is a two-semester sequence in software engineering.

Degree Requirements

Candidates must complete a minimum of 30 credits, at least 24 of which must be in courses numbered 600 or above. CS 680-683 constitute a required Advanced Software Development sequence that carries a total of 12 credits. Students are also required to choose two theoretical electives and four applied electives from among the following:

1) Theoretical Electives:
   - CS 420 (An Introduction to the Theory of Computation)
   - CS 620 (Theory of Computation)
   - CS 622 (Theory of Formal Languages)
   - CS 624 (Analysis of Algorithms)
   - CS 720 (Logical Foundations of Computer Science)
   - CS 724 (Topics in Algorithm Theory and Design)

   or

   - MATH 470 (Mathematical Logic)
2) Applied Electives:
   - CS 615 (User Interface Design)
   - CS 630 (Database Management Systems)
   - CS 634 (Architecture of Database Systems)
   - CS 636 (Database Application Development)
   - CS 637 (Database-Backed Websites)
   - CS 639 (XML and Semi-Structured Data on the Web)
   - CS 641 (Computer Architecture)
   - CS 644 (Operating Systems)
   - CS 646 (Computer Communications Networks)
   - CS 647 (Multimedia Networking)
   - CS 651 (Compilers)
   - CS 662 (Document Preparation and Text Processing Systems)
   - CS 670 (Artificial Intelligence)
   - CS 672 (Neural Networks)
   - CS 674 (Natural Language Processing)
   - CS 698 (Practicum)
   - CS 734 (Database System Internals)
   - CS 741 (High Performance Computer Architectures)
   - CS 750 (Implementation of Very High Level Programming Languages)
   - CS 752 (Parallel Programming) or the following undergraduate courses:
   - CS 444 (An Introduction to Operating Systems)
   - CS 445 (Real-Time Systems)
   - CS 460 (Graphics)
   - CS 470 (An Introduction to Artificial Intelligence)

Please note: No more than two upper-level (400-level) undergraduate courses may be counted toward the requirements of the MS program.

Capstone Requirement

To complete the MS program, students must participate in a software engineering project by taking the second half of the required software development sequence, CS 681 and its corequisite lab, CS 683. In general, these two courses are completed during the last two semesters in the MS program. The project is approved by a committee that consists of two faculty members (professors who are currently teaching the software engineering course and supervise the software engineering laboratory) and the graduate program director. Students must submit the documentation for the projects and give a final oral presentation. The final project documentation will contain a signatory page containing the signatures of all members of the committee; a copy of the project will be retained by the department.

In exceptional circumstances, students with significant industrial experience may request a waiver of the software engineering requirement by applying to a faculty committee established for this purpose.

As a part of the waiver application, the student must present a portfolio demonstrating the nature of this experience. Students who receive a waiver will be required to complete a master's thesis.

Minimum Requirements for Graduate Credit

The minimum grade for graduate credit is C. No more than two grades below B- may count for credit. With the approval of the director of the program, students may register for three credits for CS 699 (Research for MS Thesis) in order to write an MS thesis. This option is open to students whose grade point average is at least 3.5.

Students must maintain a grade point average (GPA) of at least 3.0 during their studies. The computation of the GPA takes into account all graduate courses the student has taken and all upper-level undergraduate courses that may count toward the program requirements.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Entrance requirements include a good working knowledge of computer science and mathematics. Each applicant's background will be assessed individually with respect to these skills, and specific requirements for making up deficiencies in preparation will be determined at an initial interview. The program requires the GRE test and, for applicants from countries where English is not the primary language, the TOEFL test.

The MS program is designed to accommodate students with a wide range of backgrounds. In particular, the undergraduate degree need not be in computer science. Students may make up deficiencies by taking specific undergraduate courses. A typical set of such recommended courses includes:

- CS 110-CS 210 (a sequence of introductory programming courses)
- CS 240 (Programming in C)
- CS 310 (Advanced Data Structures and Algorithms)
- CS 320 (Applied Discrete Mathematics)

Other undergraduate courses may be necessary, depending on the background and experience of the candidate. These courses are described in the Computer Science Information booklet available from the program office.

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Graduate students who take undergraduate courses at UMass Boston to satisfy prerequisite course requirements must earn a B or better in each such course.

Graduate Certificate in Database Technology

This program is geared toward programmers and software professionals who wish to acquire a systematic education in database technology. It provides a solid anchoring in state-of-the-art database technology and trains its students to become database application developers or database administrators. A bachelor's degree is required.

The candidates should have substantial programming experience; knowledge of databases is not expected.

The certificate requires 12 credit hours (4 courses).

The basic training comprises a sequence of three core courses:

CS 615 (User Interface Design)

CS 630 (Database Management Systems)

and

CS 634 (Architecture of Database Systems)

These courses provide a thorough introduction to relational and object-relational databases, SQL, indexing, concurrency and recovery, and the design of user interfaces for database applications. Each student also selects one advanced database elective, depending on specific interests.

For application materials or to arrange a personal interview, please contact the Computer Science Graduate Programs at 617.287.6440, or send email to dsim@cs.umb.edu.

Prospective applicants will be invited for an interview with a faculty member to determine whether they have an appropriate background for the certificate. Admission to the certificate program is determined by a computer science faculty committee.

A Note on Courses:

Please note that CS 310 or its equivalent is a general prerequisite for all graduate courses in computer science.

Courses

CS 615
User Interface Design
This course provides an introduction to user interface design, which encompasses design of the user interface and the functional design of the whole system. Students read and critique papers and articles, evaluate and critique existing user interfaces, and design interfaces of their own. Working in small groups, students use either interface prototyping tools or conventional rapid prototyping systems to construct an experimental interface. Students registering for this course should have completed CS 320 or equivalent.
3 Lect Hrs, 3 Credits

CS 620
Theory of Computation
This course focuses on functions computable by programs; recursive functions and Turing machines; simulation and diagonalization; universality and unsolvable problems; Kleene's hierarchy and the recursion theorem; Gregorczyk's hierarchy and Ackermann's function; abstract complexity; formal languages and classes of automata; and inherently difficult combinatorial problems. Students registering for this course should have completed CS 320 or equivalent.
3 Lect Hrs, 3 Credits

CS 622
Theory of Formal Languages
This course treats languages from an abstract point of view, as defined by formal grammars and by families of abstract machines. The Chomsky hierarchy and associated automata are covered. Emphasis is placed on context-free languages. Careful mathematical definition and proof are stressed throughout. This course does not involve programming; it is of special interest to students interested in linguistics and in the theory of programming language compilers. Students registering for this course should have completed CS 320 and 450 or equivalents.
3 Lect Hrs, 3 Credits

CS 624
Analysis of Algorithms
This courses focuses on basic techniques for designing algorithms (divide and conquer, the greedy method, dynamic programming); applications to searching and sorting algorithms; complexity of parsing; the fast Fourier transform and its applications (evaluation of polynomials and arithmetical problems); lower bound theory; NP-hard and NP-complete problems; and probabilistic estimates of algorithms. Students registering for this course should have completed CS 320 or equivalent.
3 Lect Hrs, 3 Credits

CS 630
Database Management Systems
This course focuses on databases and database management systems; the entity/relationship model; the relational model; relational algebra; the query language SQL; the object-relational model and SQL3; embedded SQL in programs and dynamic SQL; database administration (creating views and integrity constraints, handling data security); functional dependencies; and normalization. Students registering for this course should have completed CS 310 or equivalent.
3 Lect Hrs, 3 Credits

CS 634
Architecture of Database Systems
This course focuses on indexing and query optimization in database systems; writing programs to update a database; ACID properties; concurrency theory (serializability, 2-phase locking, deadlock detection); transactional recovery (REDO and UNDO logging, different checkpoint approaches, media recovery); examples of recovery utility use in INGRES, ORACLE and DB2; transactional performance (the TPC-A benchmark, analysis of bottlenecks, and cost-performance considerations); distributed database systems; two-phase commit; and database parallelism. Students registering for this class should have completed CS 430/630 or equivalent.
3 Lect Hrs, 3 Credits

CS 636
Database Application Development
This course provides a study of database applications: that is, software systems that solve a particular real-world problem and hold their data in a relational database. The systems under study will also have a realistic user interface. Students will work in small groups on a real-world project specified and implemented during the term. Topics include system specification from user needs, analysis of dataflow and workflow, object design, database design, client-server techniques, and rapid prototyping systems. *Prerequisites: CS 615 and CS 630.*
3 Lect Hrs, 3 Credits

CS 637
Database-Backed Websites
This course focuses on the design and implementation of database-backed websites and static sites, dynamic sites, and sites that act as interfaces to relational database systems, providing for web-based collaboration through scalable online communities. Students install and maintain their own web servers, extend existing tool sets, and build their own sites from scratch in a series

Computer Science

of intensive programming projects. Students registering for this class should have completed CS 430/630 and CS 451/651 or equivalents.
3 Lect Hrs, 3 Credits

CS 639
XML and Semi-Structured Data on the Web
The eXtensible Markup Language (XML) smoothes Web programming by providing a clear separation of presentation from structure in documents. This course surveys XML and semi-structure data technologies with the goal of understanding the problems and solutions arising from combining data from multiple sites and on-line databases. Students learn the fundamentals of XML, the stylesheet and transformating language XSLT, the schema definition language X-Schema, tools that support Java-based XML programming, and some specialized applications such as Wireless Application Protocol. Focus is on manipulation of XML for data exchange, resource discovery, and the building of interactive web applications. Students registering for this class should have completed CS 636, CS 637, or CS 451/651 or equivalents.
Prerequisite: Permission of instructor.

CS 641
Computer Architecture
This course is an examination of the designs for hierarchical memory systems, including caches and virtual memory systems, pipeline design techniques, characteristics of RISC/CISC machines, multi-computer systems including multiprocessors and loosely-coupled computer systems, the micro engine and microprogrammed machines, vector and array processors, and the cost/performance tradeoffs in all of the above designs. Students registering for this class should have completed CS 310 or equivalent.
3 Lect Hrs, 3 Credits

CS 644
Operating Systems
This course examines the structure and dynamics of operating system software; operating systems as event driven software (interrupt processing and asynchronous operation); memory management, scheduling, concurrency, consideration, and device drivers, with UNIX studied as a major example.
Prerequisite: CS 641 or permission of the instructor.
3 Lect Hrs, 3 Credits

CS 646
Computer Communications Networks
This course examines the need for computer networks; architectures of networks; architectures of systems; ISO Reference Model; standardization efforts; specification of protocols; and examples of protocols and networks. Students registering for this class should have completed CS 446 or equivalent.
3 Lect Hrs, 3 Credits

CS 647
Multimedia Networking
Network service requirements for streaming media and interactive media applications are analyzed. Audio and video coding and compression algorithms are surveyed. Challenges and solutions for delivering continuous media over today's best-effort Internet are investigated. Protocols for establishing and controlling multimedia sessions, for transporting continuous media end-to-end, and for wide-area dissemination of multimedia data are also investigated. Evolving Internet services models for establishing and maintaining levels of quality-of-service are evaluated. Students are expected to form groups to complete a significant semester project involving an investigation and development of a prototype.
3 Lect Hrs, 3 Credits

CS 648
Wireless Networks and Mobile Computing
Wireless communications, wireless networking, mobility management technologies, and protocols for wireless LANs and WANs are surveyed. Selected mobile computing models and mobile application-development environments are evaluated. A wireless networks laboratory provides a realistic mobile/wireless computing environment. Students are expected to form groups to complete a semester project involving an investigation and the development of a prototype.
Prerequisite: CS 644 or CS 646.
3 Lect Hrs, 3 Credits

CS 651
Compilers
This course focuses on compiler organization and construction. Programming projects involve scanning input, analyzing program structure, error checking, code translation and interpreting, and code generation and optimization. These projects result in a compiler for a reasonably large subset of ALGOL, Pascal, or similar procedural language. Students registering for this course should have completed either CS 420 or CS 622.
3 Lect Hrs, 3 Credits

CS 662
Document Preparation and Text Processing Systems
An applied course in contemporary document preparation systems, this course varies in content, with topics of study chosen from among interactive editors, text formatters, typesetting systems, digital font design and production, publication graphics system, and author assistance software. Students participate in a major team project to design and implement a substantial portion of a system appropriate to the topic. Important current systems such as TeX, MetaFONT, TROFF, Scribe, and EMACS are studied and criticized, where possible by a study of their source code. Students registering for this class should have completed a course at the level of CS 444 or above.
3 Lect Hrs, 3 Credits

CS 670
Artificial Intelligence
This course is a broad technical introduction to the techniques that enable computers to behave intelligently: problem solving and game playing, knowledge representation and reasoning, planning and decision making, learning, perception and interpretation. Focus is on the application of these techniques to real-world systems, with some programming in LISP. Students registering for this class should have completed CS320 and MATH 470 or equivalents.
3 Lect Hrs, 3 Credits

CS 672
Neural Networks
This course is an introduction to artificial neural networks. Topics include a survey of natural neural network models, perceptrons and their limitations, multi-layer networks and back propagation, Hebbian learning, unsupervised competitive learning, relations to automata and computability theory, adaptive resonance theory, and applications of connectionist models of computing to various domains, including pattern recognition and databases. Students registering for this class should have an understanding of multi-variable calculus and associated linear algebra, including gradient methods. Some exposure to statistics and probability is advised.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

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CS 674
Natural Language Processing (NLP)
This course provides the basic principles and theoretical issues underlying Natural Language Processing (NLP), as well as information on techniques and tools used to develop practical, robust systems that can communicate with users in multiple languages. The course provides insights into many open research problems in natural language, such as information extraction, statistical corpus analysis, machine translation, speech processing, and text summarization. Students registering for this class should have completed CS 420 or equivalent.
3 Lect Hrs, 3 Credits

CS 675
Computer Vision
This course provides both theoretical knowledge and practical experience with fundamental and advanced Computer Vision algorithms. Topics range from basic image processing techniques such as image convolution and region and edge detection to more complex vision algorithms for contour detection, depth perception, dynamic vision, and object recognition. Students will implement vision algorithms in the JAVA programming language. The performance of these programs is evaluated, and the advantages and disadvantages of individual approaches are discussed. The final project is the development by students of their own computer vision program solving a given problem. Students registering for this class should have completed CS320 or equivalent.
3 Lect Hrs, 3 Credits

CS 680
Object-Oriented Design and Programming
Object-oriented techniques for the design and development of software are studied. Students develop a series of moderate sized programs in C++ and Java and then design and implement a more substantial project in small teams. This course is offered every fall semester. Students registering for this class should have completed one of the following—CS 636, CS 637, CS 639, and CS 651—with a grade of B or better.
Prerequisite: Permission of instructor.
Corequisite: 682.
3 Lect Hrs, 3 Credits

CS 681
Object-Oriented Software Development
This course, along with CS 680, CS 682, and CS 683, forms an integrated one-year advanced software development sequence. In these courses students work in small teams, each team taking the full year to create a useful, complete, medium-sized software system for real customers. There is a strong emphasis on process: each project makes systematic use of an object-oriented development methodology based on UML models and incremental development.
Prerequisites: CS 680, CS 682, and permission of the instructor.
Corequisite: CS 683.
3 Lect Hrs, 3 Credits

CS 682
Software Development Laboratory I
This is the first half of a two-semester laboratory course in which students, working in small groups, specify, design, implement, and document a large software project. This course is offered every fall semester.
Corequisite: CS 680.
3 Credits

CS 683
Software Development Laboratory II
This course, a continuation of CS 682, is offered every spring semester and must be taken during the semester immediately following CS 680 and CS 682.
Prerequisites: CS 680, CS 682.
Corequisite: CS 681.
3 Credits

CS 697
Special Topics
This course provides advanced study of topics of current interest in the field, according to student and faculty areas of specialization. Course content varies according to the topic and will be announced prior to registration.
1 - 6 Credits

CS 698
Practicum
This course is intended to enhance academic studies by providing an industrial context for learning new concepts and skills. It will help to prepare the student for the transition from an academic program to eventual employment in the computer industry. This course is not open to graduate students in the PhD track. The course may be repeated once for credit and is graded on a SAT/UNSAT basis.
Prerequisite:Permission of Graduate Program Director.
1 Credit

CS 699
Research for MS Thesis
This is a one-semester supervised practicum course designed to help students complete the thesis, which must be a substantial piece of research on some aspect of computer science. The master's thesis may take the form of a theoretical paper or a report on a piece of software.
Prerequisite: 15 graduate credits.
Hrs by arrangement, 3 Credits

CS 720
Logical Foundations of Computer Science
This course treats the logical foundations of computer science in a mathematically rigorous way but with emphasis on the applications of logic in computer science. Topics include the syntax and semantics of predicate logic, formal systems for predicate logic, many-sorted logic, and logic programming. Additional topics may include equational logic, algebraic specification, term rewriting, program verification, nonstandard logic, and databases. Students are expected to demonstrate understanding of theoretical material and the ability to apply it. Students registering for this class should have completed MATH 470 or equivalent.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

CS 724
Topics in Algorithm Theory and Design
This course provides an examination of current topics in algorithm analysis and design: complexity classes, abstract complexity theory, generating functions. Topics may include genetic algorithms, string matching algorithms, and circuit complexity.
Prerequisites: CS 624 or equivalent, and permission of instructor.
3 Lect Hrs, 3 Credits

CS 734
Database System Internals
This is a course in database internals design and programming. Students are expected to have already mastered a basic DBA-level understanding of database systems. The course is intended for students who want to program at the system level at a database vendor or pursue a PhD in database systems with a practical orientation. Topics include implementation techniques for disk buffering, indexing, and transactional concurrency.
Prerequisite: CS 634.
3 Lect Hrs, 3 Credits

CS 738
Data Mining
Data mining is the process of secondary analysis to search for unsuspected relationships that are of interest or value for decision making. It aims at discovering associa-

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tion rules, episode rules, sequential rules, and other knowledge embedded in data and is concerned with efficient data structures and algorithms that have good scaling properties. The course presents essential aspects of data mining as a part of our current offering in databases; it includes a data mining project and prepares students to program applications that use data mining techniques.
Prerequisites: CS 630 and permission of instructor.
3 Lect Hrs, 3 Credits

CS 741
High-Performance Computer Architectures
High-performance computer architectures achieve an increase in performance with increasing system resources. System resources are scaled by the number of processors used, the memory capacity, the access latency tolerated, the I/O bandwidth required, the performance level desired, and other considerations. Scalable architectures delivering a sustained performance are desirable in both sequential and parallel computers. Parallel architecture has a higher potential to deliver scalable performance. The scalability varies with different architecture/algorithm combinations. Both hardware and software issues need to be studied in building scalable computer systems. The issues are examined in the light of both research and commercial parallel systems.
Prerequisite: CS 641.
3 Lect Hrs, 3 Credits

CS 750
Implementation of Very High Level Programming Languages
This course examines the issues and techniques that apply to the implementation of very high level programming languages—languages whose semantics are determined more at run time than at compile time. Topics include interpreters and their performance, definitional interpreters, storage management, and garbage collection. Participants study implementations of specific languages, for example Java, Smalltalk, Scheme, CLOS, Self, or Prolog.
Prerequisites: CS 651 and permission of instructor.
3 Lect Hrs, 3 Credits

CS 752
Parallel Programming
This course introduces the issues involved in parallel programming systems, including ease of programming, match between programming language and problem domain, and efficiency of the generated code. It explores and compares several parallel programming paradigms and investigates algorithms for scheduling parallel programs and for automatic parallelization of serial programs.
Prerequisite: CS 651 and permission of the instructor.
3 Lect Hrs, 3 Credits

CS 768
Color Science for Computer Graphic Applications
Topics include color spaces; device independent imaging; and international standards for describing, encoding, and transmitting color images. Students learn about spectral power distributions of light sources; models of human color vision; CIE tri-stimulus values; Lab and Luv; RGB and CYMK image models, and the relation between them. Programming exercises are usually in Mathlab.
Prerequisites: Permission of instructor.
3 Lect Hrs, 3 Credits

CS 899
PhD Dissertation Research
Students in this course pursue research, conducted under faculty supervision, which leads to the presentation of a doctoral dissertation. This course carries variable credit and can be taken more than once.
Prerequisite: Permission of Graduate Program Director and instructor.
1 to 9 Credits

COUNSELING (MEd, MS, CAGS)

FAMILY THERAPY PROGRAM (MS), MENTAL HEALTH COUNSELING PROGRAM (MS), REHABILITATION COUNSELING PROGRAM (MS), SCHOOL COUNSELING PROGRAM (MEd)

Faculty

Gonzalo Bacigalupe, EdD, *University of Massachusetts Amherst* • Immigrant Health Care • Family Violence and Trauma • Intercultural Family Therapy | • Collaborative Consultation • Qualitative Data Analysis Software

Alisa Beaver, PhD, *University of Massachusetts Amherst* • Multicultural and Narrative Therapies • Autobiographical Memory, Trauma, and Coping within a Social Context • Bilingual Processing and Assessment • Sexuality and Gender

Terry Bontrager, PhD, *Texas A&M University* • Cross-Cultural Issues • Assessment of English Learners • Curriculum-Based Measurement

Laurie Charles, PhD, *Nova Southern University* • Larger-Systems Crisis Intervention in Families • International Family Therapy Consultation

Lisa Cosgrove, PhD, *Duquesne University* • Public Policy Implications of Family Homelessness • PTSD • Bias in Psychiatric Diagnosis • Conflict of Interest in Biopsychiatric Research • Women's Health Issues

MaryAnna D Ham, EdD, Professor Emeritus, *University of Rochester* • Multicultural Family and Couples Therapy • Training and Ethical Issues in Counseling and Family Therapy • Qualitative Research Methods

Virginia Smith Harvey, PhD, *Indiana University* • Professional Development and Supervision • Resiliency Development • Programs for Children with Emotional and Behavioral Disorders

Rick Houser, PhD, *University of Pittsburgh* • Social Comparison • Social Identity • Ethical Decision-Making

Varda Konstam, PhD, *Fordham University* • Psychological Adaptation to Chronic Illness • Forgiveness • Health Psychology

Ilana Lehmann, PhD, *Southern Illinois University Carbondale* • Effects of Legislation and Labor-Market Factors on Employment Rates of the Disabled

Esmaeil Mahdavi, EdD, *Indiana University* • Mental Health Counseling • Group Dynamics • Substance Abuse

Melissa Pearrow, PhD, *Northeastern University* • Mental Health in Schools • Group Interventions • Practice of School Psychology

Rebecca Schumacher, EdD, *University of Maine Orono* • Group Work in Schools • Professional Issues in School Counseling

Felicia Wilczenski, EdD, *University of Massachusetts Amherst* • Professional Ethics • Service Learning • Assessment for Effective Intervention

The Programs

It is the mission of the Counseling Programs to train individuals in the theory and practice of the profession of counseling such that they become thoughtful and responsive practitioners. The profession of counseling is grounded in the view that counselors facilitate and maximize the development and potential of all persons. Counseling is concerned with the development of appropriate repertoires of adaptive behavior within the environmental context in which the person resides. The counselor respects the ethnic background and diversity of each individual and attempts to promote development congruent with the person's beliefs, values, and personal background.

The University of Massachusetts Boston Counseling Programs prepare its graduates to be professional practitioners in a variety of community settings and institutions: hospitals, schools, rehabilitation agencies, career planning centers, employee assistance programs, clinics, residential treatment facilities, and other mental health agencies. Students choose to focus on a particular area within the counseling profession. Options are:

- Family Therapy (Master of Science)
- Mental Health Counseling (Master of Science)
  - Mental Health Counseling
  - Mental Health Counseling, Forensic Services Concentration
  - Mental Health Counseling, School Adjustment Concentration
- Rehabilitation Counseling (Master of Science)
- School Counseling (Master of Education)

The curriculum includes courses and field-based experiences critical to professional development. Field-based practica and internships are supervised onsite by professionals who meet specific licensure qualifications.

Full-time students can complete the degree in four semesters and two summer sessions (two full years). The exception is the Family Therapy Program, which recommends completion in no less than three years. Part-time students may progress at their own pace but must complete the degree in six years.

In order to accommodate students with full-time jobs, courses meet once a week and are offered in the late afternoon and evening.

Several courses are available online as well as onsite. These include COUNSL 601, COUREH 602, COUMHC 604, COUNSL 605, COUNSL 606, COUNSL 608, COUNSL 613, COUNSL 615, COUNSL 620, COUFAM 622, COUFAM 626, COUNSL 630, COUNSL 653, COUNSL 670, COUNSL 672, COUMHC 688, COUREH 688 COUSCH 688, COUNSL 698, COUREH 698, and COUNSL 698.

Degree Requirements

General Requirements

Students must maintain a cumulative grade point average of 3.00 in the programs' core curriculum and in all subsequent coursework. A total of 60 credits is required.

In addition, two evaluative experiences are required to monitor the progress of matriculated students. The first follows the student's completion of 10 academic courses and precedes the internship placement. Before beginning the internship placement, each student must formally demonstrate the academic and personal readiness to be an ethical and responsible counselor-in-training. The second is a capstone experience requiring MS candidates to demonstrate their ability to apply, integrate, and synthesize what they have learned. The nature of the capstone experience varies by program, as described below.

Family Therapy Program (60 cr.)

The Family Therapy program is committed to a vision of strengthening healthy families by preparing ethical and qualified professionals who embrace an inclusive perspective of interconnected systems. The curriculum comprises basic professional counseling content and theory and provides a comprehensive framework for learning family therapy. Courses lead students to view families as entities within larger social systems and promote collaborative, inclusive, and integrative systems approaches. The curriculum offers Family Therapy students an optimal perspective for supporting individuals, families, and communities in urban environments and provides them with a framework for developing skills that facilitate dialogue with marginalized individuals, families, and communities.

Accreditation and licensure: The University of Massachusetts Boston Family Therapy Program is fully accredited by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE). It

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prepares students to meet the academic requirements for licensure in family therapy by the Board of Allied Mental Health and Human Services Professions in the Commonwealth of Massachusetts and in other states.

Required courses (42 cr.): Graduate courses in research in psychology, ethical standards, and professional issues in counseling, abnormal psychology, counseling theories and practice, lifespan human development, introduction to family theories , lifespan human development, introduction to family therapy, foundations of marriage therapy, family therapy theories, sexuality and intimacy in families, family therapy assessment and intervention, collaborative consultation and larger systems, couples therapy, contemporary family therapies, multicultural counseling, and substance abuse and the family. In individual cases, substitutions may be approved by the Graduate Program Director.

COUNSL 601 (Research and Evaluation in Psychology)

COUNSL 606 (Ethical Standards and Professional Issues in Counseling)

COUNSL 608 (Abnormal Psychology)

COUNSL 614 (Counseling Theory and Practice I)

COUNSL 620 (Clinical Application of Human Development)

COUFAM 621 (Introduction to Family Therapy)

COUFAM 622 (Family Therapy Theories)

COUFAM 624 (Sexuality and Intimacy in Families and Family Therapy)

COUFAM 625 (Therapy Assessment and Intervention)

COUFAM 626 (Collaborative Consultation and Larger Systems)

COUFAM 627 (Couples Therapy)

COUFAM 628 (Contemporary Family Therapies)

COUNSL 653 (Perspectives in Cross-Cultural Counseling)

COUFAM 672 (Substance Abuse and the Family)

Required field experience (18 cr.): Three contiguous semesters of COUFAM 698: Family Therapy Internship (summer, fall, and spring; 6 credits per semester). Students are required to complete 500 hours of face-to-face client contact, within a total of 900-1200 hours working at the internship site.

Required capstone: Submission in digital format during the last semester of a portfolio, including a clinical case analysis, videotaped clinical interview, personal narrative, and future professional plan.

Online Option: The online option in the Family Therapy Program operates on a cohort model, with all participants completing the program of study together over a three-year period. Clinical courses are taught during the second summer at UMass at facilities on Nantucket Island; all participants must be in residence for an intensive two-week session held in late June, early July (low-cost residential accommodations on Nantucket are provided to participants). The remaining courses are delivered in a web-based, online format following the regular semester calendar. Participants must follow the program of study exactly. The internship requirements are equivalent to those of the program on campus: twelve months of consecutive internship starting the third summer semester and ending the third spring semester on a continuous basis. Students need to complete a minimum of 900 hours of work at the internship site; 500 are direct clinical hours, of which 250 are relational hours. Students are able to complete the required internship close to their residence at a site approved by the director of the MS in Family Therapy.

Mental Health Counseling Program (60 cr.)

The U.S. Surgeon General's Report on Mental Illness notes the significance of mental health problems in the U.S. and worldwide. Mental illness is the second-leading contributor to Disease Burden in the U.S., second only to cardiovascular diseases. It is estimated that, in any given year, 20 percent of the population will have a diagnosable mental illness. The need for mental health services is significant. The Mental Health Counseling curriculum combines theory, application of research, and practical field experiences. The theoretical basis is a focus on human development, human potential, adaptation and coping, and a contextual understanding of mental illness and mental health.

Accreditation and licensure: The Mental Health Counseling program prepares students to meet the academic requirements for licensure in mental health counseling set by the Board of Allied Mental Health and Human Services Professions in the Commonwealth of Massachusetts and other states (there are 48 states that have counselor licensure laws at the master's level).

Required courses (39 cr.): Graduate courses in research in psychology, foundations of mental health counseling, principles of assessment, ethical standards and professional issues in counseling, abnormal psychology, vocational development, counseling theories and practice, individual counseling, group counseling, lifespan human development, multicultural counseling, and substance abuse. In individual cases, substitutions may be approved by the Graduate Program Director.

COUNSL 601 (Research and Evaluation in Psychology)

COUMHC 604 (Foundations of Mental Health Counseling)

COUNSL 605 (Principles of Vocational, Educational and Psychological Assessment)

COUNSL 606 (Ethical Standards and Professional Issues in Counseling)

COUNSL 608 (Abnormal Psychology)

COUNSL 613 (Vocational Development and Career Information)

COUNSL 614 (Counseling Theory and Practice I)

COUNSL 620 (Clinical Application of Human Development)

COUFAM 622 (Family Therapy Theories)

COUNSL 653 (Perspectives in Cross-Cultural Counseling)

COUMHC 674 (Psychopharmacology)

COUNSL 615 (Counseling Theory and Practice II) or

COUNSL 617 (Child and Adolescent Counseling)

COUNSL 616 (Group Counseling and Group Dynamics) or

COUNSL 650 (Group Counseling for Children and Adolescents)

COUNSL 670 (Substance Abuse in Modern Society) or

COUFAM 672 (Substance Abuse and the Family)

Electives: One three-credit elective may be taken from among the following: COUNSL 607, COUNSL 617, COUNSL 635, COUNSL 650, COUNSL 662, COUNSL 664, SPY G 606. Also, other courses may be submitted as electives with approval of the student's advisor.

Required field experience (1000 hr., 15 cr.): COUMHC 688: Mental Health Practicum (100 hr., 3 cr.) and two semesters of COUMHC 698: Mental Health Internship (450 hr. per semester, 6 cr. per semester, 900 hours and 12 credits total).

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Required capstone: The capstone for Mental Health Counseling is a clinical case analysis that includes a tape and a transcript of a counseling session and a detailed analysis of contextual, developmental, ethical, psychosocial, treatment, and counter-transference issues as they apply to the case.

Online option: The online option in the Mental Health Counseling program operates on a cohort model, with all participants completing the program of study together over a two-year period. Clinical courses are taught during the first summer at UMass at the facilities on Nantucket Island; all participants must be present for an intensive two-week session held in July (low-cost residential accommodations on Nantucket are provided to participants). The remaining courses are delivered in a web-based, online format following the regular semester calendar. Participants must follow the program of study exactly. The program requires a 100-hour practicum in an approved placement site and a 900-hour internship, divided evenly between two semesters and consisting of supervised field experiences in public and non-profit mental health treatment facilities. While engaged in all field work, students participate in an online seminar (a verbal live chat) where their experiences are examined in relation to current issues of concern in the field of mental health counseling. Students are also expected to provide audio/videotapes of counseling sessions.

Mental Health Counseling Program: Forensic Services Concentration (60 cr.)

Forensic Services focus on the intersection between the criminal justice and health service systems. This concentration provides training in the complex social issues that appear at this intersection: the origins of mental illness, substance abuse, and crime; the operations of health and law-related services for those affected by these problems; and the impact of relevant social policies. The analytical emphasis and core interdisciplinary approach to forensic services increases understanding of ways in which public health and legal standards, specifically mental health issues and criminality, intersect and diverge. Students interested in policy or in social-service provision for vulnerable populations have the opportunity to learn about criminality, law, mental health, substance abuse, offenders, violence, the police, corrections, criminal justice, alternatives to incarceration, clinical assessment, probation, parole, private agencies, public systems, and treatment services. Students who complete this concentration are awarded both the MS in Mental Health Counseling and the Forensic Services Graduate Certificate.

Required Courses (45 cr.): Graduate courses in research in psychology, foundations of mental health counseling, principles of assessment, ethical standards and professional issues in counseling, abnormal psychology, vocational development, counseling theories and practice, individual counseling, group counseling, lifespan human development, multicultural counseling, substance abuse and crime, forensic psychology, the sociology of law, and psychiatry and the law. In individual cases, substitutions may be approved by the Graduate Program Director.

COUNSL 601 (Research and Evaluation in Psychology)

COUMHC 604 (Foundations of Mental Health Counseling)

COUNSL 605 (Principles of Vocational, Educational and Psychological Assessment)

COUNSL 606 (Ethical Standards and Professional Issues in Counseling)

COUNSL 608 (Abnormal Psychology)

COUNSL 613 (Vocational Development and Career Information)

COUNSL 614 (Counseling Theory and Practice I)

COUNSL 615 (Counseling Theory and Practice II)

COUNSL 616 (Group Counseling and Group Dynamics)

COUNSL 620 (Clinical Application of Human Development)

COUNSL 653 (Perspectives in Cross-Cultural Counseling)

PSYCH 614 (Forensic Psychology)

SOCIOL 618 (Psychiatric Epidemiology and Forensic Services)

SOCIOL 623 (Alcohol, Drugs, and Crime)

SOCIOL 667 (Sociology of Law)

(The last four required courses listed above are offered by faculty of the Sociology and Psychology Departments at UMass Boston and the UMass Medical School in Worcester.)

Required field experience (1000 hr., 15 cr.): COUMHC 688: Mental Health Practicum (100 hrs., 3 cr.) and two semesters of COUMHC 698: Mental Health Internship (450 hr. per semester, 6 cr. per semester, 900 hours and 12 credits total).

Required capstone: The capstone in the Forensic Services concentration is a clinical case analysis that includes a tape and transcript of a counseling session and a detailed analysis of contextual, developmental, ethical, psychosocial, treatment, forensic, and counter-transference issues as they apply to the case.

Mental Health Counseling Program: School Adjustment Concentration (60 cr.)

The purpose of the School Adjustment Concentration is to prepare thoughtful and responsive practitioners to work effectively in urban schools and communities as adjustment and mental health counselors. The concentration is committed to the preparation of highly qualified professionals who effectively address the needs of children, adults, and families of diverse cultural and ethnic backgrounds, abilities, and needs. Located within an urban university, the program is dedicated to the training of professionals who most likely will work with and provide counseling and related activities to individuals representing an urban and diverse population.

Accreditation and licensure: The School Adjustment Concentration has attained the approval of the Commonwealth of Massachusetts Department of Education. The School Adjustment Concentration curriculum and field experiences are designed so that graduates meet the academic requirements for licensure both as a Mental Health Counselor, Board of Allied Mental Health and Human Services Professions in the Commonwealth of Massachusetts and in other states, and as a School Adjustment Counselor, Massachusetts Department of Education.

Required courses (45 cr.): Graduate courses in research in psychology, medical aspects of disabilities, foundations of mental health counseling, principles of assessment, ethical standards and professional issues in counseling, abnormal psychology, vocational development counseling theories and practice, individual counseling, group counseling, lifespan human development, family therapy theories, principles of school counseling, multicultural counseling and child abuse and neglect. In individual cases, substitutions may be approved by the Graduate Program Director.

COUNSL 601 (Research and Evaluation in Psychology)

COUREH 602 (Medical and Psychological Aspects of Disabilities)

COUMHC 604 (Foundations of Mental Health Counseling)

Counseling

COUNSL 605 (Principles of Vocational, Educational, and Psychological Assessment)

COUNSL 606 (Ethical Standards and Professional Issues in Counseling)

COUNSL 608 (Abnormal Psychology)

COUNSL 613 (Vocational Development and Career Information)

COUNSL 614 (Counseling Theory and Practice I)

COUNSL 617 (Child and Adolescent Counseling)

COUNSL 620 (Clinical Application of Human Development)

COUFAM 622 (Family Therapy Theories)

COUMHC 631 (Foundations of School Adjustment Counseling)

COUNSL 650 (Group Counseling for Children and Adolescents)

COUNSL 653 (Perspectives in Cross-Cultural Counseling)

COUNSL 664 (Child Abuse and Neglect)

Required field experience (1000 hr., 15 cr.): COUMHC 688: School Adjustment Practicum (100 hr., 3 cr.) and two semesters of COUMHC 698: School Adjustment Internship (450 hr. per semester, 6 cr. per semester, 12 credits and 900 hours total. At least 450 of the 900 hours must be in schools).

Required capstones: Prior to enrolling in the internship, School Adjustment students must pass the literacy portion of the Massachusetts Test of Educator Licensure (MTEL). The MEd capstone is a clinical case analysis that includes a tape and transcript of a counseling session and a detailed analysis of contextual, developmental, ethical, psychosocial, treatment, and countertransference issues as they apply to the case.

Rehabilitation Counseling Program (60 cr.)

The primary goal of rehabilitation counseling is promoting the vocational achievement and emotional adjustment of those with disabilities. The unemployment rate over the past 20 years for those with disabilities is consistently over 60 percent. One fifth of Americans have some type of disability, and one in ten has a severe disability. With over twenty million Americans with severe disabilities, the need for rehabilitation counselors is clear. The Rehabilitation Counseling curriculum is organized to identify the potential and to facilitate the development of its students and the individuals with disabilities with whom they work. The emphasis is on developing empathy and respect for the social foundations and cultural diversity of all persons by fostering each individual's self-awareness, respect, and esteem. Students are provided opportunities to recognize, develop, and promote their own resources as a means of adapting effectively to their own environment and life conditions. The curriculum attaches particular importance to the role of adaptation in a person's life. Students are prepared to make significant practitioner-oriented contributions to rehabilitation counseling and to enter upon study at the doctoral level, if they so desire.

Accreditation and licensure: The Rehabilitation Counseling curriculum is fully accredited by the Council on Rehabilitation Education (CORE). It prepares students to meet the academic requirements for licensure in the state of Massachusetts and achieve national certification as a Certified Rehabilitation Counselor (CRC).

Required courses (45 cr.): Graduate courses in research in psychology, medical aspects of disabilities, foundations of rehabilitation counseling, principles of assessment, ethical standards and professional issues in counseling, abnormal psychology, case management, vocational rehabilitation and job placement, vocational development, counseling theories and practice, individual counseling, group counseling, lifespan human development, family therapy theories, and multicultural counseling. In individual cases, substitutions may be approved by the Graduate Program Director.

COUNSL 601 (Research and Evaluation in Psychology)

COUREH 602 (Medical and Psychological Aspects of Disabilities)

COUREH 603 (Foundations of Rehabilitation)

COUNSL 605 (Principles of Vocational, Educational, and Psychological Assessment)

COUNSL 606 (Ethical Standards and Professional Issues in Counseling)

COUNSL 608 (Abnormal Psychology)

COUREH 610 (Case Management and Planning in Rehabilitation)

COUREH 612 (Vocational Rehabilitation and Placement)

COUNSL 613 (Vocational Development and Career Information)

COUNSL 614 (Counseling Theory and Practice I)

COUNSL 615 (Counseling Theory and Practice II)

COUNSL 616 (Group Counseling and Group Dynamics)

COUNSL 620 (Clinical Application of Human Development)

COUFAM 622 (Family Therapy Theories)

COUNSL 653 (Perspectives in Cross-Cultural Counseling)

Required field experience (700 hr., 15 cr.): COUREH 688: Rehabilitation Counseling Practicum (100 hr., 3 cr.) and two semesters of COURREH 698: Rehabilitation Counseling Internship (300 hr. per semester, 6 cr. per semester, 600 hr. and 12 cr. total)

Required capstone: Rehabilitation Counseling students may choose one of two capstone options: a case analysis or a research project.

The clinical case analysis includes a tape and transcript of a counseling session and a detailed analysis of contextual, developmental, discrimination/exclusion, ethical, medical, psychosocial, treatment, countertransference, vocational, and rehabilitation issues as they apply to the case.

The research project involves writing and presenting original research addressing an issue of concern in the field of rehabilitation counseling. The work is initiated during the early part of the internship and includes discussing the identified issue and linking it to potential solutions. A primary focus is on whether the proposed solution is feasible for further implementation in the field of rehabilitation counseling. Faculty approval of the project is required at all stages.

Online option: The online option in the Rehabilitation Counseling Program operates on a cohort model, with all participants completing the program of study together over a two-year period. Clinical courses are taught during the first summer at UMass at the facilities on Nantucket Island; all participants must be present for an intensive two-week session held the last week of June and first week of July (low-cost residential accommodations on Nantucket are provided to participants). The remaining courses are delivered in a web-based, online format following the regular semester calendar. Participants must follow the program of study exactly. The program requires a 100-hour practicum in an approved placement site and a 600-hour internship, divided evenly between two semesters and consisting of supervised field experiences in public or non-profit rehabilitation facilities. While

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engaged in all field work, students participate in an online seminar (a verbal live chat) where their experiences are examined in relation to current issues of concern in the field of rehabilitation counseling. Students are also expected to provide audio/videotapes of counseling sessions.

School Counseling Program (60 cr.)

The purpose of the School Counseling program is to prepare thoughtful and responsive practitioners to work effectively in urban schools and communities as school counselors. The School Counseling Program is aligned with the Massachusetts Model for Comprehensive School Counseling Programs and the American School Counseling Association National Model. The concentration is committed to the preparation of highly qualified professionals who effectively address the needs of children, adults, and families of diverse cultural and ethnic backgrounds, abilities, and needs. Located within an urban university, the program is dedicated to the training of professionals who most likely will work in and provide counseling and related activities to individuals representing an urban and diverse population. Students acquire skills in applying theories and techniques of individual, group, and family counseling; knowledge and understanding of the theoretical basis of behavior; an understanding of labor market trends and occupational information; skills evaluation approaches, including interpretation of vocational evaluations and the Massachusetts Comprehensive Assessment System (MCAS); knowledge of statistical methods and research analysis; knowledge of the Massachusetts Curriculum Frameworks and their use in the schools; knowledge of consultation and of the coordination of school resources in student advocacy; an understanding of federal, state, municipal, and school laws and regulations; knowledge of strategies for the prevention and treatment of substance abuse, physical abuse, and sexual abuse; knowledge of the spectrum of mental illnesses and violence in Pre K-12 students; and skills to understand and evaluate ethical dilemmas involving school counseling services.

Required courses (45 cr.): Graduate courses in research in psychology, medical aspects of disabilities, principles of assessment, ethical standards and professional issues in counseling, abnormal psychology, vocational development, counseling theories and practice, individual counseling, lifespan human development, family therapy theories, principles of school counseling, group counseling, multicultural counseling, and child abuse and neglect. In individual cases, substitutions may be approved by the Graduate Program Director.

COUNSL 601 (Research and Evaluation in Psychology)

COUREH 602 (Medical and Psychological Aspects of Disabilities)

COUNSL 605 (Principles of Vocational, Educational, and Psychological Assessment)

COUNSL 606 (Ethical Standards and Professional Issues in Counseling)

COUNSL 608 (Abnormal Psychology)

COUNSL 613 (Vocational Development and Career Information)

COUNSL 614 (Counseling Theory and Practice I)

COUNSL 617 (Child and Adolescent Counseling)

COUNSL 620 (Clinical Application of Human Development)

COUNSL 622 (Family Therapy Theories)

COUSCH 630 (Principles of Guidance Counseling)

COUNSL 650 (Group Counseling for Children and Adolescents)

COUNSL 653 (Perspectives in Cross-Cultural Counseling)

COUSCH 664 (Child Abuse and Neglect)

One 3-credit elective

Electives: COUSCH 632, COUFAM 626, COUNSL 635, COUFAM 672, COUMHC 674

Required field experience (700 hr., 15 cr.): COUSCH 688: School Counseling Practicum (100 hr., 3 cr.) and two semesters of COUSCH 698: School Counseling Internship (300 hr. per semester, 6 cr. per semester, 600 hours and 12 credits total).

Required capstones: Prior to enrolling in the internship, School Counseling students must pass the literacy portion of the Massachusetts Test of Educator Licensure (MTEL). For the MEd in School Counseling, students are required to pass two capstone requirements: a workshop presentation and a portfolio, both part of the internship and seminar experience. Students select an area of interest relevant to the practice of professional school counseling and prepare and present a professional-level workshop as part of the second-semester Internship Seminar. In addition, a portfolio collection of Internship work samples is required to demonstrate skills and competence in four areas: counseling, consultation, coordination, and curriculum.

Online option: The online option in the School Counseling program operates on a cohort model, with all participants completing the program of study together over a two-year period. Clinical courses are taught during the first summer at UMass Boston's field station on Nantucket Island; all participants must be present for an intensive two-week session held in July (low-cost residential accommodations on Nantucket are provided to participants). The remaining courses are delivered in a web-based, online format following the regular semester calendar. Participants must follow the program of study exactly. The program requires a 100-hour practicum in approved placement sites and a 600-hour internship, divided evenly between two semesters and consisting of supervised field experiences in schools. While engaged in all field work, students participate in an online seminar, as well as in conference calls where their experiences are examined in relation to current issues of concern in the field of school counseling. Students are also expected to provide audio/videotapes of counseling sessions.

The Certificate of Advanced Graduate Study (CAGS)

This program is designed for those already holding a master's degree in counseling. The professional development opportunities offered through the CAGS curriculum enable students to acquire licensure in a second specialty area.

The MEd/CAGS or MS/CAGS

Students seeking to complete both the master's degree and the CAGS at UMass Boston will complete the MS or MEd requirement of 60 credits and a minimum of 18 additional credits to meet the MS or MEd/CAGS requirement of 78 credits total.

The Stand-Alone CAGS

Students entering UMass Boston holding a master's degree in counseling must complete a program of study of at least 30 credits, through which they meet the course requirements for the area within the Counseling Program for which they seek licensure.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication. Also refer to the descrip-

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tion of admission requirements listed under "Professional Preparation Programs for Education" in the "Regulations, Procedures, and Degree Requirements" section of this publication.

The Counseling Program faculty recommend admission of applicants who present evidence of potential both to complete a graduate course of studies with distinction and to become thoughtful and responsive practitioners. For master's applicants, such evidence normally includes:

1. A minimum of five social science courses.
2. A distinguished undergraduate transcript with at least a 3.0 cumulative average.
3. Family Therapy, Mental Health Counseling, and Rehabilitation Counseling applicants must submit strong scores on the Miller Analogies Test (MAT) or the Graduate Record Examination (GRE).

   School Counseling candidates and School Adjustment candidates must present scores for the literacy portion of the Massachusetts Test of Educator Licensure (MTEL). Out-of-state applicants may substitute GRE or MAT scores for MTEL scores.
4. Three strong letters of recommendation indicating the applicant's ability to work well with others.
5. A statement of intent.
6. A group interview with other candidates and faculty members.
7. At least one year of paid or volunteer work in a mental health or equivalent setting is recommended (required for the Family Therapy Program).

Additional Requirements for CAGS Applications: Candidates must have maintained an overall 3.25 GPA while earning a master's degree in counseling or its equivalent. All candidates are asked to visit the campus for a personal interview.

Courses

COUNSL 601
Research and Evaluation in Psychology
This course examines several research models and strategies with respect to their various rationales and methodologies. Relevant statistical topics are introduced conceptually, especially as they are applied in research about specific academic settings.
3 Lect Hrs, 3 Credits

COUREH 602
Medical and Psychological Aspects of Disabilities
This course is designed to offer students with little or no exposure to advanced life sciences the opportunity to examine the physiological and anatomical basis for many chronic diseases they will encounter in a rehabilitation counseling setting. Students examine the etiology, progress, and potential resolution of a wide range of disorders, as well as the potential implications consequent on these disabilities.
3 Lect Hrs, 3 Credits

COUREH 603
Foundations of Rehabilitation
This course seeks to provide students with basic information about the process of rehabilitation and its history and philosophy. Discussions also focus on the organizational structure of the rehabilitation system, the professional identity of the rehabilitation counselor, and legal and ethical issues in the practice of rehabilitation counseling.
3 Lect Hrs, 3 Credits

COUMHC 604
Foundations of Mental Health Counseling
The intent of this course is to provide students with basic information on the principles and practices of mental health counseling. Topics include the history and philosophy of mental health counseling, professional identity, the roles of the mental health counselor, professional ethics, managed care, various contexts of practice and organizational structures, mandated clients, crisis intervention services, prevention, consultation, and an understanding of how diversity influences the practice of mental health counseling. Particular attention is given to the practice of mental health counseling in a range of such urban settings as homeless shelters and outpatient centers.
3 Lect Hrs, 3 Credits

COUNSL 605
Principles of Vocational, Educational, and Psychological Assessment
This course provides a survey of standardized tests used in assessing aptitudes, interests, and personality traits, covering technical and methodological principles and social, ethical, and legal implications of psychological testing and assessment.
3 Lect Hrs, 3 Credits

COUNSL 606
Ethical Standards and Professional Issues in Counseling
The purpose of this course is to create awareness among counselors-in-training of their contribution in the therapeutic process and helping relationship. Topics include foundations for an ethical perspective; models for ethical decision making; ethical codes of professional organizations; client rights and counselor responsibilities; ethical concerns in multicultural counseling and with special client populations; ethical issues in specific modalities (i.e., group, marriage, and family counseling).
3 Lect Hrs, 3 Credits

COUNSL 607
Theories of Personality
This course is designed to lead to an understanding of the issues underlying the development of personality theory and personality constructs. Personality theory and current research are examined through three central perspectives: psychoanalytic theory, social learning theory, and cognitive development theory. Measurement, assessment, and validation issues are also addressed.
3 Lect Hrs, 3 Credits

COUNSL 608
Abnormal Psychology
This course provides students with information relevant to the diagnosis, etiology, and treatment of mental illness. Psychopharmacological interventions are addressed. The epistemological assumptions that ground traditional theories of psychopathology and diagnostic systems such as the DSM are discussed, and avoiding bias in psychiatric diagnosis is a major focus of the course. The following DSM categories are covered: mood disorders, anxiety disorders, psychotic disorders including schizophrenias, disorders usually first evident in childhood, and personality disorders.
3 Lect Hrs, 3 Credits

COUREH 610
Case Management and Planning in Rehabilitation
This course acquaints students with case management in rehabilitation counseling and with the range of community resources available to the counselor whose goal is the effective and comprehensive rehabilitation of individuals with disabilities. Topics include case finding and case planning, service coordination, and client advocacy activities.
3 Lect Hrs, 3 Credits

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COUREH 612
Vocational Rehabilitation and Placement
This course seeks to provide students with information about the total vocational rehabilitation process, including follow-up services. Topics include the referral process; eligibility criteria; comprehensive (medical, psychological, vocational) assessment; vocational training; and placement.
3 Lect Hrs, 3 Credits

COUNSL 613
Vocational Development and Career Information
The vocational development component of the course concentrates on the theories of Roe, Holland, Ginzberg, Super, and Tiedeman. The career information component, a major emphasis, directs the student to locate and use sources of educational-vocational information. These sources will include but not be limited to the Dictionary of Occupational Titles, the Occupational Outlook Handbook, the Guide to Occupational Exploration, information on local labor markets and on military careers, occupation-education information, college and vocational school guides and catalogues.
3 Lect Hrs, 3 Credits

COUNSL 614
Counseling Theory and Practice I
The purpose of this course is to provide grounding in the commonalities of counseling techniques and practice in the use of various techniques. The course covers the essentials of interviewing, note taking, and report writing, as well as the role of diagnosis. Tapes and role playing are required.
3 Lect Hrs, 3 Credits

COUNSL 615
Counseling Theory and Practice II
This course is an extension of Counseling Theory and Practice I. Major theoretical approaches (dynamic, humanistic, behavioral) are considered. The course also involves the exploration of some non-traditional approaches and the use of tape recordings, films, written records of interviews, and role playing.
Prerequisite: COUNSL 614.
3 Lect Hrs, 3 Credits

COUNSL 616
Group Counseling and Group Dynamics
This course provides an introduction to group dynamics that uses the group process of the class to provide experience of group membership and data for interpretation. Participation as a group member is required. Readings and lectures build a cognitive base for evaluating experiential learning.
Prerequisite: COUNSL 615 or 617.
3 Lect Hrs, 3 Credits

COUNSL 617
Child and Adolescent Counseling
This course focuses on facilitating the unique development and emotional growth of children through the counseling process. The course is designed to enhance students' theoretical and practical understanding of the major schools of child psychotherapy. Emphasis is given to a multidimensional view of intervention, with attention to developmental, cognitive, behavioral, educational, multicultural, and environmental issues. Through lectures, videotapes, and structured exercises, students learn a distinct group of interventions, including play and communication skills, as integral components of the therapeutic process.
Prerequisite: COUNSL 614.
3 Lect Hrs, 3 Credits

COUNSL 620
Clinical Application of Human Development
This course provides students with a comprehensive view of lifespan development from childhood through adulthood from several perspectives: 1) the interaction of age with such factors as gender, cultural background, disabilities, and other significant issues encountered at particular stages of life; 2) how individuals at specific stages of cognitive development process information and experience; and 3) a structural approach to ego development.
3 Lect Hrs, 3 Credits

COUFAM 621
Introduction to Family Therapy
This course introduces the professional issues and practices of family therapy. Family therapy is presented as a respectful and contextual therapeutic intervention that attends to diverse client populations and their social environments. The family therapy profession is discussed as an innovative discipline that is responsive to societal changes. The course introduces human communication and system theories that are applicable for family and larger systems interventions and that are distinguished from other counseling paradigms. The course also addresses the ethical implications of societal norms and changes in the delivery of human services care systems for family therapy.
3 Lect Hrs, 3 Credits

COUFAM 622
Family Therapy Theories
This course is focused on general concepts of systems theory and on theoretical frameworks that inform family therapy. Family therapy theories and interventions and the feasibility of family therapy will be discussed within a historical context. Students will be given the opportunity to integrate family therapy theories with their experiences and perceptions of their families-of-origin. The influence of culture, race, social class, and gender on families and family therapy theories will be highlighted. Experiential exercises and videotapes of therapy sessions will be used to demonstrate the impact of family therapy theories on client-family interactions and family therapy sessions.
Prerequisite: COUNSL 614 or 621.
3 Lect Hrs, 3 Credits

COUFAM 624
Sexuality and Intimacy in Families and Family Therapy
Sexuality and intimacy are major issues for couples and families in therapy. This course explores various approaches to understanding sexual functioning and intimacy and family therapy clinical interventions. Participants analyze and critique historical approaches to sex and marital therapy. The course examines an array of family therapy models, including object relations, intergenerational, purposive, solution, narrative, and larger systems approaches. Within a multicultural framework, it focuses on specific topics related to issues of sexual diversity, gender identity, sexual offending, and victimization. The course includes literature review, lectures, and discussions, experiential exercises (sexual genogram construction), and role plays.
3 Lect Hrs, 3 Credits

COUFAM 625
Family Therapy Assessment and Intervention
This course focuses on the practice of systemic and ecosystemic family therapy techniques. Major family therapy models will provide the frameworks for assessment and ethical intervention procedures. Their effectiveness will be critiqued by using criteria set forth by research articles and from clinical practices. In class discussions and role plays, various factors such as race, ethnicity, social class, and the personal profile of the therapist will be shown to have a direct impact on therapeutic interventions. In-class exercises will give students an opportunity to be witnesses and observers of the therapeutic process and to experience therapy as a team effort.
Prerequisites: COUNSL 614, 621, and 622.
3 Lect Hrs, 3 Credits

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COUFAM 626
Collaborative Consultation and Larger Systems
How do individuals and families interface with larger systems, and how do therapists intervene collaboratively? How do larger systems structure the lives of individuals and families? Relationally-trained practitioners are attempting to answer these questions through collaborative and interdisciplinary, team-focused projects in mental health, education, the law, and business, among other fields. Similarly, scholars and researchers are developing specific culturally responsive models: outreach family therapy, collaborative health care, multi-systemic school interventions, social-justice-oriented and spiritual approaches, organizational coaching, and consulting, among others. This course explores these developments and aims at developing a clinical and consulting knowledge that contributes to families, organizations, and communities within a collaborative and social-justice-oriented vision.
Prerequisite: COUNSL 622 or permission of instructor.
3 Lect Hrs, 3 Credits

COUFAM 627
Couples Therapy
This course will focus on principles, theory, and methods effective in therapy with couples. Family therapy theories from a variety of relational perspectives provide the basis for understanding and implementing couples therapy with heterosexual couples and same-sex couples. Topical issues such as domestic violence and divorce and separation will be interwoven into classroom discussions . The influence and impact of socioeconomic and sociocultural factors (including issues of gender and power) on couple relationships will also be examined. Students will gain knowledge of the content and methods of couples therapy through selected readings, classroom discussions, videotapes, and role-play exercises.
Prerequisites: COUNSL 614, 621, and 622.
3 Lect Hrs, 3 Credits

COUFAM 628
Contemporary Family Therapies
This course is an advanced seminar that reviews current trends in family therapy and examines postmodern psychotherapies as they are applied in clinical, school, and larger systems contexts. Theoretical concepts and clinical applications will be drawn from feminist, constructionist, and poststructuralist theories. Special attention will be given to the relationship between larger social contexts and contemporary family configurations. Topics for discussion will include: gay and lesbian families, family violence, and postmodern ideas in work with children, outreach family therapy, and factors affecting the therapist's role.
Prerequisites: COUNSL 614, 621, 622, and 625, or permission of instructor.
3 Lect Hrs, 3 Credits

COUNSL 629
Psychology of Gender
The purpose of this course is to examine contemporary meanings of gender within the field of psychology and to examine the lived experience of gender for men and women. Participants discuss the ways in which the social categories of gender (along with race, class, ethnicity, and culture) play key roles in determining psychosocial realities. An additional focus includes examination of theoretical questions such as: In what ways have psychology's assumptions contributed to sexist epistemologies? What epistemological framework is needed in order to understand the complex relationship among social injustice, gender, and emotional distress?
3 Lect Hrs, 3 Credits

COUSCH 630
Principles of Guidance Counseling
The basic philosophy, scope, and techniques of guidance counseling in schools are reviewed and analyzed. Discussion covers practical issues relevant to school counseling: the school as an institution; relations among counselor, administrators, teachers, and parents; developmental education; sex education; counseling standards and legislation; roles of the school counselor; professional development.
3 Lect Hrs, 3 Credits

COUMHC 631
Foundations of School Adjustment Counseling
This course is focuses on the principles and practices of school adjustment counseling, addressing the history and philosophy of school adjustment counseling, professional identity and roles of the school adjustment counselor, professional ethics, organizational structures of school, knowledge of the juvenile justice systems, crisis intervention services, prevention, federal and state laws and regulations, medical conditions and learning disabilities, consultation in the schools, substance abuse counseling, and an understanding of how diversity influences the practice of school adjustment. Particular attention will be paid to interpreting concepts and knowledge for the practice of school adjustment counseling in an urban setting.
3 Lect Hrs, 3 Credits

COUSCH 632
Collaborative Consultation in Schools
This course provides a theoretical foundation and practical skills in consultation designed to prepare students to apply their professional preparation in education and psychology to solve problems in school settings. Consultation is viewed as a process of collaboration, intervention, and evaluation. An eco-behavioral model of consultation is emphasized. Case studies are used to develop analytical and problem-solving skills. Issues involved in serving diverse student populations are examined. The course is intended to foster an identity as a caring, dedicated, principled and respectful consultant committed to social justice.
3 Lect Hrs, 3 Credit Hrs

COUNSL 635
Behavioral Counseling
This course provides a rigorous examination of social learning theory as a basis for practice of therapeutic behavioral counseling. Through lectures, readings, demonstrations, and discussions, students become familiar with fundamental techniques of behavioral counseling, including operant, classical, modeling, and cognitive methods.
Prerequisites: COUNSL 614, and 615 or 617.
3 Lect Hrs, 3 Credits

COUNSL 650
Group Counseling for Children and Adolescents
This course studies group counseling and group process with children, adolescents, and their families. Participants acquire knowledge and skills through critical and reflective readings, lecture, discussion, role-plays, interviews, and films. Emphasis is given to theoretical and experiential perspectives, as well as multicultural counseling competence, to enhance participants' growth and training as thoughtful and responsive practitioners in diverse urban settings. Discussions address such themes as group dynamics, group composition and management, stages of group empowerment, and leadership styles.
Prerequisites: COUNSL 614, and 615 or 617.
3 Lect Hrs, 3 Credits

COUNSL 653
Perspectives in Cross-Cultural Counseling
This course addresses the role of culture in counseling and psychology by looking both at history and at current issues. Discussions use an interdisciplinary framework to

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approach the question of counseling in a multicultural society. The course seeks to contribute to both the personal and the professional development of its participants. *Prerequisites: COUNSL 614, and 615 or 617.*
3 Lect Hrs, 3 Credits

COUNSL 664
Child Abuse and Neglect
This course addresses the growing problem of child abuse and neglect in American society, exploring the psychodynamic and sociocultural factors that contribute to child abuse. Emphasis is given to prevention, intervention, treatment, and the legal aspects of abuse and neglect.
3 Lect Hrs, 3 Credits

COUNSL 670
Substance Abuse in Modern Society
This course surveys the broader problems caused by substance abuse in modern society, both presenting and analyzing data. Part of the course is devoted to a study of the physiological consequences of substance abuse. Consideration is also given to the family of the substance abuser, to various treatment modalities, and to the relationship between the criminal justice system and substance abuse rehabilitation.
3 Lect Hrs, 3 Credits

COUFAM 672
Substance Abuse and the Family
This course focuses on families with members who are substance abusers and the ways in which these families function. The course explores the methods and resources available for helping such families.
Prerequisite: COUNSL 614.
3 Lect Hrs, 3 Credits

COUMHC 674
Psychopharmacology
This course considers the nature of alcohol and narcotics and the ways they affect addicts in mind and body before, during, and after treatment.
Prerequisites: COUNSL 614, and 670 or 672.
3 Lect Hrs, 3 Credits

COUFAM 680
Family Therapy Supervision and Consultation
This course reviews the state of the art in consultation with and supervision of family therapists. Students explore the context, philosophy, relationships, and pragmatics of supervision. They also analyze such major systemic supervision models as inter-generational, integrative, Post-Milan, and constructionist. A central focus of the course is the emphasis given to a "hands-on" experience. In addition to studying the models, students experience an ongoing relationship as both supervisee and supervisor. The course frames the supervisory process as a conversation embedded in the interplay of race, class, gender, and institutional politics. As a result, discussions focus on issues of sexual orientation, cultural sensitivity, the mandate to educate urban practitioners, and changing clinical and economic realities. The course involves face-to-face supervision, genograms, videotapes, and other family therapy supervisory techniques. Consideration is given to the life experiences of course participants, as well as to ethical and legal issues. Other topics include the differences between supervisor and consultant stances and the potential use of family therapy techniques in organizational settings.
3 Lect Hrs, 3 Credits

COUNSL 688
Practicum
The purpose of the practicum is to expose the student to his/her particular field in counseling through actual placement in a facility where appropriate supervision is provided. Class discussions include a review of onsite observations and experiences and discussions of current issues in the field.

COUMHC 688: Adjustment Counseling Practicum
Prerequisites: COUNSL 604, 608, 614, and 617.

COUMHC 688: Mental Health Counseling Practicum
Prerequisites: COUNSL 604, 608, 614, and 615 or 617; for Forensic Services Concentrators, also PSYCH 614.

COUREH 688: Rehabilitation Counseling Practicum
Prerequisites: COUNSL 603, 614, and 615.

COUSCH 688: School Counseling Practicum
3 Lect Hrs, 3 Credits

COUNSL 696
Independent Study in Counseling
This course allows for the comprehensive study of a particular topic or a field work experience under the direction of a faculty member. A detailed proposal must be submitted to the faculty member prior to registration.
Hours by arrangement, 3-6 Credits

COUFAM 697
Special Topics in Family Therapy
This advanced course offers intensive study of a selected topic in family therapy . Course content varies according to the topic and will be announced prior to registration.
Hours by arrangement, 1-6 Credits

COUMHC 697
Special Topics in Mental Health
This advanced course offers intensive study of a selected topic in family therapy. Course content varies according to the topic and will be announced prior to registration.
Hours by arrangement, 1-6 credits

COUREH 697
Special Topics in Rehabilitation
This advanced course offers intensive study of a selected topic in rehabilitation. Course content varies according to the topic and will be announced prior to registration.
Hours by arrangement, 1-6 credits

COUSCH 697
Special Topics in School Counseling
This advanced course offers intensive study of a selected topic in school counseling. Course content varies according to the topic and will be announced prior to registration.
Hours by arrangement, 1-6 credits

COUNSL 698
Internship in Counseling
Students are placed as apprentice counselors in schools or agencies under the direct supervision of qualified professionals. Students meet weekly for a three-hour seminar.

COUMHC 698: School Adjustment Internship (may be taken twice for credit)

COUFAM 698: Family Therapy Internship (may be taken three times for credit)

COUMHC 698: Mental Health Counseling Internship (may be taken twice for credit)

COUREH 698: Rehabilitation Counseling Internship (may be taken twice for credit)

CREATIVE WRITING (MFA)

The MFA program in Creative Writing will begin accepting applications in September 2006 for matriculation as of Fall 2007.

Faculty

John Fulton, MFA, *University of Michigan* • Fiction • Contemporary Fiction

Askold Melnyzcuk, MA, *Boston University* • Fiction • Contemporary Fiction • Editing and Publishing

Joyce Peseroff, MFA, *University of California, Irvine* • Poetry • Modern and Contemporary Poetry • Teaching of Creative Writing

Lloyd Schwartz, PhD, *Harvard University* • Poetry • Poetics • Modern and Contemporary Poetry

For additional English Department faculty participating in the MFA in Creative Writing, see under "English" in this publication.

The Program

The Master of Fine Arts in Creative Writing offers selected students specializing in poetry or fiction an intense and focused opportunity to further their commitment to writing as the center of their professional life. Through a combination of mentoring by accomplished faculty in a series of creative writing workshops, courses focused on the study of literature offered through the English MA program, and electives that include the practice of literary editing and the teaching of creative writing, students will have the guidance to develop and shape their work to the limits of their talent. After three years in the program, they will be prepared to sustain their commitment to contemporary literature as writers, readers, editors, and teachers.

The Master of Fine Arts builds on UMass Boston's well-established undergraduate creative writing program, and on the English MA degree's creative writing track. Students from these programs have published in the National Poetry Series, and the Yale Series of Younger Poets, and with presses including Penguin, Norton, HarperCollins, Doubleday, Beacon, Little, Brown, Ohio University, and University of Illinois Press. Our graduates include current program directors at the University of Connecticut and Franklin Institute, as well as the Poet Laureate of Texas.

The MFA degree requires six semesters of full-time study, with 9 credits required in each of the first four semesters, and 6 credits in the final two semesters, during which students will concentrate on completing a thesis in fiction or poetry under the direction of a faculty member. MFA workshops are limited to 12 students, and seminars are limited to 15.

Degree Requirements

The MFA degree requires 48 credits, including:

1. Three MFA writing workshops (18 cr.)
2. One craft course: Problems in Fiction or Problems in Poetry, as appropriate to the student's specialization (6 cr.)
3. Three seminars in literature (9 cr.)
4. Three electives (9 cr.)
5. Two thesis workshops, culminating in a capstone MFA thesis of 48–64 pages of poetry, or 100–200 pages of fiction (6 cr.)

The thesis will be written under the supervision of a thesis advisor, read by a thesis committee of at least three members, and subject to a public thesis defense.

Admission Requirements

1. Bachelor's degree from an accredited institution, with a minimum 3.0 GPA overall and in the student's major.
2. Three substantive and detailed letters of recommendation, at least two from former teachers familiar with the applicant's most recent academic and creative work.
3. A 3–5-page personal statement focusing on the role of the candidate's reading life in his or her development as a writer.
4. A writing sample of 10 manuscript pages of poetry or 20 manuscript pages of fiction.
5. GREs are encouraged but not required.

The application deadline is January 15.

Courses:

The following graduate courses are currently in the process of review:

MFA Fiction Workshop

MFA Poetry Workshop

Problems in Fiction Workshop

Problems in Poetry Workshop

Literary Editing

The Teaching of Creative Writing

MFA Thesis

Please see also literature and other selected seminars under "English" in this publication.

CRITICAL AND CREATIVE THINKING (MA, GRADUATE CERTIFICATE)

Faculty

Lawrence Blum (Philosophy Department), PhD, *Harvard University* • Ethics and Moral Philosophy

Nina Greenwald, PhD, *Boston College* • Educational Psychology • Creative Thinking and Problem Solving • Problem-Based Learning • Gifted Education • Multiple Intelligences

Arthur Millman (Philosophy Department), PhD, *University of Chicago* • Philosophy of Science • Philosophy of Technology • Environmental Ethics

Steven Schwartz (Psychology Department), PhD, *University of Illinois at Urbana-Champaign* • Creativity • Problem Solving • Statistics and Research Methods

Carol Smith (Psychology Department), PhD, *Harvard University* • Children and Science • Conceptual Change • Cognitive Development

Janet Farrell Smith, (Philosophy Department), PhD, *Columbia University* • Biomedical Ethics • Political Philosophy • Philosophy of Language

Peter Taylor, PhD, *Harvard University* • Science, Technology, and Society • Social Analysis of Environmental and Health Research • Reflective Practice

Brian White (Biology Department), PhD, *Stanford University* • Biology Education • Educational Software and Multimedia

The Program

The Graduate Program in Critical and Creative Thinking (CCT) is a unique interdisciplinary program that provides its students with knowledge, tools, experience, and support to become constructive, reflective agents of change in education, work, social movements, science, and creative arts.

Critical thinking, creative thinking, and reflective practice are valued in all fields. In critical thinking one seeks to scrutinize the assumptions, reasoning, and evidence brought to bear on an issue—by others and by oneself; such scrutiny is enhanced by placing ideas and practices in tension with alternatives. Key functions of creative thinking include generating alternative ideas, practices, and solutions that are unique and effective, and exploring ways to confront complex, messy, ambiguous problems, make new connections, and see how things could be otherwise. In reflective practice one takes risks and experiments with putting ideas into practice, then takes stock of the outcomes and revises his/her approaches accordingly.

An explicit and sustained focus on mastering and applying tools of critical thinking, creative thinking, and reflective practice allows students involved in a wide array of professions and endeavors to develop the clarity and confidence to make deep changes in their learning, teaching, work, activism, research, and artistry.

Although each CCT course is self-contained and is open to students from other graduate programs, students matriculated in the program benefit from extended relationships with core CCT faculty and fellow students that support their process-learning. Students learn to experiment and take risks in applying what they are learning, reflecting on the outcomes and revising accordingly, and building up a set of tools, practices, and perspectives that work in their specific professional or personal endeavors.

The foundational knowledge emphasized in the field of critical and creative thinking includes psychological studies of the scope, limits, and techniques of critical and creative thought, information processing, and conceptual learning in children and young adults; philosophical studies of reasoning, argument, logical thinking, valuing, and judging; and work with cognitive structures and metacognitive techniques for stimulating creativity and critical thought. This knowledge base is expanded through elective courses that take students into areas of specialization and through required courses in research, implementation, evaluation, and communication. The program further stresses inter- and intra-personal dimensions of critical and creative thinking and reflective practice (such as empathy, listening, dialogue, and facilitation of group processes) and contribution to constructive social change through anti-racist and multicultural education and involvement of teachers and other citizens in debates about science in its social context.

The CCT Program appeals to students looking for professional and personal development and interested in learning from and with others of diverse backgrounds and interests. Many are mid-career educators: teachers and college professors, curriculum specialists, teacher educators, museum educators, or school administrators. Others are policy makers or personnel trainers in government, corporate, or non-profit settings. Some are artists, musicians, or writers.

Graduates leave CCT well equipped for ongoing learning, addressing the needs of their schools, workplaces, and communities, adapting and contributing to social changes, and collaborating with others to these ends.

CCT courses are open to non-degree students and students from other graduate programs seeking to fulfill requirements, particularly in teacher-education programs.

To accommodate the schedules of teachers and other working professionals, courses are offered after 4 pm, as well as in intensive sessions during the summer. While it is possible for a full-time student to complete the master's program in one calendar year, most students combine the program with their ongoing careers and therefore take two or three years.

Degree Requirements

The Master of Arts Program

Thirty graduate credits are required for completion of the MA degree:

Foundation courses: A sequence of two core courses, CRCRTH 601 and 602 (Critical Thinking and Creative Thinking), to be taken at the beginning of the program (6 credits).

Two advanced core courses in the philosophy and the psychology of thinking, PHIL 501 and Psych 550L / CRCRTH 651L, to be taken as soon as possible after CRCRTH 601 and 602 (6 credits).

Electives: Three electives within a specialty area, chosen from offerings in CCT or, with permission of the CCT Graduate Program Director, from other academic programs and departments (9 credits).

By petition to the CCT Graduate Program Director, up to two upper-level undergraduate courses may be counted toward this requirement.

The program offers four specialty areas:

- Literature and Arts
- Mathematics, Science, and Technology, including subspecialties in:
  - Science in Society
  - Environment, Science, and Society
- Moral Education and Ethical Issues
- Workplace and Organizational Change

Additional areas of specialization may be constructed in consultation with the CCT Graduate Program Director. These areas may involve interdisciplinary cooperation with other graduate programs on campus, such as Instructional Design, Special Education,

Critical and Creative Thinking

Educational Administration, and Dispute Resolution.

Note: CCT MA students need permission of their advisors to take on-line sections and may count no more than four on-line courses from UMass Boston toward their degree.

Pre-Capstone Experience: A practicum course (CRCRTH 698) and an evaluation seminar (CRCRTH 693), in which critical and creative thinking interventions are developed, implemented, evaluated, and modified (6 credits).

Capstone: A supervised capstone experience composed of either a synthesis project or a thesis (3 credits):

A. The Synthesis Project: Students choosing this capstone experience enroll in CRCRTH 694: Synthesis of Theory and Practice Seminar, through which participants review and reflect on the integration into their professional lives of critical and creative thinking skills and strategies. It offers each participant the opportunity to demonstrate mastery of competencies and skills appropriate and relevant to his/her discipline. For each student, this demonstration has two parts: a written essay and an oral presentation.

   The synthesis project essay follows the Office of Graduate Studies Guidelines for the Preparation of Theses & Dissertations and is expected to incorporate an appropriate theoretical framework and references to relevant scholarly work in its field. The 30- to 60-minute oral presentation is given before members of the CCT faculty. Both the essay and the oral presentation are evaluated by at least two members of the CCT faculty.

B The Thesis: The Thesis provides an opportunity for the student to integrate and synthesize the knowledge and skills gained in the program into a significant work. Details about different options for the thesis are available from the Program Coordinator.

The Graduate Certificate

The objective of the fifteen-credit graduate certificate program is to provide a coherent and substantial course of study resulting in an understanding of the skills needed in teaching, training, or designing curriculum for critical and creative thinking and an enhanced ability to use and communicate these skills in professional practice.

Students seeking the certificate take a total of five courses: a sequence of two foundation courses, Critical Thinking (CRCRTH 601) and Creative Thinking (CRCRTH 602); and three other CCT courses. Customarily, these include either Foundations of Philosophical Thought (PHIL 501) or Cognitive Psychology (CRCRTH 651L/PSYCH 550L), an elective course, and Practicum: Processes of Research and Engagement (CRCRTH 694). Alternatively, students may, after consultation with their faculty advisor and with the approval of the Program Director, take up to three electives in one specialty area. Each certificate student also gives an exit performance, usually as part of CRCRTH 698, which demonstrates competence in implementing critical and creative thinking. This exit performance is reviewed and evaluated by a faculty committee.

Online sections, available for several courses, make it possible for the certificate to be undertaken by non-resident students.

Certificate students may count CCT courses that they have taken toward completion of their MEd or another UMass Boston Master's degree toward the certificate.

CCT Certificate with a Special Focus

For each of the following foci, CCT graduate certificate students take CRCRTH 601, CRCRTH 602, and three other courses from a recommended list of electives and complete an exit performance as part of one of the courses taken. Online sections are available for several courses. For more information, please contact the Program Office, tel 617.287.6520 or email cct@umb.edu.

- Creative Thinking at Work
- Science in a Changing World
- Gifted and Talented Education

Admission Requirements

Please see the general statement of admission requirements for all graduate programs in the "Admissions" section of this publication.

The Critical and Creative Thinking Program will recommend for admission those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

1. A distinguished undergraduate transcript with a grade point average of at least 3.0.
2. For MA applicants, at least three positive and informed letters of recommendation submitted by persons with whom the applicant has worked closely and who have direct knowledge of their abilities. Recommenders should be able to comment in detail about an applicant's academic strengths, work, and/or life experience. For Graduate Certificate applicants, at least two such letters.

Optionally, applicants may submit results of the Graduate Record Examination (GRE) or the Miller Analogies Test (MAT) and/or evidence of teaching or other examples of workplace competence, such as curriculum projects and lessons or business plans, to strengthen their application.

Special Opportunities and Resources

The CCT Program and the CCT Forum, a club run by graduate students, organize regular presentations by students, faculty, and graduates which are open to the wider University community. In these settings students can receive support from their peers and from graduates who provide mentoring, information on employment opportunities, and access to new directions in putting CCT into practice. The CCT Community Directory also facilitates exchange among current and past CCT students. Outside the regular academic year, CCT hosts workshops and other activities designed to promote outreach beyond the University. Information is available from the CCT website at http://www.cct.umb.edu and through an email listserv.

The CCT Handbook provides additional information about joining and moving through the CCT program and about the wider CCT community. This handbook can be viewed on the CCT website or downloaded as a PDF file.

Departmental Course (Required)

PHIL 501
Foundations of Philosophical Thought
By discussing four or five traditional substantive problems in philosophy, such as morality, the nature of knowledge, freedom of the will, the nature of mind, and social organization, the course attempts to derive a common approach that philosophers bring to these problems when developing their own solutions and criticizing the solutions of other philosophers. It also considers some of the ways that substantive issues and debates in philosophy relate to contemporary non-philosophical issues in our society and can be introduced into a broad range of educational environments outside standard philosophy courses.
3 Lect Hrs, 3 Credits

Critical and Creative Thinking

CCT Courses

CRCRTH 601
Critical Thinking
This course explores issues about the nature and techniques of critical thought, viewed as a way to establish a reliable basis for our claims, beliefs, and attitudes about the world. It explores multiple perspectives, placing established facts, theories, and practices in tension with alternatives to see how things could be otherwise. Views about observation and interpretation, reasoning and inference, valuing and judging, and the production of knowledge in its social context are considered. Special attention is given to translating what is learned into strategies, materials, and interventions for use in students' own educational and professional settings.
3 Lect Hrs, 3 Credits

CRCRTH 602
Creative Thinking
This course seeks to increase the participants' understanding of creativity, to improve their creative problem-solving skills, and to enhance their ability to promote these skills in others, in a variety of educational settings. Students participate in activities designed to help develop their own creativity and discuss the creative process from various theoretical perspectives. Readings are on such topics as creative individuals, environments that tend to enhance creative functioning, and related educational issues. Discussions with artists, scientists, and others particularly involved in the creative process focus on their techniques and on ways in which creativity can be nurtured.
3 Lect Hrs, 3 Credits

CRCRTH 611
Seminar in Critical Thinking
This course involves research on and discussion of important issues of current concern about critical thinking. Issues include critical thinking; logic and knowledge; critical thinking about facts and about values; knowledge in its social context; teaching to be critical; and evaluating critical thinking skills. The course addresses these issues through cases of topical interest. (Note: The specific thematic emphasis of this course is described on the program website: www.cct.umb.edu.)
3 Lect Hrs, 3 Credits

CRCRTH 612
Seminar in Creativity
This course involves research on and discussion of important issues of current concern in the field of creativity. The seminar analyzes writings on the creative person, the creative process, and the development of creative performance in both art and science. It draws on materials from a variety of sources, including biography, intellectual histories, psychological studies, and educational research. Topics include perspectives on the creative process, from logical extension to intuitive leap; distinguishing scientific and artistic creativity; the person; the role of insight; demythologizing creativity; social context and creative productivity; evaluating creativity; educating for creativity. (Note: The specific thematic emphasis of this course is described on the program website: www.cct.umb.edu.)
3 Lect Hrs, 3 Credits

CRCRTH 616
Dialogue Processes
Genuine dialogue provides a creative space in which entirely new ways of thinking, acting, and relating to others may emerge. At the heart of such dialogue is holding respect for oneself, for one another, and for a commonly created pool of meaning. Course participants learn and experience approaches to listening and dialogue derived from Buber, Bohm, Isaacs, Jackins, Weissglass, and others, that allow us to become more aware of the underlying beliefs, assumptions, and emotions that limit our thinking and our responses to the world. Discussions explore applications of dialogue processes in educational, organizational, social, and personal change.
3 Lect Hrs, 3 Credits

CRCRTH 618
Creative Thinking, Collaboration, and Organizational Change
Through interactive, experiential sessions and structured assignments, students learn critical and creative approaches to working in organizations. Skills addressed include: communication and team-building; facilitation of participation and collaboration in groups; promotion of learning from a diversity of perspectives; problem-finding and solving; and reflective practice. Students apply these skills to situations that arise in business, schools, social change groups, and other organizations with a view to taking initiative and generating constructive change.
3 Lect Hrs, 3 Credits

CRCRTH 619
Biomedical Ethics
This course develops students' critical thinking about dilemmas in medicine and health care policy, such as those that arise around allocation of scarce resources, criteria for organ transplants, informed consent, experimentation on human subjects, AIDS research, embryo research and selective termination of pregnancy, euthanasia, and physician-assisted suicide. Through such cases the course introduces methods in moral reasoning, including principle-based reasoning, rights-based reasoning, decision-making under uncertainty, and utilitarianism in classic and contemporary normative reasoning.
3 Lect Hrs, 3 Credits

CRCRTH 620
Moral Education
This course involves a comprehensive analysis of the basic issues in moral education from an interdisciplinary perspective. Philosophical studies of the nature of morality and the moral life are integrated with psychological studies of moral development and human motivation and brought to bear on issues in teaching morality, especially in elementary and secondary schools, in a democratic society. Topics include rationality, emotion, and motivation in moral action; the moral life and the aims of moral education; the moral development of children; moral education versus indoctrination; socialization; and the "hidden curriculum." Throughout this course theoretical insights are applied to an examination of materials, programs, and practices in moral education, both in schools and in the wider community.
3 Lect Hrs, 3 Credits

CRCRTH 627
Issues and Controversies in Antiracist and Multicultural Education
This course explores two related forms of education—antiracist education and multicultural education—approaching them as issues in moral and value education and exploring controversies in the theories and practices of antiracist and multicultural education. The course deals with both practical and theoretical issues but concentrates more on theory. Specific topics include racism, race, and school achievement; ethnic identity and self-esteem; Afrocentrism; religious pluralism; multiculturalism as a unifying or divisive force.
3 Lect Hrs, 3 Credits

CRCRTH 630
Criticism and Creativity in Literature and the Arts
Expression and evaluation, freedom and discipline, creative production and its critique—how do these dualities relate to visual and verbal imagination as they are demonstrated in literature and the arts? Specific strategies for eliciting imaginative work in these areas are demonstrated, as

Critical and Creative Thinking

are specific strategies for evaluating imaginative works. Finally, this course focuses on ways of helping others (including children) to develop these skills and utilize these strategies effectively.
3 Lect Hrs, 3 Credits

CRCRTH 640
Environment, Science, and Society: Critical Thinking
Through current and historical cases, this course explores the diverse influences that shape environmental science and politics and their pedagogical, professional, social, and moral implications for educators, environmental professionals, and concerned citizens.
3 Lect Hrs, 3 Credits

CRCRTH 645L / BIOL 545L
Biology in Society: Critical Thinking
Current and historical cases are used to examine the political, ethical, and other social dimensions of the life sciences. Close examination of developments in the life sciences can lead to questions about the social influences shaping scientists' work or its application, and, in turn, to new questions and alternative approaches for educators, biologists, health professionals, and concerned citizens.
3 Lect Hrs, 3 Credits

CRCRTH 646L / SPE G 646L
The Gifted and Talented Student
This course provides students with an overview of the gifted and talented student. Topics include definitions of "gifted," identification of the gifted and talented, and methods and programs geared to these students. Special areas to be addressed are the gifted and talented minority student, as well as the gifted and talented underachiever.
3 Credits

CRCRTH 649L / PPOL 749L
Science, Technology, and Public Policy
Although relatively few Americans have backgrounds in science or engineering, they are increasingly confronted with issues that are technically complex. This course explores the resulting tensions and asks how the needs for scientific expertise and democratic control of science and technology are reconciled. The first half of the course traces the historical development of American science policy and situates this development comparatively. The second half focuses on contemporary controversies, including those over the nature of university/industry relations, patent policy, and cases of expert/lay disagreements over risk.
3 Lect Hrs, 3 Credits

CRCRTH 650
Mathematics Thinking Skills
This course explores several types of mathematical thinking in the context of number theory, algebra, geometry, and introductory calculus, and relates them to critical and creative thinking skills. Developmental and experiential factors in learning and teaching mathematics are considered, as well as techniques for determining a learner's mathematical abilities and learning styles. Readings, discussion, research, and problem-solving are used to provide a historical context and to suggest connections with other disciplines. Individual and small-group projects are adapted to student interests. No formal mathematical background beyond high school algebra and geometry is required.
3 Lect Hrs, 3 Credits

CRCRTH 651L / PSYCH 550L
Cognitive Psychology
This course gives a survey of the field of cognitive psychology from an information-processing viewpoint. The course considers how people encode, organize, transform, and output information. Emphasis is given to such topics as concept formation, problem-solving, and creative thinking.
3 Lect Hrs, 3 Credits

CRCRTH 652
Children and Science
This course explores the ways children think about their natural and social world and how this thinking affects their learning of science. It is particularly concerned with identifying and describing the organized conceptual frameworks children have prior to instruction (which typically are different from the scientists' conceptualizations) and with understanding the general processes by which conceptual frameworks can be changed. One important question concerns the ways in which children are fundamentally different learners and thinkers from adults and the ways in which they are fundamentally similar.
3 Lect Hrs, 3 Credits

CRCRTH 670
Thinking, Learning, and Computers
This course considers the consequences of using computers to aid our thinking, learning, communication, and action in classrooms, organizations, and social interactions. Class activities acquaint students with specific computer-based tools, the ideas and research behind them, and themes for critical thinking about these ideas and tools.
3 Lect Hrs, 3 Credits

CRCRTH 693
Seminar on Evaluation of Educational Change
This course covers techniques for and critical thinking about the evaluation of changes in educational practices and policies in schools, organizations, and informal contexts. Topics include quantitative and qualitative methods for design and analysis; participatory design of practices and policies; institutional learning; the wider reception or discounting of evaluations; and selected case studies, including those arising from semester-long student projects.
3 Lect Hrs, 3 Credits

CRCRTH 694
Synthesis of Theory and Practice Seminar
This seminar provides participants with an opportunity to review and reflect on their work in the program and its impact on their current and future professional and personal lives, through a final project that demonstrates knowledge and integration of critical and creative thinking skills, processes, and strategies. To facilitate the synthesis of ideas and the identification of a final project option, the seminar begins with group experiences. Students choosing the same final project option meet in small groups weekly to present their plans and progress notes for support and critique. A three-page final project description is presented early in the course, and all projects are presented during the last four weeks.
3 Lect Hrs, 3 Credits

CRCRTH 696
Independent Study
This course involves the comprehensive study of a particular topic or area of literature determined by the student's need; the study is pursued under the guidance, and subject to the examination, of the instructor. An application or outline of study should be submitted to the instructor by the end of the semester previous to that in which this course is to be taken.
1-6 Credits

CRCRTH 697
Special Topics in Critical and Creative Thinking
This advanced course offers intensive study of selected topics in the field of critical and creative thinking. Course content and credit vary according to the topic and will be announced during the advance registration period.
3 Lect Hrs, 1-6 Credits

Critical and Creative Thinking

CRCRTH 698
Practicum: Processes of Research and Engagement
In this course, students identify issues in educational or other professional settings on which to focus their critical and creative thinking skills. Each student works through the different stages of research and action – from defining a manageable project to communicating findings and plans for further work. Supervision is provided when the student's research centers on new teaching practices, workshops in the community, or other kinds of engagement as an intern or volunteer. The classes run as workshops in which students are introduced to and then practice using tools for research, writing, communicating, and supporting the work of others.
3 Lect Hrs, 3 Credits

DISPUTE RESOLUTION (MA, GRADUATE CERTIFICATE)

Faculty

Michael Chaffers, JD, *Harvard University*

Joshua Jacks, BA, *University of Massachusetts Boston* • Mediation (Part-time)

Darren Kew, PhD, *Tufts University* • Democratic Theory • International Conflict • Nigerian Politics

David E Matz, JD, *Harvard University* • Mediation • Negotiation • Arab-Israeli Negotiations

Susan Opotow, PhD, *Columbia University* • Moral Exclusion • Women and Conflict • Environmental Justice and Fairness

David Seibel, JD, *Harvard University* • Negotiation (Part-time)

Douglas Thompson, MSC, *Northwestern University* • Mediation • Environmental Dispute Resolution • Public Policy Disputes (Part-time)

Gillien Todd, JD, *Harvard University* • Negotiation (Part-time)

Elissa Tonkin, JD, *University of Michigan* • Mediation • Environmental Dispute Resolution • Public Policy Disputes (Part-time)

Anthony Wanis-St. John, PhD, *Tufts University* • Negotiation (Part-Time)

Eben Weitzman, PhD, *Columbia University* • Cross-Cultural Mediation • Group Conflict • Organizational Conflict • Mediation

Philip Woodbury, JD, *Northeastern University* • Family Mediation (Part-time)

The Programs

UMass Boston offers two graduate programs in this important and growing field: the Master of Arts Program in Dispute Resolution and the Graduate Certificate Program in Dispute Resolution. Both are responsive to the increasing public awareness of conflict as an inescapable phenomenon affecting individuals, families, and nations. Conflict also has an impact upon how well companies and other organizations function. A growing appreciation of conflict management and, in particular, of the relationship between effective conflict management and successful organizations has led to increased demand for rigorous and sophisticated training in this field.

The MA program offers a comprehensive 36-credit curriculum encompassing dispute resolution skills, practice, analysis, theory, and research. Once dispute resolution skills have been developed and honed, students can develop context-specific dispute resolution expertise. Specialization areas offered in the MA program include, but are not limited to, organizational conflict, international conflict, health care conflict, public policy and multi-party conflict, and environmental conflict. In addition, students have the flexibility to pursue specific areas of conflict of particular interest to them. Students may fulfill their elective requirements with courses from elsewhere in the university that are relevant to their specific area of interest. Students may also design their capstone final projects to further their individual interests and goals.

The graduate certificate program offers an 18-credit curriculum focusing on dispute resolution skills for professionals who manage conflict in their work. Among the oldest programs of its kind, this program has for more than two decades produced capable graduates whose new skills have helped them to excel in their chosen fields.

In addition to the MA and Graduate Certificate, UMass Boston also offers a dispute resolution concentration within the PhD in Public Policy. The Public Policy PhD is designed to educate students in methods and approaches to public policy analysis in a variety of policy areas. The program provides interdisciplinary study at both the theoretical and applied levels, drawing on a broad variety of academic disciplines. The nine-credit concentration in dispute resolution allows students to focus on the role of conflict and conflict resolution in international relations or in the administrative and public policies of state and local governments and non-profit community organizations. For more information on the PhD Program in Public Policy and the concentration in dispute resolution, please see under Public Policy in this publication.

Dispute resolution training benefits students working in such varied fields as public and private sector management, education, law, environmental sciences, health care, labor relations, law enforcement, the ministry, architecture, and human services. The programs' curricula emphasize the development, role, and management of conflict in settings such as government and non-government agencies, schools, hospitals, corporations, universities, and communities.

Both the MA and the graduate certificate programs offer challenging internship opportunities. A mediation internship where students mediate small-claims cases in Boston-area district courts is required for both programs. Students in these internships are closely supervised by part-time faculty members who are dispute resolution professionals—strongly committed to sharing their knowledge and skills with those entering the field. Advanced students may also apply for an advanced field placement where they participate in dispute resolution processes in a specific context. With the help of program staff, students have negotiated placements, for example, at a federal environmental dispute resolution office, a private consulting firm, a non-profit mediation program, and an international program facilitating dialogue between US and Arab university students.

Graduates of the certificate program may apply for entry into the MA program, but their admission is not guaranteed. Upon a student's admission to the MA program, credits earned in the certificate program are counted toward the requirements of the MA program. Students who have not yet completed the certificate program may also apply to transfer into the MA program, but not until they have completed at least three courses (9-12 credits).

Classes in both programs are scheduled to accommodate schedules of working professionals, meeting during late afternoon and evening hours and on Saturdays.

Applicants are admitted into both programs to begin their studies in either the fall or spring semester. Students may enroll in either program as full-time or part-time students.

Faculty and staff welcome inquiries from prospective students who need assistance determining which program better suits their needs. Please visit the department's web site, www.disres.umb.edu, and contact the program for further information at 617.287.7421 or disres@umb.edu.

Degree Requirements

The Master of Arts Program

Students complete the following 36-credit curriculum:

DISRES 621 (Negotiation)

DISRES 622 (Ethical, Professional, and Policy Issues in Dispute Resolution)

DISRES 623 (Introductory Theory)

DISRES 624 (Cross-Cultural Conflict)

DISRES 625 (Conflict Resolution Systems for Organizations)

DISRES 635 (Research Methods in Dispute Resolution)

Two Electives (6 Credits)

DISRES 693 (Final Project, 6 credits)

DISRES 690 (Internship, 6 credits)*

*Internship students mediate cases in district court (small-claims cases); placements are arranged through the program office.

The Graduate Certificate Program

Students in the graduate certificate program complete the following 18-credit curriculum:

DISRES 621 (Negotiation)

DISRES 623 (Introductory Theory)

Choose one:

- DISRES 603 (Advanced Negotiation and Mediation)
- DISRES 622 (Ethical, Professional, and Policy Issues in Dispute Resolution)
- DISRES 624 (Cross-Cultural Conflict)
- DISRES 625 (Conflict Resolution Systems for Organizations)

DISRES 690 (Internship, 6 credits)

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication. Please note: Students in the Graduate Certificate Program must complete at least three courses (9-12 credits) before applying for admission to the MA Program. For further information, contact the program office.

For Both Programs

1. If applicable, please include a separate sheet listing and describing any previous training or education you have had in negotiation or mediation.
2. Send a completed copy of your application to the Graduate Program in Dispute Resolution, as well as sending the original to the Office of Graduate Admissions.

For the Master of Arts Program

Admission requirements include:

1. a bachelor's degree,
2. experience managing conflict,
3. appropriate writing and research skills, and
4. a satisfactory score on the Miller Analogies Test or the Graduate Record Examination. Please note: a test score is not required if the applicant holds an advanced degree from a US university.

Candidates may be asked to visit the campus for an interview.

For the Graduate Certificate Program

Admission requirements include:

1. a bachelor's degree,
2. experience managing conflict, and
3. appropriate writing skills.

Courses

DISRES 603
Advanced Negotiation and Mediation
This course builds on the introductory courses, DISRES 621 and 623, and examines the resolution of conflict in different contexts.
3 Lect Hrs, 3 Credits

DISRES 621
Negotiation
Negotiation is the bedrock skill in this field. The course addresses the development of negotiation techniques and fosters student knowledge of the substantial body of negotiation theory that is now available.
3 Lect Hrs, 3 Credits

DISRES 622
Ethical, Professional, and Policy Issues in Dispute Resolution
The process of resolving conflicts raises a number of ethical problems for neutrals (mediators), for advocates (negotiators), and for dispute resolution system designers. The field of alternative dispute resolution (ADR) raises a set of public policy questions linked to such ethical problems. These questions explore the relationship of mediation to law, therapy, and politics; the tension between voluntary and mandatory ADR programs; and the influence of ADR on existing power relationships. In this course students critically examine the philosophical basis of ethical practices in the field; consider and apply ethics in diverse, ambiguous, complex, changing circumstances; and reflect on the ethical practices and standards of the field in order to respond to a wide range of situations with ethical proficiency and sensitivity.
Prerequisite: DISRES 690.
3 Lect Hrs, 3 Credits

DISRES 623
Introductory Theory
This course examines the theories and assumptions underpinning the practice of negotiation and mediation. It identifies the major schools of thought that influence models in practice and shape research agendas. It examines theories critically, with three aims—uncovering implicit assumptions of practice, testing those assumptions against empirical evidence or other theories, and gleaning insights to assist practitioners.
3 Lect Hrs, 3 Credits

DISRES 624
Cross-Cultural Conflict
This course emphasizes the special characteristics of conflict based in religious, ethnic, national, or racial identity—conflicts that the field calls "intractable." The primary focus of the course is on intervention techniques that have been used and that have been proposed for use in these settings.
Prerequisite: DISRES 690.
3 Lect Hrs, 3 Credits

DISRES 625
Conflict Resolution Systems for Organizations
This course examines different systems for managing conflict. The system may exist in a large corporation, or between two or among many nations, between labor and management, or within a family. The system may be explicit and clear, informal and invisible, or both. The system may be effective or not. The course explores different kinds of conflict management systems and criteria for measuring their effectiveness; and discusses the analysis and design of dispute managing systems.
Prerequisite: DISRES 690.
3 Lect Hrs, 3 Credits

DISRES 626
Advanced Intervention
This course applies the principles of mediation and other forms of intervention to a particular context. Each year, the specific course context changes. Possibilities include intervention in environmental disputes, family disputes, organizational disputes, or international disputes.
Prerequisite: DISRES 690.
3 Lect Hrs, 3 Credits

Dispute Resolution

DISRES 627
Human and Moral Dimensions of Environmental Conflict
This advanced course offers intensive study of the human and moral issues that make environmental conflicts so complex. Students select a case study and examine it in some depth throughout the course. The course deepens their knowledge of a specialized area of environmental conflict and of the way such conflicts interweave economic, political, and public policy with science, social issues, and values.
Prerequisite: DISRES 690.
3 Lect Hrs, 3 Credits

DISRES 631
Family and Divorce Mediation
The need to understand the special issues raised by families negotiating separation and divorce is growing. This course focuses on the legal and negotiation issues raised for mediators by divorcing couples and families. Although divorce is the focus of the class, parent-child issues, unmarried couples, premarital agreements, and post-divorce disputes will also be addressed. Through theory, practice, and context-specific readings, students will broaden their knowledge and skill as mediators.
Prerequisite: DISRES 690.
3 Lect Hrs, 3 Credits

DISRES 633
ADR in the Workplace
An increasing number of workplaces, both public and private, are introducing systems for resolving internal disputes. Mediation and other Alternative Dispute Resolution (ADR) programs now exist in many organizations to address such issues as supervisor-supervisee conflicts, management-union disputes, and team/workgroup problems. Using case studies from a range of work environments, this course explores ADR systems in the workplace, examining their usefulness, their limitations, and their future.
3 Lect Hrs, 3 Credits

DISRES 635
Research Methods in Dispute Resolution
This course meets with three primary objectives. First, it provides students with a basic "literacy" in research methods, enabling them to be critical consumers of literature reporting research findings. Students learn the fundamentals of sound research design, inference from data to conclusions, and the assumptions underlying various methods. Second, it introduces students to the role and use of research methods in conflict intervention work. And third, it provides students preparing to undertake the Master's Project an introduction to the types of research methodology that they are most likely to use in their projects.
Prerequisites: DISRES 621 and DISRES 623.
3 Lect Hrs, 3 Credits

DISRES 636
Conflict in Workgroups
This course provides the participant with an opportunity to develop a deeper understanding of the dynamics of workgroups, with an emphasis on processes of conflict within them, and to develop skills to deal constructively with intra- and inter-group conflict. Class sessions deal with conceptual issues in a combination of lecture and seminar/discussion format, drawing from various literatures on groups. Students participate in weekly meetings with a small workgroup, consisting of a subset of the class, offering an opportunity to study group processes in vivo with the aid of a facilitator.
3 Lect Hrs, 3 Credits

DISRES 690
Internship
Students mediate cases, under close faculty supervision, in one of the small-claims courts in Greater Boston. Each day of mediation is followed by a debriefing session with the supervisor. A mediation seminar is part of the internship. The seminar enables students to compare mediating experiences, focus on particular problem areas encountered by mediators, and reexamine theoretical concepts.
Hrs to be arranged, 6 Credits

DISRES 693
Final Project and Workshop
Students design projects that integrate the knowledge and skills acquired during their training. Projects take a wide variety of forms, including 1) empirical research; 2) apprenticeships with professionals or agencies; 3) evaluations and/or analyses of existing practices; 4) the creation of new dispute resolution programs or curricula, tailored to specific, identified, unmet needs; and 5) other projects proposed by students which meet the project criteria. Each project culminates in a work product, such as a research paper or written account of the applied project that demonstrates substantial progress beyond previous learning. The accompanying seminar brings together all students working on master's projects to share their field experience, learn new methods needed for their projects (e.g., research skills, intervention techniques), discuss literature covered in previous courses, and plan for their future learning as dispute resolvers.
Prerequisite: DISRES 690.
Hrs to be arranged, 3-6 Credits

DISRES 696
Independent Study
This is an independent reading and/or research course under the guidance of and subject to the examination of the instructor. Topics vary according to student interest and must be approved in advance by a faculty member and the program director.
Hrs to be arranged, 1-3 Credits

DISRES 697
Special Topics in Dispute Resolution
This is an advanced course offering intensive study of a selected topic in dispute resolution. Course content varies according to the topic, which will be announced prior to the advance pre-registration period.
3 Lect Hrs, 1-6 Credits

EDUCATION (EdD)

HIGHER EDUCATION ADMINISTRATION TRACK
LEADERSHIP IN URBAN SCHOOLS TRACK

Faculty

Joseph W Check, PhD, *Tufts University*
• Language, Literacy, and Writing • Practitioner Inquiry • School Change Issues

Jay Dee, PhD, *University of Iowa*
• Organizational Change • Organizational Analysis • Interpersonal Communication • Leadership • Community Colleges • Policy Studies

Dwight Giles, PhD, *Pennsylvania State University* • Service Learning • Community Development • Action Research • Higher Education Reform

Natalie Lacireno-Paquet, PhD, *George Washington University* • Educational Policy and Politics • Research Methods • Policy Analysis and Evaluation • School Reform • Gender and Public Policy

Martha Montero-Sieburth, EdD, *Boston University* • Curriculum • Multicultural and Inter-Ethnic Issues • Collaborative Inquiry • Critical Pedagogy

Tara L. Parker, PhD, *New York University* • Access, Equity, and Diversity in Higher Education • Higher Education Policy • Impact of Policy on Student-of-Color Experiences and Outcomes

John Saltmarsh, PhD, *Boston University* (Director of the New England Resource Center for Higher Education [NERCHE]) • Teaching and Learning • Service-Learning • Civic Mission of Higher Education • Institutional Change

The Programs

UMass Boston's EdD Program in Education is housed in the Graduate College of Education's Department of Leadership in Education. The EdD Program has tracks in Higher Education Administration and in Leadership in Urban Schools. Both link research and principles of leadership to the needs and experiences of practitioners. The former prepares students for positions of leadership in higher education, the latter for positions of leadership in urban elementary and secondary schools. Both are highly interdisciplinary, using a variety of perspectives to approach urban and higher education. Both seek applicants who can demonstrate:

- a distinguished record of accomplishments in the field of education, particularly through reform initiatives;
- a sustained interest in the culture, structure, and operation of educational institutions, in new approaches to administration and policy development, and in the nature and purpose of learning and teaching;
- the potential for academic success, especially in analytic writing and basic research skills;
- a desire to provide leadership for change in educational institutions;
- personal commitment to completing the program in a timely manner.

Degree Requirements

Please see the general statement of degree requirements for doctoral programs in the "Regulations, Procedures, and Degree Requirements" section of this publication.

Higher Education Administration Track

The Higher Education Administration (HEA) track is designed for mid-career professionals in institutions of higher education. HEA follows a cohort model. Requirements include 64 credits of course work beyond the master's: fourteen core courses (including the qualifying paper seminars), four electives, a qualifying paper, dissertation research, and completion of a dissertation. Students spend one full day a week (Fridays) on campus during the first two academic years and participate in a three-week, full-time summer institute in June during each of the first two summers. In the third summer, students enroll for a professional development seminar on leadership, along with the second of four electives, and begin work on the qualifying paper. In the fall of the third year, students take their remaining electives and complete the qualifying paper, which serves as the qualifying examination. Students must complete all core and elective courses and the qualifying paper before registering for the dissertation seminar and dissertation research.

Leadership in Urban Schools Track

The Leadership in Urban Schools (LIUS) track is designed for mid-career professionals in K-12, adult or community urban educational settings. Students may continue working while they pursue doctoral studies: courses meet two evenings per week and one Saturday a month during the fall and spring semesters, and all day for a three-week period each summer. LIUS follows a cohort model. Requirements include 65 credits of course work beyond the master's, including an internship, a qualifying paper, dissertation research, and completion of a dissertation. Course work begins in the summer and is completed over three summers and two academic years. In the fall of the third year, students complete the qualifying paper, which serves as the qualifying examination. That spring, students develop a dissertation prospectus, an initial exploration of the dissertation topic and methodology. Students must complete all core and elective courses and the qualifying paper before registering for the dissertation seminar and dissertation research.

Elective courses and the internship are aligned with courses required for principal and director licensure offered through the University's Graduate Program in Educational Administration, so that students may use LIUS courses to fulfill many of the requirements for administrative certification.

Higher Education Administration (64 cr.)

Core courses (37 cr.):

- HIGHED 601 (Educational Leadership Skills)
- HIGHED 602 (Negotiation and Mediation in Higher Education)
- HIGHED 610 (Governance and Administration in Higher Education)
- HIGHED 611 (Access and Equity in Higher Education)
- HIGHED 620 (Teaching, Learning, and Curriculum in Urban Contexts)
- HIGHED 630 (The History of Higher Education in the United States)
- HIGHED 632 (Organization and Leadership in Educational Institutions)
- HIGHED 641 (Effecting Change in Higher Education: Strategies and Processes)
- HIGHED 691 (Case Studies in Higher Education)
- HIGHED 692 (Capstone in Higher Education Administration)
- HIGHED 740 and 741 (Research Methods in Higher Education I and II)

Electives (12 cr.):

Four additional elective courses

Research courses (15 cr.):

- HIGHED 791 and 792 (Research Seminar on the Qualifying Paper I and II) (2 credits)
- HIGHED 891, 892, and 893 (Dissertation Seminar) (7 credits)

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- HIGHED 899 (Dissertation Research) (minimum of 6 credits)

Leadership in Urban Schools (65 cr.)

Core courses (28 cr.):

- EDLDRS 701 and 702 (Leadership Workshop I and II)
- EDLDRS 703 and 704 (Critical Issues I and II)
- EDLDRS 710 (The Culture of Urban Schools)
- EDLDRS 714, 715, 716, and 717 (Integrative Seminar I-IV) (1 credit each)
- EDLDRS 720 (Teaching, Learning, and Curriculum in Urban Contexts)
- EDLDRS 730 (Historical Roots of Contemporary Urban Schooling)
- EDLDRS 732 (Organization and Leadership in Educational Institutions)

Electives (9 cr.):

Three elective courses

Research courses (28 cr.):

- EDLDRS 740 and 741 (Research Methods in Educational Leadership I and II)
- EDLDRS 742 (Team Research Projects)
- EDLDRS 760 (Qualifying Paper Seminar)
- EDLDRS 798 Internship
- EDLDRS 891, 892, and 893 (Dissertation Seminar) (7 credits)
- EDLDRS 899 (Dissertation Research) (minimum of 6 credits)

The Dissertation

Higher Education Administration

Dissertation planning may begin as early as the first year, but a formal proposal is submitted for approval at the end of the third year. The dissertation must focus on a problem of critical concern in higher education. The problem area may be an issue of learning and teaching, a cultural or historical question, or a public policy at the state, regional, or national level. The dissertation may comprise experimental research, a field-based investigation, a policy or historical analysis, or some combination of these approaches. Recent dissertations, for example, have included a case study of a successful community-campus partnership, a quantitative analysis exploring the relationship between non-cognitive factors and college attainment for students of color, and a mixed-method study of trustee effectiveness in community colleges.

Leadership in Urban Schools

Dissertation planning may begin as early as the first year, but a formal proposal must be submitted for approval by the middle of the third year. The dissertation should address a substantive question about some topic of importance to urban public schools. Recent dissertations have included investigations into areas such as: the impact of an anti-racism staff-development program on teachers, teachers' beliefs about tracking at the high-school level, socio-cognitive influences on parent involvement among "at risk" urban families, the effects of uniforms in public elementary schools, sources of elementary school children's beliefs about intelligence, and students' experiences in a two-way immersion bilingual program.

Admission Requirements

Please see the general statement of admission requirements for all graduate programs in the "Admissions" section of this publication and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

Please see also the description of admission requirements listed under "Professional Preparation Programs for Education" in the "Regulations, Procedures and Degree Requirements" section of this publication.

Higher Education Administration Track

Requirements include the submission of an admission portfolio consisting of:

- a completed application for admission;
- an essay (about 1500 words long) describing the applicant's background and career aspirations, with an emphasis on the kinds of changes in higher education he or she is interested in bringing about. The essay must include a description of a critical incident (involving change) in which the applicant took part, explaining his or her role in it;
- a résumé or curriculum vitae;
- three letters, including one from a supervisor or employer and at least one from a colleague, describing and giving evidence of the applicant's potential as an initiator and implementer of education reform and assessing the applicant's level of motivation for and commitment to a leadership role in higher education;
- a completed Employer Agreement Form, showing year-by-year how the applicant and his/her employer will arrange the applicant's work life to permit him/her to meet the program's requirements (including the three specified summer periods and a full weekday on campus each week during the semesters leading up to the dissertation seminar);
- official transcripts of all previous academic work, graduate and undergraduate, demonstrating particularly that the applicant has earned a master's degree or equivalent from a college or university of recognized standing;

Optionally, applicants may submit test scores from the Miller Analogies Test (MAT) or the General Test of the Graduate Record Examination (GRE).

The admissions committee will interview all finalists before making its recommendations for acceptance to the program.

Completed applications must reach the University's Office of Graduate Admissions by February 1st.

Leadership in Urban Schools Track

Requirements include the submission of an admission portfolio consisting of:

- a completed application for admission;
- an essay (about 1500 words long) describing the applicant's background and career aspirations, with an emphasis on the kinds of changes in elementary or secondary education he or she is interested in bringing about. The essay must include a descriptionof a critical incident (involving change) in which the applicant took part, explaining his or her role in it;
- a résumé or curriculum vitae;
- three letters, including one from an employer and at least one from a colleague, describing and giving evidence of the applicant's potential as an initiator and implementer of education reform and assessing the applicant's level of motivation for and commitment to a leadership role in elementary or secondary education;
- official transcripts of all previous academic work, graduate and undergraduate, demonstrating particularly that the applicant has earned a master's degree or equivalent from a college or university of recognized standing;

Optionally, applicants may submit test scores from the Miller Analogies Test (MAT) or the General Test of the Graduate Record Examination (GRE).

The admissions committee will interview all finalists before making its recommendations

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for acceptance to the program. Completed applications must reach the University's Office of Graduate Admissions by March 15th.

Courses

Higher Education Administration

HIGHED 601
Educational Leadership Skills
This core course focuses on a set of the individual, interpersonal, and group skills that leaders of educational institutions must acquire if they are to effectively promote organizational change. At the individual level, the course focuses on five major areas of self-awareness: trust and trustworthiness, personal values and moral development, orientation toward change, interpersonal orientation, and personal temperament (including cognitive style). At the interpersonal level, the course assists students in forming accurate interpersonal perceptions and building communication skills. At the level of the group, students learn to diagnose group problems using theory and research about (1) group size, composition, and characteristics of group members; (2) stages of group development and team culture; (3) cognitive and relational roles in teams; and (4) patterns of intra-group communication. Particular attention is given to developing skills that enable students to function effectively in committees, interdepartmental working groups, and leadership teams. In all course work, students are encouraged to consider the impact of gender and culture on skill development and practice.
3 Lect Hrs, 3 Credits

HIGHED 602
Negotiation and Mediation in Higher Education
This course introduces practical skills needed to negotiate and intervene successfully in individual and group conflict among colleagues and students in the higher education setting. Emphasis is given to acquiring the tools and developing the skills for interpersonal and conflict management. Attention is also given to conflict theories, conflict analysis, the manager as mediator, and the role of a third party in conflict situations.
3 Lect Hrs, 3 Credits

HIGHED 610
Governance and Administration in Higher Education
This core seminar introduces students to the organizational structure and systems of colleges and universities, including governance, strategic planning, assessment, and accreditation. A major goal of the course is to ensure that students learn about and are able to describe the functions of an institution of higher education. Key debates in governance and administration are framed in the context of understanding how institutional cultures and external accountability pressures shape organizational behavior. Special emphasis is placed on strengthening analytic skills.
3 Lect Hrs, 3 Credits

HIGHED 611
Access and Equity in Higher Education
This core seminar is designed to allow students to explore issues in higher education access and equity for students. Issues are placed into the context of fiscal affairs and policy, including financial aid and admissions. The seminar also addresses the broader frameworks and language within which specific problems of access and equity are considered. Particular emphasis is given to the effect of current institutional practices in urban higher education.
3 Lect Hrs, 3 Credits

HIGHED 620
Teaching, Learning, and Curriculum in Urban Contexts
This core course investigates common concerns in addressing the needs of urban learners, both in K-12 and in community and four-year colleges. It considers questions of human development in several domains, current problems and controversies about learning, and responsive curricula and pedagogies. Readings frame issues across age groups and educational contexts, with additional material for each topic focusing on particular age groups and levels of schooling.
3 Lect Hrs, 3 Credits

HIGHED 630
The History of Higher Education in the United States
This core course surveys the history of higher education in the United States with a dual focus on mainstream collegiate institutions and non-traditional alternatives. Early class sessions explicate the development of traditional higher education from its liberal arts origins through the growth of the research university. Subsequent sessions explore how, over two centuries, various groups such as women, blacks, working-class, immigrant, and older students have contended for places within higher education. Participants explore how institutions and their leaders have responded to these challenges, sometimes creating accommodations or changes in traditional settings, and other times prompting new structures that often have marginalized the newcomers. Several questions guide inquiry through the various eras and subjects: Whom do we educate? Why do we educate (our purposes and expectations)? How do we educate (in what sorts of institutions)? Where does responsibility lie for education? With what effects (or results) do we educate? The course does not presume a strong background in history.
3 Lect Hrs, 3 Credits

HIGHED 632
Organization and Leadership in Educational Institutions
This core course focuses on educational institutions as complex organizations. It pays attention to the operation of institutions with few resources, as well as those with more plentiful resources. Drawing on readings and examples from many sources, participants look both inside and outside educational institutions, especially those that affect resources; the industry as a whole and sectors within it; and social definitions of educational institutions. Close attention is also given to the internal structures in these institutions, especially the interactions between bureaucratic structures and professionals; to organizational cultures; and to governance and decision-making. The course then turns to a close analysis of organizational change from several points of view.
3 Lect Hrs, 3 Credits

HIGHED 634
Public Policy Issues and Structures in Higher Education
This course explores the development of higher education policy. It is both a primer in how economics and politics form public policy and a critical look at this fusion in higher education. The course looks at the formation of public policy at the federal, regional, and state levels of government.
3 Lect Hrs, 3 Credits

HIGHED 641
Effecting Change in Higher Education: Strategies and Processes
This core seminar analyzes and evaluates both the challenges to change and the strategies and processes designed to effect change in higher education. It is an interactive seminar, consisting of lectures, case

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studies, and student reports. Each student is responsible for a seminar presentation and the completion of a term project.
3 Lect Hrs, 3 Credits

HIGHED 651
Legal Issues in Higher Education
An increasing number of areas in higher education administration are governed by federal and state law. This course examines the legal status of colleges and universities and the laws that impact their operation. Areas of interest include the legal status and organization of the college or university and laws that affect the relationship between the institution and its faculty, staff, and students. Topics include employment, academic freedom and free speech, student admissions, student discipline and dismissal, and federal regulation of administration.
3 Lect Hrs, 3 Credits

HIGHED 652
Finance and Management in Higher Education Administration
This course examines both policy issues and operational procedures involved in the effective financial management of higher education. Major topics include the economic analysis of higher education, policy development, building and managing a budget, financial accounting and reporting, human resource management and fundraising.
3 Lect Hrs, 3 Credits

HIGHED 691
Case Studies in Higher Education
The goal of this course is to assist practitioners in their efforts to become more systematic observers and analysts of their organization. Through the use of qualitative research techniques, students improve their ability to make sense of complex organizational settings and situations. Emphasis is given to learning techniques for conducting interviews and developing case studies. Through readings and field study, students acquire an understanding of the stages of qualitative investigation, including research design, data collection, data analysis, and the interpretation of findings.
4 Lect Hrs, 4 Credits

HIGHED 692
Capstone in Higher Education Administration
This course is completed at the end of a student's course work. It is designed to help students assess their development as educational leaders as they move toward the independent work of the qualifying paper and dissertation. Emphasis is given to clarifying various theoretical frameworks that contribute to the study and practice of educational leadership. The course is also designed to help students evaluate ways in which the doctoral program has influenced their leadership development and to assist them in thinking about how completing the program will enhance their work as educational change agents.
3 Lect Hrs, 3 Credits

HIGHED 740
Research Methods in Higher Education I
This core course is the first in a two-semester research sequence. The first semester's goal is to provide students with an overview of both the philosophical and the fundamental issues involved in conducting research in higher education. The course takes a systematic look at critical concepts in research methodology. In addition, it explores how various methodologies can be used to explore different types of data. Doctoral students taking the course become conversant with research paradigms and are able to understand the factors critical to formulating well-designed research studies. During the course, each student initiates exploration of a research topic, with the expectation that such an endeavor will lead to a dissertation topic.
3 Lect Hrs, 3 Credits

HIGHED 741
Research Methods in Higher Education II
This core course is the second in a two-semester research sequence. It guides students in modes of quantitative and qualitative data analysis. In quantitative analysis, it instructs students in descriptive statistics and works through problems, utilizing tests of differences, association, the analysis of variance, and correlation analysis. In qualitative analysis, it focuses on the framing of hypotheses, the analysis of content, coding, graphic displays, and ways of utilizing data from observations and interviews. Connections with dissertation research in higher education are also explored.
3 Lect Hrs, 3 Credits

HIGHED 791, 792
Research Seminar on the Qualifying Paper I and II
These two one-credit courses focus on the qualifying paper. Drawing on readings and examples from the class itself, the courses help students develop a problem and determine what literature will be relevant to that problem.
3 Lect Hrs, 1 Credit

HIGHED 891
Dissertation Seminar
This seminar is designed to assist students in developing research ideas, writing their research plan, preparing a dissertation proposal, and forming a dissertation committee. Satisfactory completion of the seminar requires submission of a dissertation proposal acceptable to the instructor and the chair of the student's dissertation committee.
3 Lect Hrs, 3 Credits

HIGHED 892, 893
Dissertation Seminar
These seminars follow Dissertation Seminar 891, providing structured support as students gather data, research, and analyze their dissertation topics; write the dissertation; prepare for its defense; and submit the final dissertation.
2 Lect Hrs, 2 Credits

HIGHED 899
Dissertation Research
Research conducted under the supervision of faculty and the dissertation committee,leading to the presentation of a doctoral dissertation.
Hrs to be arranged, 1-9 Credits

Leadership in Urban Schools

EDLDRS 701, 702
Leadership Workshop I and II
These required courses, offered in the first and second summer, focus on the knowledge, skills, attitudes, and behaviors that participants in the doctoral program need to develop or acquire to be effective leaders in promoting organizational changes in schools. Participants explore five interrelated facets of their own leadership development: 1) their operating conceptions and definitions of leadership and their set of understandings and beliefs about organizations, change, and leadership; 2) their visions and goals for schools and why those goals are important to them; 3) their individual, interpersonal, and group skills, including their sensitivity to how issues of race, ethnicity, class, and gender affect these; 4) the organizational and broader sociocultural contexts in which they work and their understandings about how these contexts affect issues of leadership and organizational change; and 5) their personal journey toward leadership roles in schools, including their own history and how it is affected by their cultural background, their self-assessment of their strengths and weaknesses, and their plans for personal learning. Participants develop a leadership and learning portfolio, which is added to and modi-

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fied over the course of their doctoral work.
3 Lect Hrs, 3 Credits

EDLDRS 703, 704
Critical Issues I and II
These required courses, offered in the first and second summer, examine a range of critical issues of importance to urban school leaders in the context of the changing relationship between schools and society. Issues discussed in Critical Issues I typically include demographic changes in the K-12 student population, multiculturalism, desegregation, bilingual education, special education, tracking, curricular and pedagogical reform, school reform movements, and school finance reform. Critical Issues II covers fewer issues in greater depth: e.g., conflict resolution or the relationship between educational technology and school change.
3 Lect Hrs, 3 Credits

EDLDRS 710
The Culture of Urban Schools
This required course, taken in the student's second spring, focuses on inquiry into the nature of urban schools, including social contexts and structural inequalities. Participants study social and cultural practices and relations in an urban school site, examine how structural concerns influence school culture, and read studies of urban schools that highlight problems, successes, struggles, and transformations. Through active dialogue with their peers, they reflect upon the complexities of daily life and change in urban schools and identify questions and directions for further exploration.
3 Lect Hrs, 3 Credits

EDLDRS 714, 715, 716, 717
Integrative Seminar I-IV
These required courses, offered once a month on Saturdays during the fall and spring semesters, provide opportunities for students to integrate their daily experiences as practitioners with the goals and academic content of their course work. They also provide a bridging mechanism to form connections between and among courses and to discuss issues which cut across several courses. In them, students continue to develop interpersonal group process and leadership skills helpful to supporting and making change in schools.
1 Lect Hr, 1 Credit

EDLDRS 720
Teaching, Learning, and Curriculum in Urban Contexts
This required course investigates common concerns in addressing the needs of urban students in elementary and secondary learning environments and community settings. It considers questions of human development in several domains, current problems and controversies about learning, and responsive curricula and pedagogies. Readings frame issues across age groups and educational contexts, with additional materials for each topic focusing on particular age groups and levels of schooling.
3 Lect Hrs, 3 Credits

EDLDRS 730
Historical Roots of Contemporary Urban Schooling
This required course, taken in the first fall semester, is built on the premise that most issues of educational policy and practice are rooted in some historical context that is deeply influential but often widely unexamined. This course considers the historical development of several contemporary educational issues, recognizing their roots in intense debates in American history. Although it does not provide explicit guidance for today's practitioners, this historical understanding should inform their approaches to the complexities of their current concerns. With 19th-21st-century urban schooling as the focus, topics include responses to racial, ethnic, and gender identities of students; the development of national standards for curriculum and testing; the relative responsibilities of public and private educational institutions; the professional identities of teachers and school administrators; and schools as the site of social reform.
3 Lect Hrs, 3 Credits

EDLDRS 732
Organization and Leadership in Educational Institutions
This required course, taken in the first spring semester, helps participants develop a diverse set of perspectives for analyzing organizations. Practitioners who are interested in leadership roles in schools and other urban educational settings function in a variety of roles in many large and small organizations: teachers and classroom administrators in buildings or programs, members of a department or team, students in a graduate classroom, union members and leaders, parents of school-aged children, and part of a school community. Practitioners also play roles in organizations outside of schools—in community groups, sports teams, religious groups,. The course helps look at those organizations and the roles played within them, by offering a broad set of perspectives drawn from the extensive literature on organizations. Learning to understand and use multiple perspectives for analyzing organizations allows us to reflect on our roles in them, even as it expands the set of possible choices for taking action and leadership roles within them.
3 Lect Hrs, 3 Credits

EDLDRS 734
Scholarly Writing in Education
This elective course is intended to induct practitioners in both EdD tracks into the intricacies of professional writing and scholarly discourse, both to make them better consumers of research and to help them respond to No Child Left Behind's mandates for administrators and other educational leaders to research and publish through developing forms such as Classroom-Based Inquiry, Teacher Research, and Action Research. The course is grounded in three theoretical frameworks (Writing Process Theory, Genre Theory, Cultural Capital Theory) and conducted primarily as a writing workshop. Students write, take part in writing response groups in which they share their own writing and respond to the writing of others, and conference with the instructor about work in progress. The course includes lectures and exercises on academic writing and substantial reading and writing assignments outside of class.
3 Lect Hrs, 3 Credits

EDLDRS 740
Research Methods in Educational Leadership I
This required course, offered in each cohort's second fall semester, provides both theoretical grounding and hands-on experience with design and implementation of qualitative and quantitative research methods. Work in this course and in EDLDRS 741 leads directly to the student's qualifying paper proposal in the spring of the second year.
3 Lect Hrs, 3 Credits

EDLDRS 741
Research Methods in Educational Leadership II
This required course, offered in each cohort's second spring semester, provides both theoretical grounding and hands-on experience with design and implementation of qualitative and quantitative research methods. Work in this course and in EDLDRS 740 leads directly to the student's qualifying paper proposal in the spring of the second year.
3 Lect Hrs, 3 Credits

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EDLDRS 742
Team Research Projects
This course involves student teams in a site-based research project that allows them to explore, from multiple perspectives, a topic of interest to the team. In carrying out the project, the team will practice a variety of qualitative and quantitative techniques for data collection and analysis (e.g., interviews, focus groups, classroom observations, collection and analysis of documents, questionnaires) that are basic tools for research investigations in educational settings. The course also raises and gives students practice with larger questions of research design, such as question formation and identification of the best research methods for the type of question being explored.
3 Lect Hrs, 3 Credits

EDLDRS 755L (PPOL G 755L)
Research in Special Education and Disability Policy
Students use current research to explore key topics that shape the policy and practice landscape for individuals with disabilities in schools, service agencies, and communities, while applying skills to read and interpret the research critically. Topics include notions of disability; self-determination and person-centered service delivery; access, participation, and progress in the general curriculum; standards and educational accountability; and opportunities for community inclusion and improved quality of life. Students also critique and interpret relevant research in order to make policy and practice recommendations applicable to urban schools and to leaders of service systems working with diverse groups of students and adults with disabilities.
3 Lect Hrs, 3 Credits

EDLDRS 756L (PPOL G 756L)
Disability Policy and Practice Frameworks
Focusing on the Americans with Disabilities Act, the Individual with Disabilities Education Act, and the Elementary and Secondary Education Act, this course introduces students to the process by which these laws have been articulated, framed as regulations, put into practice, and interpreted through the appeals process. Students learn to identify the values and principles of stakeholders who bring the mandate to the point of legislation; the role of written and oral testimony in the policy cycle; and the ways in which policy is interpreted in practice at the state and local level, as well as through appeals processes.
3 Lect Hrs, 3 Credits

EDLDRS 760
Qualifying Paper Seminar
This required course taken in the student's third fall semester supports the work of developing the Qualifying Paper.
3 Credits

EDLDRS 796
Independent Study
This course involves the comprehensive study of a particular topic or area of literature determined by the student's need; the study is pursued under the guidance and subject to the examination of the instructor. An application or outline of study should be submitted to the prospective instructor by the end of the semester previous to that in which this course will be taken. The instructor must agree to supervise the student, and the program director must approve the independent study.
1-6 credits

EDLDRS 797
Special Topics
This advanced course offers intensive study of selected topics in the field of educational leadership. Course content and credits vary according to topic and are announced before the advance pre-registration period.
3-6 Lect Hrs, 3-6 Credits

EDLDRS 798
Internship
This course is a one-semester, field-based internship experience designed by the student in collaboration with a faculty member and meeting the following four criteria: it must focus on action; it must provide a student with mentoring; it must take place in an organizational context outside the student's current professional role; and it must involve written reflection.
3 Credits

EDLDRS 891
Dissertation Seminar
This seminar is designed to assist students in developing research ideas, writing their research plan, preparing a dissertation proposal, and forming a dissertation committee. Satisfactory completion of the seminar requires submission of a dissertation proposal acceptable to the instructor and the chair of the student's dissertation committee.
Prerequisite: EDLDRS 760.
3 Lect Hrs, 3 Credits

EDLDRS 892, 893
Dissertation Seminar
These seminars follow Dissertation Seminar 891, providing structured support as students gather data, research, and analyze their dissertation topics; write the dissertation; prepare for its defense; and submit the final dissertation.
Prerequisite: EDLDRS 891 (for 892), 892 (for 893).
2 Lect Hrs, 2 Credits

EDLDRS 899
Dissertation Research
This course centers on research conducted under the supervision of faculty and the dissertation committee, and leading to the presentation of a doctoral dissertation.
Prerequisite: EDLDRS 760.
Hrs to be arranged, 1-9 Credits

EDUCATIONAL ADMINISTRATION (MEd)

Faculty

Carroll Blake, EdD, *University of Massachusetts Boston* • Multicultural and Anti-Racist Professional Development (Part-Time)

Martha Montero-Sieburth, EdD, *Boston University* • Curriculum Policy and Classroom Practices • Multicultural and International Education • Community and School Research • Urban Schooling

Ray Shurtleff, EdD, *Boston University* • Personnel Supervision and Administration (Part-Time)

The Program

The MEd Program in Educational Administration is housed in the Graduate College of Education's Department of Leadership in Education. The program is designed for educators who seek a variety of leadership roles in schools or related institutions. For those who plan to prepare for top-level positions in educational administration, the program serves as a foundation for further graduate study.

All students in the program enroll in core courses providing a comprehensive view of educational leadership and in a practicum involving supervised work in the field. Within this common framework, students specialize through their pre-practicum and practicum experiences in preparing for roles as principal, assistant principal, supervisor/director, or administrator of special education. The core includes classes in leadership, organizations and change, as well as a two-course sequence in curriculum, courses in personnel supervision, school law, budgeting, multicultural perspectives in education, and how to use data for school improvement.

The program follows a cohort model and accepts students once a year, in the spring, to begin their studies in the summer term. Courses are generally offered to accommodate the educational practitioner—in the late afternoon and evening and during the summer months.

To meet its goal of developing leaders who can be effective in improving schools, the program focuses on eight interrelated tenets of leadership:

1. Instructional leaders connect curriculum, instruction, and assessment to improve learning for all students.
2. Anti-racist leaders use knowledge and skills about race, gender, and culture to build school environments characterized by social justice and equity.
3. Organizational and cultural leaders use solid understandings of organizational dynamics and of culture to move successfully toward a shared vision for a school.
4. Managerial leaders marshal the "nuts and bolts" of management and operations—human, financial, technological, and legal resources—to attain goals and serve a broader vision.
5. Leaders of other leaders use their understanding of the best principles and practices of professional development to support the growth of staff members and colleagues.
6. Data-oriented leaders use data and enhance their organization's capacity to use data for assessment, continuous improvement, and decision-making.
7. Communication leaders use interpersonal oral and written skills to work effectively with a variety of audiences, including parents and community members.
8. Reflective leaders demonstrate the ability to integrate these tenets in context, to learn from practice, to assess strengths and weaknesses, and to plan for personal learning.

Degree Requirements

1. Thirty-six graduate credits are required to complete this program, as follows:

ADM G 601	(Organizational Analysis) Fall I
ADM G 603	(Organizational Change) Spring II
ADM G 610	(Research Design) Spring I
ADM G 613	(Personnel: Administration, Supervision, and Evaluation) Fall II
ADM G 621	(Curriculum: Theories, Development, and Evaluation) Summer I
ADM G 622	(Curriculum: Status, Issues, and Trends) Spring I
ADM G 627	(The Law of Public Education) Summer II
ADM G 632	(Facility Design and Fiscal Management) Summer II
ADM G 646	(Leadership Development) Summer I
EDC G 606	(Sociocultural Perspectives on Education) Fall I

   Courses include a field work component (most of which participants may complete in their own schools), providing hands-on opportunities to shadow administrators, analyze organizational dynamics, and evaluate curriculum.

2. A year-long practicum or internship in educational administration is required of all students and is normally taken in Fall II and Spring II.
3. As their capstone experience, all students must pass a comprehensive portfolio examination synthesizing a significant portion of their course work. The portfolio offers students an opportunity to collect and reflect systematically upon the various components of their own learning, drawing on readings, course work, and pre-practicum and practicum experiences.
4. Applicants seeking licensure as principal, supervisor/director, or administrator of special education must pass the communication and literacy portion of the Massachusetts Test for Educator Licensure to be recommended for licensure. For complete information on this requirement, see "Professional Preparation Programs for Education" in the "Regulations, Procedures, and Degree Requirements" section of this publication.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Please see also the description of admission requirements listed under "Professional Preparation Programs for Education" in the "Regulations, Procedures, and Degree Requirements" section of this publication.

The Educational Administration Program will recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include

1. A cumulative undergraduate grade point average of at least 2.75, as evidenced by an official transcript.
2. Three letters of recommendation from people familiar with the applicant's leadership ability and/or potential.
3. Documentation of two or more years of full-time teaching as a licensed teacher at grade levels K-12.

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4. Documentation of state teaching licensure.
5. Optional submission of scores on the Graduate Record Examination (GRE) or the Miller Analogies Test (MAT).
6. An interview with the graduate program director and admissions committee (for applicants who reach the final stages of the selection process).

Courses

ADM G 601
Organizational Analysis
This course examines a selected number of the most important concepts comprising organizational theory and relates them to the structure and operational management of educational institutions. Field experience is a required component of the course.
3 Lect Hrs, 3 Credits

ADM G 603
Organizational Change
Principles and practices drawn from behavioral science theory are employed as means of studying the processes of change and renewal in educational organizations. Field experience is a required component of the course.
Prerequisite: ADM G 601.
3 Lect Hrs, 3 Credits

ADM G 610
Research Design
This course introduces quantitative and qualitative methods of research and evaluation to help educational administrators use data for school improvement. Emphasis is laid on question formulation, data analysis, observation and inquiry, and interview and questionnaire design. Field experience is a required component of the course.
3 Lect Hrs, 3 Credits

ADM G 613
Personnel: Administration, Supervision and Evaluation
This course examines staff development and supervisory approaches that can assist in the creation of improved teaching-learning climates in classrooms. Field experience is a required component of the course.
3 Lect Hrs, 3 Credits

ADM G 621
Curriculum: Theories, Development, and Evaluation
Beginning with an examination of the definition of curriculum from multiple perspectives, this course focuses on the interrelationships among curriculum, instruction, and assessment. Participants examine the implications for curriculum development and evaluation of the research on cognition and of alternative approaches to assessment. Field experience is a required part of the course.
3 Lect Hrs, 3 Credits

ADM G 622
Curriculum: Status, Issues, and Trends
While meaningful change happens at the local school level, national standards and state curriculum frameworks influence local reform efforts by establishing "world class" standards for student achievement. This course draws both on research on how children learn and on the standards movement that defines what children need to know and be able to do. Field experience is a required component of the course.
Prerequisite: ADM G 621.
3 Lect Hrs, 3 Credits

ADM G 627
The Law of Public Education
Current legal concepts and practices concerning the rights, liabilities, duties, and responsibilities of all personnel employed by public schools and school systems are explored. Particular attention is given to these matters as they pertain to those who are, or aspire to be, administrators or supervisors.
3 Lect Hrs, 3 Credits

ADM G 632
Facility Design and Fiscal Management
This course explores three related areas. The first is the process of design, construction, and equipping of school facilities to meet the needs of a given community. Second, the course focuses on topics related to fiscal management: strategic planning, analysis of resources, and developing a budget through an integrated approach to school management. Finally, the course examines legal issues pertaining to facility and fiscal concerns. Field experience is a required component of the course.
3 Lect Hrs, 3 Credits

ADM G 646
Leadership Development
Concepts drawn from the behavioral sciences are used as a basis for leadership skill development. Participants engage in a series of leadership strategies in simulated situations that enable them to better understand, predict, and modify their own behavior and that of others in organizational settings.
3 Lect Hrs, 3 Credits

ADM G 686
Part-time Practicum I in Educational Administration
A laboratory course providing practical experience in educational administration on a part-time basis, with special focus on the role of the principal/assistant principal, the supervisor/director, or the administrator of special education. This course combines field experience in an appropriate setting with a seminar focused on relevant issues and concerns. It is designed for part-time students who are able to devote ten hours per week over a 15-week span to administrative or supervisory duties and responsibilities.
Prerequisite: Permission of program director.
3 Lect Hrs, 3 Credits

ADM G 687
Part-time Practicum II in Educational Administration
A continuation of ADM G 686, which must be taken within two years of completing ADM G 686.
Prerequisites: ADM G 686 and permission of program director.
3 Lect Hrs, 3 Credits

ADM G 691
Advanced Seminar in Administration
Through group discussions, this course explores the major features of important issues facing school systems today and the implications of these issues for individuals in school leadership roles.
3 Lect Hrs, 3 Credits

ADM G 692
Advanced Seminar in Supervision
Both traditional and contemporary practices of supervising teachers and related support staff in educational settings are examined in the light of extremely austere municipal budgets, collective bargaining positions, legal rights, and other such factors generally perceived as playing significant roles in the supervisory process.
3 Lect Hrs, 3 Credits

ADM G 696
Research Project
In close consultation with a faculty member, students undertake a research project treating an actual problem or concern in an educational institution.
Hrs to be arranged, 3 Credits

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ADM G 697
Special Topics in Educational Administration
An advanced course offering intensive study of selected topics in educational administration. Course content varies according to the topic and will be announced prior to the advance pre-registration period.
3-6 Lect Hrs, 1-6 Credits

ADM G 698
Internship or Full-Time Practicum in Educational Administration
A laboratory course providing practical experience in educational administration, with special focus on the role of the principal/assistant principal, the supervisor/director, or the administrator of special education. This course combines field experience in an appropriate setting with a seminar focused on relevant issues and concerns. It is reserved for those students who can assume their duties on a full-time basis.
Prerequisite: Permission of program director.
3 Lect Hrs, 3 Credits

EDUCATION: SPECIAL EDUCATION (MEd, GRADUATE CERTIFICATE, POST-MASTER'S CERTIFICATE, TEACHER LICENSURE)

ORIENTATION AND MOBILITY MEd TRACK, TEACHING OF STUDENTS WITH VISUAL IMPAIRMENTS MEd TRACK

Faculty

Laura Bozeman, PhD, *University of Texas at Austin* • Special Education • Low-Incidence Disabilities • Visual Impairments • Multiple Disabilities • Orientation and Mobility

Mary Brady, PhD, *Boston College* • Accessible Technology • Curriculum Development • Universal Design for Learning (Part-time)

MaryAnn Byrnes, EdD, *Rutgers University* • Inclusion, Assessment in Special Education • Special Education Policy • Language Acquisition • Legal Issues

Rhonda Goodale, PhD, *Boston College* • Bilingual and Bicultural Special Education • Assessment and Remediation • Program Evaluation (Part-time)

Robert McCulley, MEd, *Boston College* • Vocational Rehabilitation • Visual Impairments • Orientation and Mobility

E Glenn Mitchell, PhD, *Boston College* • Program Evaluation and Inclusionary Curricula • Nondiscriminatory Assessment of Young Children with Special Needs

The Program

The graduate program in Special Education offers degree and certificate options with and without teacher licensure, in the broad field of special education and with particular specializations in visual impairments and orientation and mobility.

Special Education

Through courses, field-based experiences, and practica, the Special Education programs afford general education teachers, special educators, and other specialists in related fields an opportunity to acquire the necessary assessment, instructional, and consultation skills for working effectively with children and/or adolescents who are at risk and who have special educational needs, as well as with their families. Academic focus is on designing, implementing, and advocating for inclusionary learning settings for children with and without disabilities. The urban, multicultural school provides the central context within which graduate students are encouraged to reflect on their teaching practices and to view themselves as active contributors to the improvement of schools.

Specializations in Teaching of Students with Visual Impairments and Orientation and Mobility (O/M)

Through courses, field-based experiences, and practica, these specializations afford general education teachers, special educators, and practitioners in related fields an opportunity to acquire the necessary assessment, instructional, and consultation skills for working effectively with students and/or adults with visual impairments.

The Tracks in Teaching Students with Visual Impairments and in Orientation and Mobility share a common core curriculum and faculty but have divergent emphases.

Students in the Orientation and Mobility programs learn to evaluate needs and to teach the effective use of such adaptive equipment as the long cane and other low-vision aids, as well as integration of a professionally trained dog guide for independence and safe movement. They learn to teach travel skills in a variety of environments (indoors, residential, business, rural, and urban areas), instructing both school-aged children and adults, including those with additional disabilities, in how to utilize sensory information fully to orient themselves and travel safely with confidence in any environment.

The Track in Teaching of Students with Visual Impairments equips practitioners to address the unique educational needs of students with visual impairments. Teachers of students with visual impairments are trained to facilitate such students' academic inclusion through curricular modifications and assistance.

Contingent on the continued availability of federal support, qualified applicants are encouraged to apply for the federal scholarships associated with both the Orientation and Mobility and Teaching of Students with Visual Impairments Tracks. For further information, contact the faculty or visit the website of the Northeast Regional Center for Vision Education at www.nercve.umb.edu.

Degree Requirements

MEd in Special Education: Track without Licensure (36 cr.)

This program is suitable for students with an interest in the field of special education who are not seeking licensure. Its curriculum is identical to that of the Initial Licensure Track (see below), with the exception that students substitute two approved 3-credit elective courses for SPE G 698: Moderate Practicum.

MEd in Special Education: Track with Initial Licensure, Pre K-8, 5-12 (36 cr.)

This program offers matriculated students a 36-credit sequence of course work, including 75 hours of monitored pre-practicum, field-based experience, and a practicum (300 clock hours minimum), leading to Initial Licensure as a Teacher of Children with Moderate Disabilities at either the Pre K-8 level or the 5-12 level. To receive the license, students must meet additional Department of Education requirements, as described in the section titled "State Licensure Requirements" below.

Courses required for the track include:

SPE G 602: Language Acquisition and Theories of Reading

SPE G 607: Behavioral and Classroom Management

SPE G 621: Introduction to Disabilities for Educational Professionals

SPE G 624: Standardized Assessments for Students with Moderate Disabilities, Pre K-12

SPE G 629: Consultation and Interpersonal Skills

SPE G 633: Legal and Political Issues in Special Education

EDC G 646: Understanding Reading: Principles and Practices

SPE G 691: Research Seminar in Special Education

SPE G 698: Moderate Practicum (6 cr.)

For Pre K-8 License:

SPE G 625: Literacy Assessment and Instruction for Students with Moderate Disabilities, Pre K-8

SPE G 626: Math, Science, and Social Science Assessment and Instruction for Students with Moderate Disabilities, Pre K-8

For 5-12 License:

SPE G 631: Clinical Teaching: Secondary

SPE G 632: Alternative Strategies

Successful completion of a capstone experience (a final research paper with two readers) is also required; students complete it while registered for SPE G 691, normally in their final semester.

MEd in Special Education: Track with Professional Licensure (36 cr.)

This is a 36-credit clinical program for those who already hold initial licensure in special education and who wish to earn professional licensure in moderate disabilities. This program focuses on building literacy skills through data-based teaching practices, as well as on development of assessment techniques adapted for a range of learners,

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including those with disabilities and those whose first language is other than English. In the capstone project, students implement units they have developed and document the impact of this instruction on their own students. For more information on Department of Education requirements for the professional license, see below under "State Licensure Requirements."

Courses required for the track include:

SPE G 630: Building Collaborative Partnerships with Families of Students with Disabilities

SPE G 646 The Gifted and Talented Student

SPE G 647: Assessment-Based Instruction

SPE G 653: Assessment Issues in Bilingual/Multicultural Special Education

SPE G 684: Technologies in Special Education

SPE G 685: Inclusive Interdisciplinary Curriculum Development: Pre K-12 Classrooms

SPE G 691: Research Seminar in Special Education

EDC G 617: Literacy Diagnosis and Instruction

EDC G 621: Teaching Writing in the K-12 Classroom

EDC G 622: Integrating Curriculum

EDC G 663: Assessment in Teaching

APLING 625: Second Language Acquisition

APLING 671: The Bilingual Child with Special Needs

Successful completion of a capstone experience (a final research paper with two readers) is also required; it is normally completed in the student's final semester.

Special Education Post-Master's Certificate with Professional Licensure (12 cr.)

For those who hold Initial Licensure as a Teacher of Students with Moderate Disabilities and a master's degree, and who wish to go on to earn professional licensure in moderate disabilities, the University offers a 12-credit post-master's certificate. The course of study in this certificate emphasizes cross-disciplinary instruction and informed assessment practices adapted for a range of students, including those whose first language is other than English.

Courses required for the certificate include:

Choice of:

SPE G 647: Assessment-Based Instruction

or SPE 653 Assessment Issues in Bilingual/Multicultural Education

SPE G 685: Inclusive Interdisciplinary Curriculum Development: Pre K-12 Classrooms

EDC G 622: Integrating Curriculum

APLING 671: The Bilingual Child with Special Needs

Choice of:

EDC G 621: Teaching Writing in the K-12 Classroom

or SPE G 684: Technologies in Special Education

MEd in Special Education: Teaching Students with Visual Impairments Track (37 cr.)

This degree track offers matriculated students a specialized 37-credit sequence of course work, including 75 hours of monitored pre-practicum, field-based experience, and a practicum (300 clock hours minimum), leading to licensure as "Teacher of the Visually Impaired." To receive initial licensure, K-12, students must meet additional Department of Education requirements, as described in the section titled "State Licensure Requirements" below.

Courses required for the TVI track include:

SPE G 514: Visual Functioning (3 cr.)

SPE G 515: Braille I (3 cr.)

SPE G 516: Implications of Low Vision (3 cr.)

SPE G 541: Methods of Orientation and Mobility (4 cr.)

SPE G 619: Braille II (3 cr.)

SPE G 620: Education of Students with Visual Impairments (3 cr.)

SPE G 621: Introduction to Disabilities for Educational Professionals (3 cr.)

SPE G 622: Technology and Visual Impairments (3 cr.)

SPE G 642: Assessment and Instructional Strategies for Students with Visual Impairments (4 cr.)

SPE G 643: Strategies for Assessing and Teaching Students with Visual and Multiple Impairments (4 cr.)

SPE G 698B: TVI Practicum (4 cr.)

Students in the TVI Track must submit a capstone portfolio, normally in the final semester of their program. Students seeking initial licensure must pass all teaching test requirements of the state in which they seek licensure before being placed in an Internship.

MEd in Special Education: Orientation and Mobility Track (37 cr.)

This degree track provides students with a specialized 37-credit sequence of course work, field-based experiences, and practicum, fulfilling requirements prescribed by the Association for the Education and Rehabilitation of the Blind and Visually Impaired (AERBVI). Successful completion of the curriculum, along with faculty recommendation, qualifies students to sit for the national Professional Examination in Orientation and Mobility offered by the Academy for Certification of Vision Rehabilitation and Education Professionals (ACVREP).

Courses required for the Orientation and Mobility Track include:

SPE G 511: Physical and Functional Aspects of Orientation and Mobility (3 cr.)

SPE G 512: Orientation and Mobility Assessment and Instructional Strategies: Children (4 cr.)

SPE G 513: Orientation and Mobility Assessment and Instructional Strategies: Adults (4 cr.)

SPE G 514: Visual Functioning (3 cr.)

SPE G 515: Braille I (3 cr.)

SPE G 516: Implications of Low Vision (3 cr.)

SPE G 541: Methods of Orientation and Mobility (4 cr.)

SPE G 598: Internship in Orientation and Mobility (4 cr.)

SPE G 620 Education of Students with Visual Impairments (3cr.)

SPE G 621: Introduction to Disabilities for Educational Professionals (3 cr.)

SPE G 629: Consultation and Interpersonal Skills (3 cr.)

Special Education Graduate Certificate in Orientation and Mobility (19 or 28 cr.)

This certification-qualifying program provides students with a sequence of course work, field-based experiences, and practicum-fulfilling requirements prescribed by the Association for the Education and Rehabilitation of the Blind and Visually Impaired (AERBVI) for those students with an existing Master's in Education. Successful completion of the curriculum, along with faculty recommendation, qualifies students to sit for the national Professional Examination in Orientation and Mobility offered by the Academy for Certification of Vision Rehabilitation and Education Professionals (ACVREP).

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1. Orientation and Mobility certification for vision professionals (19 credits)

   Required courses:

   SPE G 511: Physical and Functional Aspects of Orientation and Mobility (3 cr.)

   SPE G 512: Orientation and Mobility Assessment and Instructional Strategies: Children (4 cr.)

   SPE G 513: Orientation and Mobility Assessment and Instructional Strategies: Adults (4 cr.)

   SPE G 541: Methods of Orientation and Mobility (4 cr.)

   SPE G 598: Internship in Orientation and Mobility (4 cr.)

2. Orientation and Mobility certification, expanded curriculum for related services professionals (28 credits)

   Required courses:

   The five courses (19 credits) required in (1) above, plus 9 more credits, as follows:

   SPE G 514: Visual Functioning (3 cr.)

   SPE G 515: Braille I (3 cr.)

   SPE G 516: Implications of Low Vision (3 cr.)

State Licensure Requirements

The licensure of educational personnel requires a bachelor's degree and the completion of a program that has been approved by the Massachusetts Department of Education, with course and field work that includes at least 75 hours of pre-practicum field observations and a supervised student teaching experience or internship. In addition, the Massachusetts Department of Education requires satisfactory performance on a test of proficiency in written and spoken English, and on competency examinations in a field of knowledge. For individuals seeking licensure in Moderate Disabilities at the elementary level, or as Teacher of Students with Visual Impairments, the field of knowledge is covered in the General Curriculum Test, which addresses the range of subjects covered in the elementary curriculum. Individuals seeking licensure in Moderate Disabilities at the secondary level may take either the General Curriculum Test or a subject area test in a specific discipline taught at that level. Candidates must also pass a Foundations of Reading Test. Individuals who have completed such a program and have passed the Massachusetts Tests for Teacher Licensure will be granted "Initial Licensure" and are eligible to teach in a public school. Those holding initial licensure have up to five years from the time they are first employed to complete the additional requirements for "Professional Licensure." These include a master's degree and successful teaching experience. Professional Licensure is renewable every five years; re-licensure requires the accumulation of "Professional Development Points" and the payment of a fee. More details concerning licensure and re-licensure are available in a booklet available from the Department of Education, 350 Main Street, Malden, Massachusetts 02148-5023, or at www.doe.mass.edu.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

Please see also the description of admission requirements listed under "Professional Preparation Programs for Education" in the "Regulations, Procedures, and Degree Requirements" section of this publication.

The MEd Program in Special Education will recommend for admission those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include

1. A distinguished undergraduate transcript with a minimum grade point average of 3.0.
2. Submission of scores on the Communications and Literacy portion of Massachusetts Tests for Educator Licensure (MTEL). Out-of-state applicants may submit scores from either the Miller Analogies Test or the Graduate Record Examination instead (this requirement may be waived if the applicant already holds a graduate degree in a related field).
3. Three letters of recommendation submitted by persons who are knowledgeable about teaching special-needs students, who have worked closely with the applicant, and who have direct knowledge of the applicant's teaching potential and/or skills.
4. A writing sample indicating the applicant's ability to write in a clear, concise, and professional manner. This sample may be in the form of a recent term paper or a narrative report of a student evaluation based on the use of formal/informal tests. The Graduate College of Education has as its basic goal the preparation of thoughtful and responsive educators, committed to change for social justice. Please ensure that your writing sample demonstrates how you and your work fit such a definition. NOTE: This writing sample is in addition to the statement of intent required as part of the general application.
5. A personal interview with a member of the faculty may be requested.

Courses

SPE G 511
Physical and Functional Aspects of Orientation and Mobility
The student is introduced to the structure and function of the main systems of the human body and to chronic conditions which may affect them. Emphasis is given to disabilities most frequently seen in conjunction with visual impairments, and how the combined impact can affect O/M instruction. The course also explores the sensory systems, the mechanics of locomotion, and the psychomotor factors influencing mobility.
3 Credits

SPE G 512
Orientation and Mobility Assessment and Instructional Strategies: Children
This course is the first of two instructional strategy courses. It applies foundations and methods to the specific populations of preschool, elementary, and transition-age visually impaired children, including those with additional disabilities. Assessment tools are introduced and applied with an emphasis on the development of participants' skills in observation, information gathering, and task analysis. Participants develop specific objectives and design lessons for instructing children. This course requires an additional minimum daytime participation of six to eight hours per week to acquire 80 hours of instructional experience.
4 Credits

SPE G 513
Orientation and Mobility Assessment and Instructional Strategies: Adults
This course addresses assessment and instructional strategies for teaching visually impaired adult populations, including persons over age sixty-five, those with additional disabilities, and those from diverse cultural backgrounds. Case studies provide

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the basis for discussion and the foundation for the practical experience of student teaching. The course focuses on assessment, observation, information gathering, and task analysis through lesson design. It also addresses the advanced O/M systems in greater depth. This course requires minimum daytime participation of six to eight hours per week to acquire 80 hours of instructional experience.
4 Credits

SPE G 514
Visual Functioning
This course begins with a practical look at the functional impact of visual impairment through the use of simulated exercises. This is followed by a series of medically-related lectures by affiliated ophthalmologists. Topics include the structure of the eye, the assessment of normal and abnormal vision, optics, and the functional implications of common pathologies. Students discuss low-vision services and participate in "hands-on" training within a low-vision clinic.
3 Credits

SPE G 515
Braille I
This course prepares participants to teach the reading and writing of Grade 2 Braille. Students learn to write literary Braille using both a Perkins Brailler and a slate and stylus. Topics include reading-readiness, tracking, tactile discrimination, and reading methods.
3 Credits

SPE G 516
Implications of Low Vision
This course goes beyond the physical aspects of vision loss introduced in SPE G 511 to look at functional and psychological aspects. The course includes a review of clinical procedures and the interpretation of clinical reports. Emphasis is given to conducting individualized functional vision assessments. The previous study of optics is applied to optical low-vision devices. The course provides a practical, hands-on approach to learning through vision-simulation activities and the development of a functional vision-assessment kit.
3 Credits

SPE G 541
Methods of Orientation and Mobility
This course examines the foundations of learning and teaching orientation and mobility. The weekly lectures provide an introduction to the principles of concept development, spatial orientation, and environmental analysis as these topics relate to independent travel by visually-impaired individuals. In addition, a teacher-guided practicum lab meets for weekly sessions, totaling 120 hours throughout the semester.
4 Credits

SPE G 598
Internship in Orientation and Mobility
This course is for students who have completed course work and student-teaching labs with both children and adults. The internship may be full- or part-time, but the student must complete the clinical requirements set by AERBVI totaling 340 hours. The student is encouraged to assist in the design of the program with the assistance and guidance of the program advisor, based on the number of direct teaching hours completed by the student to date. Interns are required to keep an ongoing log of their experiences and to attend special-topics lectures.
4 Credits

SPE G 602
Language Acquisition and Theories of Reading
The focus on theory in this course is designed to help the pre-service special educator understand the relationship between oral-language development and reading. The course looks first at language acquisition in the normally developing child, with particular emphasis on the developmental stages of communicative competence and other factors, including second-language learning and influences of varying disabilities, which may affect language structure. The course goes on to examine the role of oral language as part of both learning-to-read and reading-to-learn. Field-work components are included.
14 Pre-Practicum Hrs, 3 Credits

SPE G 607
Behavioral and Classroom Management
This course identifies major theorists, techniques, and procedures for facilitating constructive behavior in the classroom. Topics include observational recording systems, contingency contracting, and monitoring of behavioral progress. Emphasis is on pro-social skill development and classroom structures conducive to collaborative learning. Field-work components are included.
15 Pre-Practicum Hrs, 3 Credits

SPE G 619
Braille II
This course is designed for vision teachers to expand their current level of Braille competency. Students study tools used in mathematics, including Nemeth Code, Scientific Notebook software, and the abacus. Braille formats typical of educational materials will be studied. Students will review the Literary Braille code with a focus on memorization, while investigating the national literacy issues that are driving public policy.
Prerequisite: SPE G 515.
3 Credits

SPE G 620
Education of Students with Visual Impairments
This course examines the philosophical, historical, and legal foundations of special education services to students with visual impairments. This course overviews the wide array of services and resources available to support students with visual impairments. Topics include legislation, service systems, roles and responsibilities of specialized service providers, and the impact of visual impairments on child development. In addition to the class assignments, students are required to observe and assist with a student who is visually impaired, one day per week for five weeks.
3 Credits

SPE G 621
Introduction to Disabilities for Educational Professionals
This course focuses on the physical, cognitive, behavioral, and psychological aspects of the atypical developmental patterns of children and adolescents with varying disabilities. Emphasis is given to the conceptual frameworks for understanding normalcy, including cultural, racial, ethnic, and linguistic expectations, family, community, and peer group norms, and gender roles and stereotypes within the context of today's urban schools. Legal definitions of disabilities are stressed, as well as the range of learning differences within typical development. This course includes a field work component.
5-7 Pre-Practicum Hrs, 3 Credits

SPE G 622
Technology and Visual Impairments
This course assists participants in understanding assistive technology to meet the educational needs of children who are blind and visually impaired. The goal is to educate the participants about assessment, acquisition, and implementation of assistive technology to foster academic independence in

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their students who are blind or visually impaired. In addition, participants identify the latest and most appropriate technology for the needs of the Pre K-12 child with visual impairments. Legal issues, funding, inclusion of technology on the IEP, and resources for support and training are also examined.
Prerequisites: SPE G 514 and 516.
3 Credits

SPE G 623
Psychosocial Aspects of Visual Impairment
This course investigates the psychosocial aspects of vision loss. Coping techniques and issues of self-esteem are explored, along with principles of self-determination. Other topics include the psychosocial aspects of personal life management such as orientation and mobility, use of volunteers, sexuality, and the Americans with Disabilities Act. Psychosocial issues specific to people from diverse cultures are also addressed.
3 Credits

SPE G 624
Standardized Assessments for Students with Moderate Disabilities, Pre K-12
This course examines standardized assessment procedures and tools for nondiscriminatory screening and identification of students with special educational needs (Pre K-8 and 5-12). Primary emphasis is given to appropriate administering, scoring, and interpreting of norm-referenced and criterion-referenced tests designed to assess student learning styles and academic achievement. Through field-based experiences, participants administer a test battery to an individual student and learn how to analyze patterns of strength and weakness, how to synthesize findings into professional reports, and how to determine appropriate goals, objectives, and instructional recommendations.
16 Pre-Practicum Hrs, 3 Credits

SPE G 625
Literacy Assessment and Instruction for Students with Moderate Disabilities, Pre K-8
This course explores the major causes of difficulties in reading, spelling and perceptual motor functioning (Pre K-8). Topics include the description and evaluation of a variety of effective teaching approaches and methods and materials used in teaching students with diverse special needs in these areas. Attention is given to matching appropriate methods of teaching to the student's learning style; to models of teaching and learning in inclusionary settings; and to the mechanics of writing an effective IEP. The course includes a field-work component.
15 Pre-Practicum Hrs, 3 Credits

SPE G 626
Math, Science, and Social Science Assessment and Instruction for Students with Moderate Disabilities – Pre K-8
This course explores the major causes of difficulties in writing, math, and the content areas (Pre K-8). Topics include the description and evaluation of a variety of effective teaching approaches, methods, and materials used in teaching students with diverse special needs in these areas. Attention is also given to career education and social-skills training and their infusions within an across-the-curriculum framework. The course includes a field-work component.
15 Pre-Practicum Hrs, 3 Credits

SPE G 629
Consultation and Interpersonal Skills
Students demonstrate an understanding of the principles involved in consultation and interpersonal skills. Intervention strategies and interviewing techniques are stressed. Discussions include dynamics of the team process, roadblocks to communication, and analysis of a school system, with subsequent in-service recommendations. Students have an opportunity to apply these learned skills while examining theory concurrently. The course includes a field-work component.
5 Pre-Practicum Hrs, 3 Credits

SPE G 630
Building Collaborative Partnerships with Families of Students with Disabilities
This course focuses on implementing effective strategies in working with parents of exceptional children. Participants become sensitive to the issues of parenting a child with special needs and learn to establish a collaborative relationship with parents that makes the best possible use of available resources.
3 Credits

SPE G 631
Clinical Teaching: Secondary
This course focuses on the development of teaching strategies to be used with the secondary learner with special needs (5-12) in the basic academic skill areas. The mechanics of writing an effective IEP are addressed. In addition, the critical issues of adolescent development are examined with respect to choosing appropriate alternative strategies. The course includes a field-work component.
14 Pre-Practicum Hrs, 3 Credits

SPE G 632
Alternative Strategies
This course presents an overview of the vocational assessment process and alternative vocational training programs for the secondary special needs learner. A central strand examines transition to work and adult life. The course includes a field-work component.
9 Pre-Practicum Hrs, 3 Credits

SPE G 633
Legal and Political Issues in Special Education
The field of special education is governed by laws (Chapter 766, PL 94-142, PL 101-476, and PL 99-457) and is thus subject to the political process. This course addresses the critical legal aspects of special education, with an in-depth review of legislation, regulations, and current practice issues. The major goals of the course are to clarify for special education teachers their obligations under the law and to develop strategies for implementing the law with full compliance.
3 Credits

SPE G 642
Assessment and Instructional Strategies for Students with Visual Impairments
This course explores the unique educational needs of students with visual impairments and the skills related to teaching these students in a full array of educational settings from Pre K through grade 12. Topics include: assessment and teaching strategies, material modification, and program planning for the learner with visual impairments. Issues related to direct-service provision, consultation roles and team approaches to assessment, evaluation and teaching are also presented. This course requires a field-based placement, one-half day per week of pre-practicum experience.
Prerequisites: SPE G 514, 515, 516, 541, 619, 629, and 622.
4 Credits

SPE G 643
Strategies for Assessing and Teaching Students with Visual Impairments
This course comprehensively examines the unique assessment and teaching methodologies that may be used by Teachers of Visually Impaired Students when the student has multiple disabilities. Topics include: functional assessments, program planning, adaptive techniques, and diverse communication systems. In order to generalize the information for use with a heterogeneous

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population, the course emphasizes the educational implication of neurological insult. The necessity for a transdisciplinary approach is also stressed. The course requires (a) classroom lectures, discussions, and group work, (b) reading and video assignments, (c) research assignments, (d) varying field-based experiences, and (e) completion of several case studies.
Prerequisites: SPE G 514, 515, 516, 541, 622, 619, 620, 642.
4 Credits

SPE G 646L / CRCRTH 646L
The Gifted and Talented Student
This course provides students with an overview of the gifted and talented student. Topics include definitions of "gifted," identification of the gifted and talented, and methods and programs geared to these students. Special areas to be addressed are the gifted and talented minority student, as well as the gifted and talented underachiever.
3 Credits

SPE G 647
Assessment-Based Instruction
This course focuses on using formal and informal assessment information to plan and evaluate instruction for diverse learners in urban classrooms. Primary emphasis is given to the interactive literacy elements of language, reading, writing, and spelling. Students will examine and assess the relationships between the learner, the learner's history, home and school environment, and school instructional practices. Formal and informal assessments will be critiqued within the context of building an assessment/instruction cycle as a foundation for instructional practice. Students will be expected to have access to K-12 student work, which will be the basis of course assignments and projects.
3 Credits

SPE G 653
Assessment Issues in Bilingual/Multicultural Special Education
This course focuses on culturally sensitive and appropriate assessment tools, both formal and informal. Assessment is viewed within a larger context in order to ensure that critical issues are addressed with respect to the overrepresentation and inappropriate retention of bilingual/multicultural students in special education settings.
3 Credits

SPE G 684
Technologies in Special Education
This course focuses on curriculum applications of technologies that can increase curriculum access for students with disabilities and enhance their problem-solving capabilities, organizational skills, and social competence. Primary emphasis is on evaluating technologies used for teaching and learning, on developing instructional modules that effectively incorporate technology-supported instruction into participants' classes, and on field-based application of selected technologies.
3 Credits

SPE G 685
Inclusive Interdisciplinary Curriculum Development: Pre K-12 Classrooms
This course examines validated inclusion practices—in assessment, curriculum, instruction, and program evaluation—that promote the education of culturally, racially, and linguistically diverse students with mild to moderate special needs (Pre K-12). Particular emphasis is placed on the collaborative structures and processes for building the capacity for inclusion in urban school settings. Major topics include organizational structures that support inclusion in the delivery of both building-based and classroom services; models of alternative assessment; interdisciplinary and thematic project-based learning; and inclusive instructional strategies for reading, language arts, math, and content-area subjects. Participants collaborate with general education teachers and related service providers in field-based assignments and a culminating project.
3 Credits

SPE G 686
Clinical Teaching Experience and Seminar: Special Needs (Pre K-8, 5-12)
This is a required, supervised clinical teaching field experience (400 clock hours minimum) and weekly seminar. Participants are given opportunities to demonstrate proficiency in the pedagogical content-knowledge and the standard common teacher competencies required for standard certification in Massachusetts. They demonstrate such proficiency through field-based projects, reflective journal entries, the assessment and teaching of students identified with mild to moderate special needs, collaborative work with general educators and related service providers, and seminar participation. The practicum site must be approved by program faculty.
6 Credits

SPE G 691
Research Seminar in Special Education
This course includes seminar presentations that address current problems and issues in special education. It examines the principles and methodologies of conducting various types of educational research, including quantitative and qualitative research methods. Students design and implement an original research project which represents the final capstone experience required for the MEd degree.
3 Credits

SPE G 696
Independent Study
This is a faculty-directed course of study in a particular area of interest or a field-work experience. A detailed proposal of intent must be submitted to the faculty member prior to the advance registration period.
Prerequisite: Permission of instructor and student's advisor.
Hrs by arrangement, 3-6 Credits

SPE G 697
Special Topics in Special Education
This is an advanced course involving intensive study of selected topics in special needs education. Course content will vary according to the topic and will be announced prior to the advance registration period.
1-6 Credits

SPE G 698
Moderate Practicum
This is a supervised practicum and seminar for trainees working with school-aged children identified as having mild to moderate special needs (Pre K-8, 5-12) who are receiving Chapter 766 services. Pre-registration is required one semester prior to enrollment. Seventy-five state-required pre-practicum clock hours must be documented prior to entering first-level practicum. The practicum site must be approved by program faculty.
6 Credits

SPE G 698B
TVI Practicum
The TVI Practicum consists of a supervised practicum and capstone experience for pre-service professionals within the TVI program working with students with visual impairments, ranging from Pre K through Grade 12. Pre-registration for the TVI practicum is required one semester prior to enrollment, along with documentation of 75 clock hours of pre-practicum experiences. Additionally, all required licensure exams must be successfully completed prior to enrollment. The practicum site must be approved by the Program Coordinator.
4 Credits

Descriptions of other courses required for the MEd Track with Professional Licensure may be found in the course description sections for Teacher Education (EDC G) and Applied Linguistics (APLING).

EDUCATION: TEACHER EDUCATION

Faculty

Jorgelina Abbate-Vaughn, PhD, *Boston College* • Teacher Research • English Language Learners • Curriculum and Instruction • Social Studies

MaryAnn Byrnes, EdD, *Rutgers University* • Inclusion • Assessment in Special Education • Special Education Policy • Language Acquisition • Legal Issues

Stanley Dick, PhD • *Adelphi University* • Mathematics • Teaching Mathematics • COSMIC

Arthur Eisenkraft, PhD, *New York University* (Director, Center for Science and Math in Context [COSMIC]) • Science Education • Physics • Secondary Education

Ann Freeman Ebe, PhD, *Arizona State University* • Reading and Literacy Education

Rona F Flippo, EdD, *University of Florida* • Early Childhood Education • Reading and Literacy Education • Teacher Education • Teacher Competency Testing Issues

Nina Greenwald, PhD, *Boston College* • Critical and Creative Thinking •Talented and Gifted Education.

Lisa Gonsalves, PhD, *Boston College* • Literacy and Cross-Cultural Interactions • Urban Education

Janna M Jackson, PhD, *Boston College* •English Education •Secondary Education

Peter Nien-Chu Kiang, EdD, *Harvard University* • Asian-Americans and Education • Ethnic Studies • Curriculum Design in P-12 and Higher Education • Immigrant/ Minority Youth and Community Development • Qualitative Research

Lusa Lo, EdD, *University of San Francisco* •Special Education •Family, School, and Community Partnership •Educational Assessment

E Glenn Mitchell, PhD, *Boston College* • Program Evaluation • Inclusive Curriculum Design • Culturally Competent Assessment • Young Children with Special Needs

Denise Patmon, EdD, *University of Massachusetts Lowell* • Language Arts and Literacy Instruction • Multicultural Literature • Elementary Education • Teaching Writing, Pre K-12

Stephen Ribisi, PhD, *University of California Berkeley* •Science Education •Biology •COSMIC

Hannah Sevian, PhD, *University of Wisconsin* • Science Education • Chemistry Education • Physical Chemistry • Chemical Physics •COSMIC

Peter Taylor, PhD, *Harvard University* • Science, Technology and Society • Social Analysis of Ecological Change • Reflective Practice

Brian Wright, MA, *Tufts University* • Elementary Education • Sociocultural Perspectives

The Program

The Teacher Education MEd Program is housed in the Graduate College of Education (GCE), in the Department of Curriculum and Instruction. Students seeking licensure may specialize in elementary, middle, or secondary education through different tracks. Master's degrees with initial and professional licensure are available through prescribed courses of study approved by the Department of Education. Candidates seeking middle or secondary school initial licensure may also do so through a graduate certificate program. In addition, there is an 18-credit post-master's certificate program that leads to professional licensure. Students may also pursue the MEd without seeking licensure. For Special Education Programs, please see under "Special Education" in this publication. The following tracks and certificates are available in general eduction:

Elementary Education:

MEd Track with Initial Licensure

MEd Track with Professional Licensure

Post-Master's Certificate with Professional Licensure

Middle/Secondary Education:

MEd Track with Initial Licensure

Graduate Certificate with Initial Licensure

MEd Track with Professional Licensure

Post-Master's Certificate with Professional Licensure

Initial Licensure may be sought in
- Biology
- Chemistry
- Earth Science
- Elementary Education
- English
- English Language Learners
- History
- Latin and Classical Humanities
- Mathematics
- Middle School: Humanities
- Middle School: Math and Science
- Physics
- Political Science/Political Philosophy
- Spanish

Professional licensure may be sought in the following subject areas:
- Elementary Education
- Middle School Humanities
- Middle School Math/Science
- Secondary School Biology
- Chemistry
- English
- History
- Latin and Classical Humanities
- Mathematics
- Physics
- Political Science/Political Philosophy
- Spanish

Program Leading to a Degree Without Licensure

Individuals may pursue a master's degree in education that does not lead to licensure. With the assistance of a faculty advisor, students may design a sequence of courses that prepares them for a broad range of education-related opportunities both in and outside the classroom. Candidates for this program may already be licensed classroom teachers, teach in independent schools, or be interested in community-based education, museum education, policy analysis, research, advocacy, or philanthropy.

Programs Leading to Licensure

The Graduate College of Education's licensure programs have been approved by the National Council for the Accreditation of Teacher Education (NCATE) and the Massachusetts State Department of Education. In all its licensure programs, the Graduate College of Education seeks to train thoughtful and responsive educators who demonstrate a command of the best pedagogical methods and practices for educators, as well as of the academic discipline they teach.

UMass Boston's MEd Track with Initial Licensure (36 credits) is approved by the Massachusetts Department of Education and offers two areas of specialization: elementary and middle/secondary education. Both middle and secondary school areas offer further subspecialties in terms of subject-matter concentrations. While the Initial Licensure Track consists primarily of courses in pedagogy, completion of the program is conditional on meeting a field-of-knowl-

edge requirement, normally through presentation of an undergraduate major in the field to be taught. In addition to course work, the track requires 75 hours of monitored pre-practicum and a semester-long practicum with accompanying portfolio. A 24-credit Graduate Certificate with Initial Licensure is also available at the middle/secondary level, consisting of 18 credits of course work and the practicum.

Candidates for Professional Licensure at UMass Boston are trained to demonstrate the skills, knowledge, and dispositions to become thoughtful and responsive educators in command of an advanced body of knowledge in their subject area. Recognizing that the role of the professional educator is to transmit complex ideas and knowledge in developmentally appropriate contexts, the Graduate College of Education has structured its requirements so that our graduates will have the ability to convey a deep understanding of their specific field of knowledge to their students.

A teacher holding an initial license in Massachusetts may obtain professional licensure in the Graduate College of Education either through the 36-credit MEd Track with Professional Licensure or—if he/she already holds an advanced degree—through the 18-credit Post-Master's Certificate with Professional Licensure. In both programs, half of the credits (18 and 9, respectively) must be taken at the graduate level in the relevant academic discipline.

Please note: The Initial License is good for five years of employment. At the end of that time, the additional work required for Professional Licensure must be completed. The Professional License must be renewed every five years. Recertification will require "professional development points" and the payment of a recertification fee. Official policies regarding the recertification of educational personnel are published in a booklet available from the Department of Education, 350 Main Street, Malden, Massachusetts 02148-5023 or at www.doe.mass.edu.

Student Performance on the Massachusetts Test for Educator Licensure:

During the 2004-2005 academic year, the University of Massachusetts Boston teacher education summary pass rate was 99%. On Basic Skills, the pass rate was 99%; in Academic Areas, 100%; in Teaching Special Populations, 100%; no statewide comparative statistics are available for 2004-2005 at the time of this writing. For 2003-2004, the overall pass rate was 96% (II quartile); in Basic Skills, it was 98% (II quartile); in Academic Areas, 96% (III quartile).

Degree Requirements

Master of Education Track without Licensure

Students in the MEd Track without Licensure will complete a program composed of thirty-three credits of course work and a final comprehensive examination. Requirements are as follows:

Four core courses (12 cr.):

EDC G 642 – Organization of School Curriculum

One course in Critical and Creative Thinking

One course in Dispute Resolution

One course focused on urban education (e.g., EDC G 606 or EDC G 672)

Seven additional courses, focused on a specific area of interest (21 cr.)

A final written comprehensive examination addressing significant issues in contemporary education and reflecting the study and research each student has carried out in pursuit of the degree.

Master of Education Track with Initial Licensure: Elementary Education

Students in the Initial Licensure: Elementary Track will complete a 36-credit program divided into three cores of course work and related requirements.

Core I introduces a developmental perspective to education while providing an inquiry into issues that face contemporary educators. Core II examines research and current understandings about the methods of teaching specific fields of knowledge. These courses, along with 75 hours of monitored field work, constitute the pre-practicum. Core III, the capstone core, involves the student in a supervised practicum and teacher research.

Field of Knowledge Requirement: The Department of Education requires that candidates for licensure at the elementary level must demonstrate competence and expertise with the material to be taught. To meet this requirement, candidates must:

- Achieve passing scores on the Massachusetts Tests for Educator Licensure (MTEL) in Communication and Literacy, General Curriculum, and Foundations of Reading. The Massachusetts Department of Education gives these tests several times a year.
- Meet a specific field-of-knowledge requirement in the area of mathematics. Students may fulfill this requirement in any of the following ways:
  - Provide documentation of having completed a college-level mathematics course for elementary school teachers, with a grade of B or better.
  - Provide documentation of having completed a college-level mathematics course (algebra or higher) or an AP high school calculus course, with a grade of B or better.
  - Provide documentation of having placed out of MATH 115 on the UMass Boston MATH Placement Test B. This test is administered at the Testing Center in McCormack Hall, Third Floor, Room 612.

    The mathematics field-of-knowledge requirement must be completed before or concurrently with enrollment in EDC G 625: Designing Instruction in Mathematics and Science (Core II).
- Present certification of completion of a health education workshop. This full-day workshop is offered several Saturdays throughout the academic year; students are required to attend one.

Core I (Courses may be taken in any order within each core)

EDC G 603 – Creating Effective Learning Environments (3 cr., up to 25 field hours)

EDC G 606 – Sociocultural Perspectives on Education (3 cr., up to 15 field hours)

EDC G 630 – Inclusion, K-12 (3 cr., up to 5 field hours)

EDC G 644 – Developmental Stages: Childhood to Adolescence (3 cr., up to 15 field hours)

Benchmark – In order to enroll in Core II courses, students must meet the following criteria:

- Passing score on the Massachusetts Tests for Educator Licensure (MTEL): Communications and Literacy Skills portion. (Evidence must be submitted to the Advising Office.)
- Minimum GPA of 3.0.

Education: Teacher Education

Core II

EDC G 617 – Literacy Diagnosis and Instruction (3 cr.)

EDC G 625 – Designing Instruction in Mathematics and Science (3 cr., up to 15 field hours)

EDC G 626 – Integrating Social Studies, Language Arts, and the Arts (3 cr., up to 15 field hours)

EDC G 646 – Understanding Reading: Principles and Practices (3 cr., up to 15 field hours)

One elective (students are strongly encouraged to take a graduate course in mathematics education to meet this requirement)

Benchmark – In order to enroll in Core III courses, students must meet the following criteria:

- Passing score on the Massachusetts Tests for Educator Licensure (MTEL): subject portions (General Curriculum and Foundations of Reading). (Evidence must be submitted to the Advising Office.)
- Minimum GPA of 3.0.
- Documentation of completion of 75 hours of pre-practicum field work and all Core I and II courses. Pre-practicum report forms and reflection papers must be submitted with practicum applications to the Office of Field Experience and Licensure.

Core III

EDC G 686—Graduate Practicum: Student Teaching (6 cr.)

EDC G 689—Teacher Research (3 cr.)—may be taken during practicum semester or following it; students must have access to classroom to complete research.

Practicum Requirements

A full practicum is 14 weeks (one full semester) of supervised student teaching. All candidates for Initial Licensure are required to take the full 6-credit practicum.

Students wishing to enroll in the practicum course must apply for approval and placement in the semester prior to that in which the practicum is to take place. For a spring semester practicum, applications are due the previous October 1; for a fall practicum, they are due the previous March 1.

Master of Education Track with Initial Licensure: Middle/Secondary Education

Students in the Initial Licensure: Middle/Secondary Track will complete a 36-credit program divided into five cores of course work and related requirements. Middle school licensure is available in Middle School Humanities or Math/Science, or in the teaching of a specific subject (e.g., Biology, Chemistry, Earth Science, English, History, Mathematics, Physics, Political Science/Political Philosophy, and Spanish) to students in grades 5 to 8. Secondary licensure is offered in the following disciplines: Biology, Chemistry, Earth Science, English, History, Latin and Classical Humanities, Mathematics, Political Science/Political Philosophy, Physics, and Spanish.

Core I (6 cr.) (Courses may be taken in any order within each core)

EDC G 606 – Sociocultural Perspectives on Education (3 cr., up to 15 field hours)

EDC G 644 – Developmental Stages: Childhood to Adolescence (3 cr., up to 15 field hours)

Core II (9 cr.) One of the following:

Candidates for Middle School Licensure: EDC G 629—Foundations of Middle School Teaching or

Candidates for Secondary School Licensure: EDC G 628 – Community, School, and Classroom Structures (3 cr., up to 15 field hours)

EDC G 630 – Inclusion, K-12 (3 cr., up to 5 field hours)

EDC G 648 – Content Literacy (3 cr., up to 15 field hours)

Benchmark – In order to enroll in Core III courses, students must meet the following criteria:

- Passing score on the Massachusetts Tests for Educator Licensure (MTEL): Communication and Literacy Skills portion. (Evidence must be submitted to the Advising Office.)
- Minimum GPA of 3.0.

Core III: Methods (6-9 cr.) (Courses may be taken in any order within each core)

Required for all middle/secondary licenses (3 cr., up to 15 field hours):

EDC G 660 – Designing Secondary Curriculum and Learning Strategies

Candidates for middle school initial licensure in humanities should take the following (6 credits, 30 field hours):

1. EDC G 666 – Methods in Middle and Secondary School History and Political Science Instruction
2. EDC G 667 – Methods in Middle and Secondary School English Instruction

   Or, with permission, a graduate methods course offered by the English Department

Candidates for middle school initial licensure in math/science should take the following (6 cr., up to 30 field hours):

1. EDC G 665 – Methods in Middle and Secondary Science Instruction
2. EDC G 669 – Methods in Middle and Secondary School Mathematics Instruction

Candidates for secondary licenses take the one of the following relevant to the subject to be taught (3 cr., up to 15 field hours):

1. EDC G 665 – Methods in Middle and Secondary Science Instruction
2. EDC G 666 – Methods in Middle and Secondary School History and Political Science Instruction
3. Either: EDC G 667 – Methods in Middle and Secondary School English Instruction

   Or, with permission, a graduate methods course offered by the English Department
4. EDC G 669 – Methods in Middle and Secondary School Mathematics Instruction
5. APLING 611 – Methods and Materials in Foreign Language Education

Benchmark – In order to enroll in Core IV courses, students must meet the following criteria:

- Passing score on the appropriate Massachusetts Tests for Educator Licensure (MTEL) subject area test. (Evidence must be submitted to the Advising Office.)
- Minimum GPA of 3.0.
- Documentation of completion of 75 hours of pre-practicum field work and all Core I-III courses. Pre-practicum report forms and reflection papers must be submitted with practicum applications to the Office of Field Experience and Licensure.

Core IV: Capstone Core (9 cr.)

EDC G 687 or 688 – Graduate Practicum: Student Teaching (Middle School or Secondary School, respectively) – 6 cr.

EDC G 689 – Teacher Research (3 cr.) – may be taken during practicum semester or following it; students must have access to a classroom to complete research.

Disciplinary Core (3-6 cr.) – may be taken at any time during completion of the program:

Required for all licenses:

One to two content course(s) (3-6 cr.) in the subject area in which licensure is sought, as follows:

One required for students whose requirements in Core III have generated 9 credits (i.e., candidates for licensure in Middle School Humanities or Math/Science);

Two required for students whose requirements in Core III have generated 6 credits (i.e., candidates for licensure in Secondary Education or in a Middle School subject). In this case, the student may choose to take either two content courses or one content course and a second discipline-specific methods course.

EDC G 610 – Computers in Education may substitute for a Disciplinary Core course.

Graduate Certificate with Initial Licensure: Middle/Secondary Education

Students in the Initial Licensure Certificate: Middle/Secondary will complete a 24–27-credit program divided into four cores of course work and related requirements. For all licenses except Middle School Humanities and Middle School Math/ Science, the certificate will consist of 24 credits; for those two licenses, which require two discipline-specific methods courses each, the certificate will consist of 27 credits. Licensure is available in the same areas as listed under the MEd Track with Initial Licensure: Middle/Secondary Education.

Core I (6 cr.) – courses may be taken in any order within each core

EDC G 606 – Sociocultural Perspectives on Education (3 cr., up to 15 field hours)

EDC G 644 – Developmental Stages: Childhood to Adolescence (3 cr., up to 15 field hours)

Core II (6 cr.)

EDC G 628 – Community, School, and Classroom Structures (3 cr., up to 15 field hours)

EDC G 648 – Content Literacy (3 cr., up to 15 field hours)

Core III: Methods (6-9 cr.)

Required for all middle/secondary licenses (3 cr., up to 15 field hours):

EDC G 660 – Designing Secondary Curriculum and Learning Strategies

For middle and secondary school subject licenses, choose from the following relevant to the subject to be taught (3 cr., up to 15 field hours):

Candidates for middle school initial licensure in humanities should take the following (6 credits, up to 30 field hours):

1. EDC G 666 – Methods in Middle and Secondary School History and Political Science Instruction
2. EDC G 667 – Methods in Middle and Secondary School English Instruction

   Or, with approval, a graduate methods course offered by the English Department

Candidates for middle school licensure in math/science should take the following (6 cr., up to 30 field hours)

1. EDC G 665 – Methods in Middle and Secondary Science Instruction
2. EDC G 669 – Methods in Middle and Secondary School Mathematics Instruction

Candidates for secondary school initial licensure take the one of the following relevant to the subject to be taught (3 cr., up to 15 field hours):

1. EDC G 665 – Methods in Middle and Secondary Science Instruction
2. EDC G 666 – Methods in Middle and Secondary School History and Political Science Instruction
3. Either: EDC G 667 – Methods in Middle and Secondary School English Instruction

   Or, with approval, agraduate methods course offered by the English Department
4. EDC G 669 – Methods in Middle and Secondary School Mathematics Instruction
5. APLING 611 – Methods and Materials in Foreign Language Education

Core IV: Capstone (6 cr.)

EDC G 687 or EDC G 688: Graduate Practicum: Student Teaching (Middle or Secondary School, respectively)

Field of Knowledge (Middle /Secondary):

Competency I of the Department of Education's regulations for licensure specifies the knowledge base that teachers must bring to the classroom. For teachers of subject areas, this is one of the disciplines taught in middle or high school. Most commonly, teachers are certified in the academic major in which they hold their BA or BS.

Teach Next Year

As an option within the MEd Track with Initial Licensure: Middle/Secondary Education, the Teach Next Year course of study offers a limited number of individuals the opportunity to focus on urban education and earn the MEd at the secondary level in a calendar year. Teach Next Year is an intensive and highly selective full-time program. It features a full-school-year internship, with most graduate course work completed onsite at Boston's Dorchester Education Complex and its three high schools. Participants receive financial incentives provided, in part, by the Trefler and Noyce Foundations and the Nellie Mae Foundation. Please contact the Teacher Education Advising Office for additional information.

The MEd Track and Post-Master's Certificate with Professional Licensure: Elementary Education

Thirty-six credits are required for the completion of the Professional Licensure: Elementary Track of the MEd. Eighteen credits are required for the Post-Master's Certificate with Professional Licensure: Elementary.

Professional licensure programs at the elementary level focus on building literacy skills in a range of learners through cross-disciplinary instruction and on development of assessment techniques adapted for a range of learners, including those with disabilities and those whose first language is other than English. In the capstone project, students will implement units they have developed and document the impact of this instruction on their own students.

The following twelve courses are required for the Professional Licensure: Elementary Track:

- EDC G 621: Teaching Writing in the K-12 Classroom
- EDC G 622: Integrating Curriculum

Education: Teacher Education

- EDC G 648: Content Literacy
- EDC G 663: Assessment in Teaching
- SPE G 602: Language Acquisition and Theories of Reading
- SPE G 629: Consultation and Interpersonal Skills
- SPE G 647: Assessment-Based Instruction
- SPE G 684: Technologies in Special Education
- SPE G 685: Inclusive Interdisciplinary Curriculum Development: Pre K-12 Classrooms
- SPE G 691: Research Seminar in Special Education
- APLING 625: Second Language Acquisition
- APLING 671: The Bilingual Child with Special Needs

The following 6 courses are required for the Post-Master's Certificate with Professional Licensure: Elementary:

- EDC G 622: Integrating Curriculum
- EDC G 640: Reading in the Content Areas
- EDC G 663: Assessment in Teaching
- SPE G 602: Language Acquisition and Theories of Reading
- SPE G 685: Inclusive Interdisciplinary Curriculum Development: Pre K-12 Classrooms
- Choice of EDC G 621: Teaching Writing in the K-12 Classroom;

  or SPE G 684: Technologies in Special Education

The MEd Track and Post-Master's Certificate with Professional Licensure: Middle/Secondary Education

The MEd track leading to middle/secondary professional licensure requires the satisfactory completion of 36 credits, half of which must be in the discipline relevant to the license being sought. The Post-Master's Certificate requires completion of 18 credits, half in the discipline relevant to the license being sought. The programs are divided into three cores: a Pedagogy Core, a Disciplinary Core, and a Capstone Core. The Graduate College of Education (GCE) assumes direct academic responsibility for instruction in the Pedagogy Core, while the Colleges of Liberal Arts (CLA) and Science and Mathematics (CSM) and the McCormack Graduate School of Policy Studies (MGS) assume supervision for courses in the Disciplinary Core. The Capstone Core combines pedagogical and disciplinary approaches and produces a capstone experience that synthesizes the first two cores of the candidate's course of study.

A. The MEd Track with Professional Licensure: Middle/Secondary Education

   General Shape of the Program:

   Pedagogy Core: 4 GCE courses (12 cr.)

   The Pedagogy Core asks professional licensure candidates to be reflective about how the content of the disciplines is acquired and mastered by their students.

   Disciplinary Core: 4 CLA/CSM/MGS courses at the 500 or 600 level (12 cr.)

   The Disciplinary Core requires that professional licensure candidates demonstrate deep knowledge and understanding of an academic discipline leading to teacher licensure, as well as the capacity to do advanced analytical work in that discipline.

   Capstone Core: 2 GCE courses (6 cr.); 2 CLA/CSM/MGS courses (6 cr.)

   The Capstone Core requires professional licensure candidates to be reflective about how content knowledge of the academic disciplines is acquired and mastered and to demonstrate a profound understanding of and an ability to do advanced work in an academic discipline. Candidates develop, use, and assess a curriculum unit drawn from state, district, or school frameworks in the academic field of knowledge for which licensure is sought.

   The first two cores and the content portion of the Capstone Core are not sequential. A normal pattern for a full-time student would be to take one course from each of these in a semester. Both courses of the Pedagogy portion of the Capstone Core should normally be taken in the student's final semester.

B. The 18-Credit Post-Master's Certificate with Professional Licensure

   Those who have already completed a master's degree or other advanced graduate degree program may elect an 18-credit certificate program leading to professional licensure. Consistent with the guiding assumptions of the MEd program, we ask certificate candidates to demonstrate capacity for advanced understanding of the discipline of specialization and to be thoughtful and responsive educators. The program contains an applied research component and stresses effective integration of pedagogy, content knowledge, and curriculum frameworks. Like the MEd program, the certificate program is divided into three cores:

   Pedagogy Core: 1 GCE course chosen from the lists designated in the individual disciplinary sections below (3 cr.)

   Disciplinary Core: 1 CLA/CSM/MGS course at the 500 or 600 level, given by the participating disciplinary department (3 cr.)

   Capstone Core: 2 GCE courses (6 cr.); 2 CLA/CSM/CNHS/MGS courses (6 cr.)

   Courses in the Pedagogy and Disciplinary Cores and the content portion of the Capstone Core may be taken at any time during the program. Both courses of the Pedagogy portion of the Capstone Core should normally be taken in the student's final semester.

   Individual MEd tracks and 18-credit post-master's certificates with professional licensure are offered in:

   Middle School Humanities

   Middle School Math/Science

   Secondary School Biology

   Secondary School Chemistry

   Secondary School English

   Secondary School History

   Secondary School Latin and Classical Humanities

   Secondary School Mathematics

   Secondary School Physics

   Secondary School Political Science/Political Philosophy

   Secondary School Spanish

Program Requirements

Pedagogy Core (12 cr. for MEd, 3 for certificate):

Required for all licenses except Spanish:

EDC G 630: Inclusion, K-12

EDC G 643: Behavior and Classroom Management

EDC G 663: Assessment in Teaching

Required for Spanish:

EDC G 630: Inclusion, K-12

EDC G 643: Behavior and Classroom Management

For all licenses except Spanish, one additional pedagogy course, as follows:

For Latin and Classical Humanities:

CRCRTH 670: Thinking, Learning, and Computers

For Mathematics:

EDC G 625: Designing Instruction in Mathematics and Science

For Middle School Math/Science, Middle School, Biology, Chemistry, Physics, choose one from:

CRCRTH 670: Thinking, Learning, and Computers

EDC G 625: Designing Instruction in Mathematics and Science

EDC G 661: Developing Understanding in Physical Science

For Political Science/Political Philosophy, choose one from:

CRCRTH 670: Thinking, Learning, and Computers

EDC G 626: Integrating Social Studies, Language Arts, and Arts

For Middle School Humanities, English, History, choose one from:

CRCRTH 630: Criticism and Creativity in Literature and Arts

CRCRTH 670: Thinking, Learning, and Computers

EDC G 620: Designing Instruction: The Arts

EDC G 621: Teaching Writing in the K-12 Classroom

EDC G 626: Integrating Social Studies, Language Arts, and Arts

For Spanish, two additional pedagogy courses:

SPAN 502: Technology for the Spanish-Language Classroom; and

SPAN 512: Assessing Foreign Language Learners (Spanish)

[Certificate students choose one course from all the options listed above for their license.]

Disciplinary Core (12 cr. for MEd, 3 for certificate):

Four courses at the 500 or 600 level, drawn from the discipline in which licensure is sought or from other participating departments.

These courses should be chosen by the student in consultation with his/her disciplinary advisor, to assure that they represent a coherent specialization. Some disciplines may have more restrictive requirements than are listed here.

[Certificate students take one.]

Capstone Core (12 cr. for both MEd and certificate):

A. Capstone Pedagogy:

EDC G 690: Teacher Research for Professional Licensure

EDC G 698: Internship

For Spanish, add one from the following:

CRCRTH 630: Creativity in Literature and Arts

EDC G 620: Designing Instruction: The Arts

EDC G 626: Integrating Social Studies, Language Arts, and Arts

B. Capstone Content:

For all licenses except English and Spanish:

Two methods- or research-based courses designated by the participating disciplinary department(s). These courses should be chosen by the student in consultation with his/her disciplinary advisor, to assure that they join with the Disciplinary Core to represent a coherent specialization.

For English, choose two of:

ENGL 610: The Teaching of Composition

ENGL 611: The Teaching of Literature

Other available "Teaching of …" courses

For Spanish:

SPAN 501: Theories, Methods, and Practices in the Teaching of Spanish as a Foreign Language

[Certificate students complete the entire Capstone Core, A and B.]

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

Please see also the description of admission requirements listed under "Professional Preparation Programs for Education" in the "Regulations, Procedures, and Degree Requirements" section of this publication.

The MEd Program will recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

A distinguished undergraduate transcript, with a minimum overall GPA of 3.00;

Evidence of satisfactory grades in the major discipline (for middle/secondary education applicants, at least 3.00 in the discipline[s] to be taught);

Three positive and informed letters of recommendation submitted by persons who are knowledgeable about the candidate's potential success both as a graduate student and as a teacher. One such letter must be from someone who has been the applicant's instructor in a college course. In the case of applicants to the MEd Track without Licensure and to the MEd Track or Post-Master's Certificate with Professional Licensure, another of the three letters should be from a person who serves, or has served, in a supervisory capacity to the candidate;

For the MEd Track without Licensure: submission of Graduate Record Examination (GRE) scores. An applicant who already holds an advanced degree is exempt from this requirement.

For all licensure tracks, submission of MTEL scores, as detailed in the "Regulations, Procedures, and Degree Requirements" section of this publication.

The completion of a written statement demonstrating writing proficiency and including the following information:

a. the applicant's specific professional goals;

b. for initial licensure tracks: the applicant's reasons for wanting to become a teacher at the specific level and/or in the specific field for which licensure is being sought;

c. a statement showing the fit between the applicant and the Graduate College of Education's basic goal of preparing thoughtful and responsive educators committed to change for social justice. Describe experiences or values that have prepared you to become such an educator.

d. the applicant's philosophy of education and thoughts about contemporary schools and current movements in education.

In addition to the above, applicants to the MEd Track or Post-Master's Certificate with Professional Licensure: Middle/Secondary Education are expected to present:

- An undergraduate major (or its equivalent) in the discipline in which professional licensure is sought.

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- Evidence of initial licensure in the discipline in which professional licensure is sought.
- For the post-master's certificate: a transcript showing the award of a master's degree and a transcript showing a GPA of 3.0 or better in the specific academic area in which licensure is sought.

Because of the intercollegiate nature of the middle/secondary professional licensure programs, the Department of Curriculum and Instruction of the Graduate College of Education and the disciplinary department whose courses are most directly relevant to the field of licensure share responsibility for the admissions review of candidates. GCE will assume primary responsibility for the admission of candidates to professional licensure programs, while the Graduate Program Director of the relevant department will assess their preparation in the declared field-of-knowledge.

Transfer Credit

Students may, with approval of the relevant Graduate Program Director, transfer into their UMass Boston MEd degree program a maximum of 6 credits (two courses) taken at external universities and a maximum of 6 credits taken as a non-matriculated student at UMass Boston. Please see the general statement on transfer credit in the "Regulations, Procedures, and Degree Requirements" section of this publication for more details.

Courses

EDC G 603
Creating Effective Learning Environments
This introductory course is designed to provide students with knowledge of current early childhood curriculum theory, research, and methods. The course also introduces methods for the creation of effective learning environments in classrooms that are increasingly diverse, culturally and linguistically. Students explore a variety of methods to facilitate planning, classroom organization for cooperative and active learning, curriculum development, student evaluation and assessment, team and co-teaching, and the uses of new educational technologies. Attention is given to challenges posed by inclusionary classrooms and to the ways in which student cultural and linguistic differences can be recognized and respected in order to enhance the educational and linguistic experiences of all students.
3 Credits

EDC G 606
Sociocultural Perspectives on Education
This course examines the interrelationships among students, schools, and society. Participants learn about the ways in which race, class, language, and ethnicity influence how we define ourselves and each other in our various encounters within the broader culture of US society. The course examines the historical antecedents influencing how the lives of the immigrant and colonized peoples in the US are defined. It is designed as a foundation for understanding the policies, goals, assumptions, strategies, and practices of multicultural approaches to education. It draws on a variety of models to construct educational curricula that are multicultural and socially reconstructionist. Readings are placed within the context of public schooling today in order to develop students' "cultural consciousness" and awareness of the individual and shared societal assumptions we bring to our teaching experiences.
3 Credits

EDC G 610
Computers, Technology, and Education
An introduction to using computers and technology in education. The various uses of computers and technology in education are examined in depth as participants are introduced to a wide variety of K-12 educational software and the Internet and explore the pedagogical issues raised by the use of computers for students, teachers, and school administrators. These include consequences for learning, problem solving, organizing data, creativity, and an integrated curriculum.
Finally, the course looks at ways in which technology may help facilitate changes in the ways teachers teach and students learn and ultimately may stimulate reform in education. The course has a field component where students observe computer use in the classroom.
3 Credits

EDC G 612
Evaluation and Design of Educational Software
This course provides participants with methods and strategies for evaluating and designing educational software and other applications of advanced information technology.
Prerequisite: EDC G 610 or permission of instructor or graduate program director.
3 Credits

EDC G 614
Interactive Media Instruction
This course examines the process of developing and producing interactive video programs, using computers and videotape, for instructional purposes. Special attention is given to the study of interactive design principles and the evaluation of interactive media.
3 Credits

EDC G 616
Applied Research in Mathematics
This course explores critical issues related to implementation of NCTM Standards and reviews selected research findings and theories of learning. Participants examine various methods and materials for teaching mathematics in grades N-6; engage in problem-solving and problem-posing activities; observe and work with children in a pre-practicum field site; and critically examine how their experiences relate to the teaching and learning of mathematics. Field observations are required.
3 Lect Hrs, 3 Credits

EDC G 617
Literacy Diagnosis and Instruction
This course explores and challenges generally held assumptions about teaching and learning of literacy for students N-8. It provides an opportunity to study research findings, best practices, and current trends in the teaching of literacy acquisition; to develop practical methods for applying those findings and encouraging thoughtful reading, writing, speaking, and listening; and to become familiar with resources that support these activities. Particular attention is given to working effectively with culturally and linguistically diverse students in urban settings. The field component of the course provides for observation and critique of various kinds of classroom practices in urban schools in the Greater Boston area.
3 Credits

EDC G 619
Designing Instruction: Science
This course explores techniques for teaching science concepts to students in grades N-6, examining materials, methods, and curricula currently in use. The course focuses on the development of participants' skills in science and on the use of questioning methods that help develop higher-order thinking skills in the young child. Participants have the opportunity to be both learners and instructors in a wide range of science activities.
3 Credits

EDC G 620
Designing Instruction: the Arts
This course offers an experiential model of arts integration based in classroom practice. The course combines current theory concerning the role of art in cognitive development with hands-on workshops and exercises geared to enhance participants' skill and confidence with diverse media. Topics include an examination of constructive processes, integrative curriculum design, the use of the arts to foster learning and intellectual growth, different learning styles, fine and gross motor activity in the classroom, and the importance of play and physical activities in the classroom.
3 Credits

EDC G 621
Teaching Writing in the K-12 Classroom
This course deals with the teaching of writing, the teacher as writer, and the interactions between reading and writing. Readings and presentations offer up-to-date information, theory, and practical techniques for teaching reading and writing in all subject areas. Students meet regularly in reader-writer response groups to work on their own writing and to respond to one another's writing about reading. There are a number of guest lecture/demonstrations by elementary and secondary teachers who are teacher/consultants with the Boston Writing Project. The course combines writing process theory with practical methods.
3 Credits

EDC G 622
Integrating Curriculum
This course provides participants with opportunities to create thematic curriculum units across academic disciplines such as science, math, language arts, reading, social studies, and the arts. Approaches to curriculum design model the kinds of connected knowing and integration being called for by the current educational reform movement. Participants analyze actual classroom interdisciplinary units and work collaboratively to design and construct original curriculum units. Readings, discussions, group projects, hands-on workshops, and educational technologies provide the resources and skills students will need to develop successful integrated curriculum units in their own classrooms.
3 Credits

EDC G 624
Cultures of the High School
This course explores the cultures of high school and the nature of high school experiences. High schools are the point of intersection of many cultures—adolescence, teaching, schooling, administration, various ethnic and racial backgrounds, and the local community—and the experiences of all involved. Within a school day, there is very little time to consider these differing perspectives and to understand the relationships among participants. This course provides the opportunity and the time to consider these complex dynamics and their impact on the lives of teachers.
Prerequisites: EDC G 606, 641 or 644.
3 Credits

EDC G 625
Designing Instruction in Mathematics and Science
This course explores theoretical and practical perspectives on teaching mathematics and science in Grades K-6. It aims to enable participants to create classroom environments that promote inquiry and make mathematics and science accessible to all children. Principles of curriculum and instruction, issues of equity, and the processes of learning mathematics and science are central themes of the course. Participants engage in extended investigations in order to deepen their understanding of mathematics and science. They also design and evaluate curriculum materials for K-6 classrooms using national and state standards and critically analyze their own roles in helping children learn mathematics and science.
3 Credits

EDC G 626
Integrating Social Studies, Language Arts, and Arts
This course is designed to engage prospective teachers in developing philosophical perspectives and practical approaches to teaching art, social studies, and language arts. Critical thinking about issues in art, social studies, and language arts education, including curriculum, instruction, and assessment, is integral to this course. Special emphasis is given to practices that are responsive to the needs and strengths of elementary students in social groups, classrooms, and schools.
3 Credits

EDC G 628
Community, School, and Classroom Structures
This course explores school and classroom structures that are relevant to teachers preparing to teach in urban middle and high schools. It also explores relationships between school and community that can be crucial to creating an effective learning environment in urban classrooms. The course includes three main parts: 1) a study of school/community collaboration in urban settings; 2) a look at the history of American middle and high school structures, including those that are currently being tried as ways of improving on the traditional models; and 3) an exploration of possible ways for structuring classrooms to achieve effective learning environments for all students, including a focus on the inclusion model and a study of various classroom management approaches. A field-based component is required.
3 Credits

EDC G 629
Foundations of Middle School Teaching
This course is the foundation of the middle school program. It covers middle school philosophy, curriculum, and instruction; pre-adolescent development; and assessment. In the fall, it is held at a cooperating middle school, co-taught by school and GCE faculty. Students may combine the seminar with 75 hours of directed field work at our partner middle school, gaining direct experience with middle school children, curriculum, and instructional methods. In the spring, the course is taught on campus, as a regular 3-credit graduate course.
6 Credits (with field experience) or 3 Credits (for the course alone)

EDC G 630
Inclusion, K-12
This course examines the theoretical and practical issues that teachers must address as they implement the effective inclusion of children with disabilities in general education classrooms. Topics include the legal foundations of inclusion; appropriate strategies for supporting the academic, behavioral, and social aspects of inclusive teaching; and strategies for productive interactions with other educators and parents. The course's central premise is that inclusion requires collective attention to individual needs within the general education program. Participants become familiar with the roles of the general education teacher in special education, develop learning and behavior plans to address student needs, and acquire practice in analyzing school activities to maximize effective participation by a range of students. The course includes a field experience component.
3 Credits

EDC G 636
Individually Guided Education
This course stresses the adaptation of various instructional methods to individual differences and the continuous improvement of such instruction. The course examines

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new forms of behavior for teachers, various learning options for students based on their mapped cognitive styles, and alternative modes of school organization and administration.
3 Credits

EDC G 640
Reading in the Content Areas
This course familiarizes participants with developmental reading techniques appropriate for students using various textual materials. Attention is given to the integration and application of reading and study skills in a number of content areas. Field-based observations are required.
3 Credits

EDC G 641
Contemporary Issues in Education
Through readings, discussions, case analyses, and written assignments, this course examines many of the issues and dilemmas that affect teaching and learning in today's schools and classrooms. Topics include the implications of educational reform at the state and national level; desegregation and education for a multicultural society; equity; tracking and ability grouping; curriculum and assessment; teacher supervision and evaluation; negotiations, unions, and conflict; privatization; family, community, and the influence of the neighborhoods; violence; morality; and power and leadership.
3 Credits

EDC G 642
Organization of School Curriculum
This course analyzes the development of a variety of models of elementary, middle, and secondary school curricula. Emphasis is given to discipline-based and thematic, integrative, and multicultural curricula. Participants become familiar with curriculum sources and materials and current approaches to assessment; they also explore the dynamic interactions among teachers, administrators, families, and communities in conceptualizing, implementing, and evaluating curriculum. Field observations are required.
3 Credits

EDC G 643
Behavior and Classroom Management
This course explores a diverse range of strategies and techniques that may be used to eliminate or alleviate dysfunctional and/or disruptive behavior in the contemporary mainstreamed classroom.
3 Credits

EDC G 644
Developmental Stages: Childhood to Adolescence
This course examines current research and theory about human intellectual, social, and affective development from infancy through adolescence. Topics include the development of linguistic, symbolic, and quantitative systems; cognition; creativity; the developmental interactions of culture, thought, language, and learning; and the implications of current developmental theory and research for educators.
3 Credits

EDC G 646
Understanding Reading: Principles and Practices
This course introduces theoretical and instructional issues in the development of reading, writing, listening, and speaking. It engages participants in reflective, critical consideration of students' diverse needs in the acquisition of literacy. Strong emphasis is given to assessment-driven instruction in a comprehensive literacy program requiring eight hours of daytime field experience. Topics include a study of oral language as it affects emergent literacy development via use of the running record; literacy lesson planning; strategies for beginning reading and writing; classroom management issues related to responsive, differentiated literacy instruction; and ideas for strengthening the home-school connection. A consistent focus is the teacher's role as a knowledgeable decision-maker and skilled practitioner in facilitating literacy learning in a caring, principled, respectful manner.
3 Credits

EDC G 647
Multicultural Literature for Children and Young Adults
This course examines current research, theory, and practice for the integration of multicultural literature into the pre K-12 curriculum. Students read a broad range of literature representative of the diverse cultural groups represented in today's classrooms. Field-based observations are required.
3 Credits

EDC G 648
Content Literacy
This course deals with the integration of the teaching of reading and writing. Course readings and presentations offer up-to-date information, theory, and practical techniques for teaching reading and writing in all subject areas. Students meet regularly in reader-writer response groups to work on their own writing and to respond to one another's writing about reading. There are a number of guest lecture/demonstrations by elementary and secondary teachers who are teacher/consultants with the Boston Writing Project. The course combines writing process theory with practical methods. Field-based observations are required.
Prerequisites: EDC G 606 and EDC G 644.
3 Credits

EDC G 660
Designing Middle and Secondary Curriculum and Learning Strategies
This course examines current principles of curriculum and instruction, as well as state and national standards for the teaching of the disciplines at the middle and secondary school levels. Students review teaching materials and methods, design curriculum units, develop strategies for communicating with students from diverse backgrounds, do micro-teaching, design assessment and evaluation instruments, and critique their own and one another's efforts. This is a field-based course in which students are asked to reflect on the learning and teaching they see in a variety of school sites and apply what they observe as they design curriculum units.
3 Credits

EDC G 661
Developing Understanding in Physical Science
This seminar engages students in the process of deepening their understanding of some basic concepts of physical science, together with the relevant mathematics (basic algebra, geometry), and then has them reflect on the learning process. Topics include the seasons, pulleys, levers, and buoyancy. Concepts evolve from an intuitive qualitative understanding to a precise mathematical formulation, through small group experiment and discussion, class demonstration/discussion, and readings, both about the science itself and about the educational issues involved. Students write up experimental results, solve problems, teach a topic, and write papers reflecting on the learning process.
3 Credits

EDC G 663
Assessment in Teaching
This is an introduction to the theoretical and practical issues of classroom assessment. Participants develop competence in selecting and using appropriate and educationally sound assessments. They compare and analyze different forms of authentic and standardized assessment (including the MCAS and MCET exams); gain practice in evaluating and responding to student work; compare and design rubrics and rating scales; consider the premises and effects of

high-stakes testing; and develop assignments and assessment tasks. The focus throughout is on assessment strategies that enhance the learning of all students and that make creative use of the cultural diversity that characterizes urban classrooms.
3 Credits

EDC G 665
Methods in Secondary Science Instruction
This course focuses on the teaching of science at the middle and secondary levels. It explores strategies that support the implementation of current standards in science education, addressing inquiry and experimentation as well as the role of technology in science teaching. The course examines various approaches to teaching selected topics and core concepts in the content areas of earth and space science, life science, physical science, the history and nature of science, and science as it relates to technology and social perspectives. The course introduces participants to resources and legal obligations relevant to the teaching of science and provides experience in designing standards-based lessons and assessments.
3 Credits

EDC G 666
Instruction and Curriculum in Middle and Secondary School: Social Studies—Methods of Teaching
This course provides an introduction to the theory and practice of teaching the knowledge, skills, and dispositions in teaching the social studies, including history, civics and government, geography, and economics at the middle and secondary levels. Students will design units of study, individual lessons, and assessments in social studies, attentive to the increasing socioeconomic, cultural, linguistic, and ability-level diversity in today's classrooms. A field experience component is required; students are responsible for securing placement at the grade level of licensure sought.
3 Lect Hrs, 3 Credits

EDC G 667
Methods in Middle and Secondary School English
This course provides an introduction to the theory and practice of teaching English in the middle school and high school classroom, framing that enterprise in ways that take into account the needs and expectations of diverse learners in a multicultural society. It focuses on students' ongoing inquiry in a school setting, connecting observed teaching practice and the observed experiences of learners with major approaches to the teaching of the components of English studies—language study, reading, writing, and literature—within the English classroom. This course or an equivalent is required for certification.
3 Lect Hrs, 3 Credits

EDC G 668
Content and Methods for Teaching Elementary School Mathematics
This course examines content knowledge and methodologies for teaching mathematics to elementary school students. Primary emphasis is given to the development of the number systems; the decimal system; the use of technology and various manipulatives; the standard algorithms for addition, subtraction, multiplication, and division of integers, fractions, and decimals, and their rationales; and the relationship of elementary mathematics and various curricula to more advanced mathematics. Lesson planning, assessment, mathematics curricula, and making mathematics lessons and concepts accessible to all students are discussed. The course is intended to help the prospective elementary school teacher see elementary school mathematics education as an integral and fundamental part of a student's overall mathematical education.
3 Lect Hrs, 3 Credits

EDC G 669
Content and Methods for Teaching Middle and Secondary School Mathematics
This course examines content knowledge and methodologies for teaching mathematics to middle and secondary school students. The course covers various aspects of problem solving; the use of calculators, Excel, and other technologies; number theory, complex numbers, the solution of polynomial equations with real and complex coefficients, and probability. Lesson planning, assessment, curricula, and making mathematics lessons and concepts accessible to all students are discussed.
3 Lect Hrs, 3 Credits

EDC G 671
Practice in Tutoring: Writing and Reading Across the Curriculum
This course features monitored tutoring of individuals and small groups in the CLA Reading, Writing, and Study Skills Center and participation in a weekly seminar. Seminar topics include critical reading, writing about texts and literature, thinking about assessment, and other issues central to the teaching of reading and writing across the curriculum. Selected readings from scholarly literature and reflective teaching journals are also assigned. The course provides experience primarily applicable to secondary-school teaching, although it may also be helpful to those preparing for elementary-level teaching.
3 credits

EDC G 672
Race, Class, Gender: Education Reform
This course explores issues of race, class, gender, and linguistic and cultural diversity within their broad sociopolitical and philosophical contexts and examines their implications for anti-racist, multicultural educational practice. Focus is on the goals and premises central to public education from a historic perspective; new perspectives in multicultural teaching and learning, as informed by important recent developments in cognitive psychology, anthropology, sociolinguistics, and cultural studies; and the integration of curriculum design, instructional practice, and assessment approaches. Through critical examination of their own classroom situations, students sharpen their own educational philosophy and pedagogical techniques.
3 Credits

EDC G 686
Graduate Practicum: Student Teaching (Elementary Education)

EDC G 687
Graduate Practicum: Student Teaching (Middle School Education)

EDC G 688
Graduate Practicum: Student Teaching (Secondary Education)
Each practicum provides students with the opportunity to put theory and technique into practice at the level of their specialization. Students demonstrate their teaching skills in a school, with supervision by both a certified cooperating teacher and a member of the University faculty. They also attend a seminar led by the latter. The seminar provides an opportunity for student teachers to share their practicum experiences, to try out and critique plans and ideas, to air and solve problems, and to reflect on the process by which they are becoming education professionals. A formal application to do a practicum must be filed with the Advising Office by October 1 for a spring practicum or by March 1 for a fall practicum.
Prerequisite: Satisfactory completion of all other requirements for licensure and permission of the program director.
6 Credits

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EDC G 689
Teacher Research
The purpose of this course is to introduce students to the methodology and methods of teacher research. Teacher research is characterized by a careful documentation and analysis of teaching practice over time. Participants ask critical questions, analyze methods, and develop a teacher-research project. This course lays the groundwork for the professional licensure clinical experience.
3 Credits

EDC G 690
Teacher Research for Professional Licensure
The purpose of this course is to introduce practicing teachers seeking professional licensure to the field of teacher research. Teacher research is characterized by the systematic and intentional documentation and analysis of teaching practice over time. Participants discuss the theory and implementation of teacher research, conduct a literature review in the area of interest, ask critical questions about their practice, design a research project, and develop a publishable teacher-research paper.
3 credits.

EDC G 696
Independent Study
This is a directed study of a particular topic in education. The work is guided and assessed by the instructor. A proposal or outline of study, signed by the instructor, must be submitted for approval to the Graduate Program Director before the beginning of the semester in which the project is to be undertaken. On approving the proposal, the Graduate Program Director will authorize registration.
3 Credits

EDC G 697
Special Topics in Education
This advanced course offers intensive study of selected topics in the field of education. Course content and credits vary according to topic and are announced prior to the advance pre-registration period.
1-6 Credits

EDC G 698
Internship in Education
An intern is an employed teacher, fulfilling the practicum requirement for licensure in his or her own classroom, under the joint supervision of a University-based faculty member and a designated mentor at the school. As a regularly employed teacher, the intern works with children and applies practical and theoretical knowledge. Interns plan lessons, teach classes, and evaluate students. They also review student records and apply their knowledge of curriculum by selecting materials and designing learning activities. They draw on current ideas and research to develop and demonstrate their own classroom teaching. Interns meet regularly with the University supervisor and other practicum students in a seminar to reflect on the practicum experience. Applicants for an internship must take two steps: 1) a special internship application form must be approved by the Department of Education, the school-based supervisor, and the University Licensure Officer; and 2) a program practicum application form must be approved by the Graduate Program Director. This application must be filed with the Advising Office by October 1 for a spring practicum or by March 1 for a fall practicum.
Prerequisite: Permission of the program director, the Massachusetts Department of Education, the school-based supervisor, and the University Licensure Officer.
3 Credits

EDUCATION: ADAPTING CURRICULUM FRAMEWORKS FOR ALL LEARNERS (GRADUATE CERTIFICATE)

Faculty

Mary E Brady, PhD, *Boston College* • Curriculum Development • Professional Development in Special Education

James B Earley, EdD, *University of Massachusetts Amherst* • Education Reform • Administrative Restructuring (Particularly in Special Education) (Part-time)

Terry Fuller, MEd, *Boston State College* • Classroom and Assessment Accommodations for Students with Special Needs • Study and Organization Skills (Part-time)

Christine Lyons, PhD, *Boston College* • Education Research, Measurement, and Evaluation • Curriculum-Based Assessment (Part-time)

Beverly Drinkwater Nelson, CAGS, *University of Massachusetts Amherst* • Education Reform • Standards-Based Instruction for All Learners • Social Studies (Part-time)

Gary N Siperstein, PhD, *Yeshiva University* • Inclusionary Practices • Linking Development Theory to Education

Mary C Zatta, PhD, *Boston College* • Education Reform • Special Education Legislation and Policy • Program Models for Low-Incidence Students with Sensory Impairments (Part-time)

The Program

Adapting Curriculum Frameworks for All Learners is a graduate certificate program designed to provide educators with a working knowledge of the principles and elements of Massachusetts education reform and their practical applications to the instruction of a diverse student population. The program combines current research, policy, and instructional practices, presented by faculty who are actively involved in changing the public school environment in Massachusetts.

This program was developed by UMass Boston's Center for Social Development and Education (CSDE) in collaboration with the Graduate College of Education. A research and training institute, CSDE is dedicated to promoting quality education and social development for students of all ages, particularly those at risk for academic and social failure. Since its inception in 1976, CSDE has developed and implemented a variety of programs that address the changing needs of students, families, schools, and the community.

The Program is designed to engage participants through assignments and activities that connect with their own classroom teaching. Course work is thus enriched through the professional experiences participants bring to the program.

The Curriculum

In this program, Pre K-12 teachers and administrators can increase their understanding of education reform's potential impact on their own school and community, acquire familiarity with the curriculum frameworks, and develop strategies to include students with disabilities in standards-based instruction and assessment. Program participants complete six 2-credit graduate courses.

The first course assists participants in viewing education reform as a complex, continual process, with an impact on every aspect of education. Building on this foundation, the second course increases their ability to design inclusionary practices that address the needs of diverse learners within the context of education reform. The course includes an emphasis on diversity, multiculturalism, and inclusion.

The third and fourth courses focus on increasing participants' ability to apply the curriculum frameworks to standards-based instruction that is inclusive of diverse learners.

The goal of the fifth course is to provide participants with the tools to embed assessment in daily instruction and to analyze student performance in order to improve instruction. The final course focuses on evaluating the implementation of the skills and knowledge developed in preceding course work through action research.

Degree Requirements

The program comprises six 2-credit courses for a total of 12 credits. Each course meets for a total of 24 hours. Graduate credits earned in this certificate program may be counted, with the approval of the relevant graduate program director, toward a UMass Boston master's degree in education.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Students may enroll as individuals through the Division of Continuing Education, or as members of a cohort group within a school system or collaborative through the Center for Social Development and Education. For additional information on either option, please write or call:

Mary E. Brady, Ph.D.
Center for Social Development and Education
UMass Boston
100 Morrissey Boulevard
Boston, MA 02125-2293
617.287.7254
mary.brady@umb.edu

A Note on Courses

CSDEDU 510 and 520 are recommended as prerequisites for the other four courses and may be taken sequentially or concurrently. The entire program may be offered on site to educators using a cohort model, or online.

Courses

CSDEDU 510
Education Reform: Impact on Schools
Participants review the changes in education over the last decade, with an emphasis on their impact on local schools and classroom teachers. Sample topics include the environment that engendered the reform movement; federal and state initiatives; site-based management; and curriculum reform. Topics also include reflection on and analysis of local applications.
2 Lect Hrs, 2 Credits

CSDEDU 520
Special Education: Changing Models of Inclusion
Participants review the changes in special education over the last decade, with an emphasis on local schools and classroom teachers. Sample topics include the movement from exclusion to inclusion; the changing nature of disabilities; the match between accommodation and instruction.
2 Lect Hrs, 2 Credits

CSDEDU 530
Curriculum Frameworks for All Students (Learning Styles, English Language Arts Framework)
Participants deepen their understanding of the curriculum frameworks and the ways instruction can be designed to include all learners. This course focuses on the design of standards-based programs in English language arts for students with disabilities.
2 Lect Hrs, 2 Credits

Education: Adapting Curriculum Frameworks for All Learners

CSDEDU 540
Curriculum Frameworks for All Students (Mathematics, Science and Technology, History, and Social Science)
Participants continue to develop their understanding of the curriculum frameworks and the ways standards-based instruction can be designed to include all learners. This course focuses on programs in mathematics, science and technology, history, and the social sciences for students with disabilities.
2 Lect Hrs, 2 Credits

CSDEDU 550
Assessment Strategies and Practices
Participants examine the connection among assessment, curriculum, and instruction. They focus on embedding assessment in their instruction and on building instruction from assessment results, including those of MCAS.
2 Lect Hrs, 2 Credits

CSDEDU 560
Practice into Theory: High Standards for All Learners
In this culminating course, participants use all they have learned to form a philosophical basis for their work as teachers through action research. Education reform will become a reality as they move beyond the mandated changes into a vision of education that guides their daily teaching as well as their professional growth and development.
2 Lect Hrs, 2 Credits

EDUCATION: APPLIED BEHAVIORAL ANALYSIS FOR SPECIAL POPULATIONS (GRADUATE CERTIFICATE)

Faculty

Frank L Bird, MEd, *Boston College*; BCBA • Applied Behavior Analysis: Research to Practice • Ethical Practices • Functional Behavior Assessment (Part-time)

Mary E Brady (Program Coordinator), PhD, *Boston College* • Administration and Program Design • Curriculum Development for Students with Severe Disabilities

Art Campbell, PhD, *University of Kansas*; BCBA • Applied Behavior Analysis: Research Design • Behavior Consultation • Early Childhood Autism (Part-time)

Daniel Cohen-Almeida, MA, *Northeastern University*; MA, *Framingham State College*; BCBA • Applied Behavior Analysis: Behavioral Consultation • Autism Treatment • Staff Training • Transition from School to Adult Life (Part-time)

James T Ellis, PhD, *West Virginia University*; BCBA • Applied Behavior Analysis: Autism Treatment • Early Intervention • Home-Based Supports (Part-time)

Rita Gardner, MPH, *Boston University*; BCBA • Organizational Behavior Management • Systems Analysis • Applied Behavior Analysis: Traumatic Brain Injury • Autism (Part-time)

Brian Lui-Constant, EdS, *Simmons College*; BCBA • Applied Behavioral Analysis: Behavioral Consultation • Standard Celeration Charting • Methodologies (Part-time)

Helena Maguire, MA, *University of Massachusetts Boston*; BCBA • Staff Training • Performance Management • Applied Behavior Analysis • Student Educational Plans • Curriculum Development (Part-time)

The Program

The Applied Behavior Analysis for Special Populations Graduate Certificate Program is designed to provide students with knowledge, concepts, and skills so that they may serve as effective practitioners who can assess, design, implement, and evaluate applied behavior analysis (ABA) programs for students and adults with special needs. This program follows the established national curriculum that will enable students to meet (1) the professional competencies (identified through a national research process) that individuals will need as Applied Behavior Analysis Practitioners, and (2) course eligibility requirements to sit for the examination at the BCBA or BCABA level.

The program was developed by UMass Boston's Center for Social Development and Education (CSDE) in collaboration with Melmark New England and the Graduate College of Education. A research and training institute, CSDE is dedicated to promoting quality education and social development for students of all ages, particularly those at risk for academic and social failure. Since its inception in 1979, CSDE has developed and implemented programs that address the changing needs of students, families, schools, and the community. Melmark New England is a private, not-for-profit, community-based organization dedicated to serving children and adolescents within the autism spectrum disorders. The program uses an interdisciplinary team approach based upon the principles of applied behavior analysis and positive behavioral supports. In addition to its center-based program, Melmark New England is committed to supporting public school personnel so that they may educate students within their own neighborhood schools.

The Curriculum

This graduate certificate program is delivered in five courses of three credits each. Through these courses participating educators, counselors, and consultants will gain the knowledge, concepts, and skills to plan, implement, and assess applied behavioral analysis programs for qualified children and adults.

The first two courses, Basic Principles I and II, provide the tools, methodology, and ethical considerations that must be addressed for any ABA techniques to be utilized. The third and fourth courses, Extended Applications I and II, expand the use of the methodology to long-range outcomes, generalization, and emergency situations. The fifth course, Special Settings and Services, focuses upon the application of the skills, knowledge, and concepts to special populations, such as those with acquired head injuries and those who are extremely self-destructive. During this final course, participants will also have the opportunity to learn the skills that are helpful when working with others, such as parents, across settings.

Students will receive guided practice with each course's content by developing a Case Study, which may be course-specific or continue across several courses. Successful completion of all courses will meet the education requirement to sit for the national Behavior Analyst Certification Board (BACB) licensing examination.

Degree Requirements

The program comprises five 3-credit courses for a total of 15 credits. Each course is offered for a total of 45 hours. Graduate credits earned in this certificate program may be counted toward a UMass Boston master's degree in education, or either a master's degree or CAGS in counseling, with approval of the relevant graduate program director.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication. Applicants must have earned a bachelor's or master's degree in education, psychology, or a related field that is approved by the program coordinator.

For additional information, please contact:

Mary E. Brady, Ph.D.
Center for Social Development and Education
University of Massachusetts Boston
100 Morrissey Blvd.
Boston, MA 02125-3393
mary.brady@umb.edu OR 617.287.7254

Courses

EDC G 651
Applied Behavior Analysis for Special Populations: Basic Principles I
The intent of this course is to provide students with the basic applied behavior analysis concepts and skills. The curriculum has been approved by the national Behavior Analyst Certification Board (BACB) in the initial content areas of Ethical Considerations, Definitions and Characteristics of Applied Behavior Analysis and Basic Principles of Behavior. Students will complete an extensive case study planned and implemented to demonstrate mastery of the course competencies. This course also meets Behavior Analyst Certification Board, Inc.™ requirements for ethical and professional standards issues relevant to the practice of behavior analysis (10 of 15 hours) and definition and characteristics, and principles, processes, and concepts (35 of 45 hours).
3 Lect Hrs, 3 Credits

EDC G 652
Applied Behavior Analysis for Special Populations: Basic Principles II
This course is an extension of ABA: Basic Principles I in that it seeks to provide students with advanced concepts and skills in applied behavioral analysis. The curriculum has been approved by the national

Education: Applied Behavioral Analysis for Special Populations

Behavioral Analyst Certification Board as addressing competencies in the following areas: Behavior Assessment Characteristics and Rational, Descriptive Analysis Methods, Systematic Interpretations. Students will complete an extensive case study planned and implemented to demonstrate mastery of the course competencies. This course also meets Behavior Analyst Certification Board, Inc.™ (BACB) requirements for principles, processes and concepts (10 of 45 hours) and behavioral assessment and selecting intervention outcome strategies (35 of 35 hours).
3 Lect Hrs, 3 Credits

EDC G 653
Applied Behavior Analysis for Special Populations: Extended Applications I
This is the third course in a series of five graduate courses concentrating on Applied Behavioral Analysis. It follows the established national curriculum to meet (1) the actual professional competencies identified through a national process that individuals will need as Applied Behavioral Analyst Practitioners and (2) eligibility requirements to sit for the examination at the BCBA or BCABA level. Course three will address the content areas of behavior change procedures and systems support (45 of 45 hours). (35 hrs).
3 Lect Hrs, 3 Credits

EDC G 654
Applied Behavior Analysis for Special Populations: Extended Applications II
This is the fourth course in a series of five graduate courses concentrating on Applied Behavioral Analysis. It follows the established national curriculum to meet (1) the actual professional competencies identified through a national process that individuals will need as Applied Behavioral Analyst Practitioners and 2) eligibility requirements to sit for the examination at the BCBA or BCABA level. Course four will address the content areas of experimental evaluation of interventions (20 of 20 hours), research ethics (5 of 15 hours), measurement of behavior and displaying and interpreting behavioral data (20 of 20 hours).
3 Lect Hrs, 3 Credits

EDC G 655
Applied Behavior Analysis for Special Populations: Settings and Supports
This advanced course offers intensive study of selected topics in the field of applied behavior analysis. The curriculum has been approved by the national Behavior Analyst Certification Board as addressing competencies in the application of behavioral analytic principles, methods in applied settings, and other behavioral principles. Researchers, practitioners, and parents will provide insights into current issues regarding the use of behavioral techniques with unique populations, settings, and applications. These issues might include specialized methodology for working with young children or with students who have experienced head injury. Techniques for using behavioral methodology for staff evaluations and training will also be explored. Students will complete an extensive case study planned and implemented to demonstrate mastery of the course competencies. This fifth course meets Behavior Analyst Certification Board, Inc.™ (BACB) requirements in discretionary within the content areas (45 of 45 hours).
3 Lect Hrs, 3 Credits

EDUCATION: INSTRUCTIONAL TECHNOLOGY FOR EDUCATORS (GRADUATE CERTIFICATE)

Faculty

Mary E Brady, PhD, *Boston College*
• Curriculum Development • Professional Development in Special Education

Janna Jackson, EdD, *Boston College*
• Computer Aplications in Education
• Teaching English and Social Studies

The Program

The purpose of this 15-credit graduate certificate is to prepare in-service teachers to meet the National Technology Standards of the International Society for Technology and Performance Indicators for Teachers. Program courses fulfill the subject-matter requirements of the Massachusetts Test for Educator Licensure (MTEL) in Instructional Technology. Teachers who complete the program and are awarded the certificate have the knowledge and tools to demonstrate evidence of being thoughtful and responsive educators with competence in the following areas:

1. Skillful use of technological tools for word processing, databases, spreadsheets, print/graphic utilities, multi- and hypermedia, presentations, video for the purpose of formal and informal assessment, instruction, administration, and professional and instructional use;
2. Skillful use of communications and research tools such as e-mail, World Wide Web, Web browsers, and other online applications that link to the state standards and requirements for professional and instructional use;
3. Ability to use criteria for selection, evaluation, and use of appropriate computer/technology-based materials to support a variety of instructional methods;
4. Understanding of ethical and social issues surrounding privacy, copyright, and crime relating to educational technology and resources;
5. Ability to use resources for adaptive/assistive devices that provide access for all students; and
6. Ability to use methods to support classroom teachers and other school personnel in improving student learning through appropriate use of technology in the classroom, including consultation techniques and professional development.

Degree Requirements

This certificate program includes five required courses for a total of 15 credits:

1. EDC G 610 (Computers, Technology and Education): an introduction to technology tools and integration of technology with the standards and curriculum;
2. EDC G 611 (Internet Application for Educators): teaching and learning with Internet resources;
3. EDC G 612 (Applications and Design of Educational Courseware): advanced application of technologies for teaching and learning;
4. SPE G 684 (Computers in Special Education): introduction to using computers in special education; and
5. EDC G 689 (Teacher Research): methodology and methods of teacher research, including the area of instructional technology.

Admission Requirements

Please see the general statement of admission requirements for all graduate programs in the "Admissions" section of this publication and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

The program will recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. The requirements and procedures for this application are as follows:

- Completion of a Graduate Admissions application package. Applications are available at the back of this publication, online, or at the Graduate Admissions Office.
- Official transcripts from all colleges and universities attended, both undergraduate and graduate.
- A distinguished undergraduate transcript, with a minimum overall GPA of 3.00.
- Three letters of recommendation submitted by persons who are knowledgeable about the candidate's potential success both as a graduate student and as a teacher. At least one such letter should be from a college instructor under whom the applicant has studied. At least one other letter should be from a person who serves, or has served, in a supervisory capacity to the candidate.

Courses

EDC G 610
Computers, Technology, and Education
This is an introduction to using computers and technology in education in responding to the ISTE National Technology Standards for Teachers and Students. The various uses of computers and K-12 educational applications in different content areas are examined. The Teaching for Understanding Framework is used as a guide for students to integrate technology into the curriculum. Students explore pedagogical and ethical issues that are raised by the use of computers and learn how to assess the appropriateness of the use of technology for different groups of students. Finally, the course looks at varied means by which technology facilitate changes in the ways teachers teach and students learn. The course has a required field component.
3 Lect Hrs, 3 Credits

EDC G 611
Internet Application for Educators
This course will explore the use of online resources and tools in education. Special attention will be given to the integration of web resources with curriculum. Topics will include Internet search strategies, utilization of web resources, and development of instructional web sites, electronic portfolio assessments, and online instruction.
3 Lect Hrs, 3 Credits

EDC G 612
Applications and Design of Educational Courseware
This course provides participants with methods and strategies for designing educational courseware and other applications of advanced information technology.
3 Lect Hrs, 3 Credits

SPE G 684
Computers in Special Education
Universal Design for Learning is the model used for evaluating software and assessing school-specific and classroom-specific uses of technology to support the learning of students with special needs. The course focuses on curricular applications of technology that can improve the learning opportunities for all students, especially those with special needs, and enhance their problem-solving capabilities, organizational skills, and social competence. Attention is also given to adaptive computing technologies that help students compensate for visual, auditory, motor, and/or cognitive limitations.
3 Lect Hrs, 3 Credits

EDC G 689
Teacher Research
The purpose of this course is to introduce students to the methodology and methods of teacher research. Teacher research is characterized by a careful documentation and analysis of teaching practice over time. Participants ask critical questions, analyze methods, and develop a teacher-research project.
3 Lect Hrs, 3 Credits

EDUCATION: TEACHING WRITING IN THE SCHOOLS (GRADUATE CERTIFICATE)

The Program

K-12 educators enrolled in the Teaching of Writing in the Schools graduate certificate program will receive a strong grounding in writing and reflective teaching while developing a framework for teaching literacy and writing across the curriculum. Participants will gain a deeper understanding of literacy learning through a combination of working on their writing, reflecting on their teaching practices, and reading current research in composition, literacy, and writing pedagogy. Following the Boston Writing Project "teachers teaching teachers" model, participants will share successful writing activities and develop and implement curriculum. They will formulate research questions about their teaching practices and document the effects of their instruction by collecting and analyzing student work. Practicing K-12 teachers and administrators who seek to enhance their knowledge, skills, and perspective on the teaching and learning of literacy and writing are invited to apply. Teachers of English, writing, and special education and Title 1, ESL, and bilingual teachers who want to incorporate writing into their disciplines will benefit from this certificate program.

Degree Requirements

Students seeking the certificate take a total of 15 credits.

Three core courses (9 credits) are required:

BWPEDU 501	(The Teacher as Writer)
EDC G 621	(Teaching Writing in the K-12 Classroom)
EDC G 689	(Teacher Research)

Students also take 6 elective credits, chosen from among BWPEDU elective courses and approved electives from other graduate programs.

ADMISSION REQUIREMENTS

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Applicants must have at least a bachelor's degree. A master's degree is preferred.

Courses

BWPEDU 501
The Teacher as Writer
The focus of this course is improving writing instruction by having teachers actively involved in all phases of the process: prewriting, drafting, revising, and proofreading. Participants will improve their writing skills and learn effective practices for teaching writing. Through journals and reader response methods, participants will integrate composition theories with classroom applications. In writing response groups, they will give and receive feedback for revision. Responding to the works of professional authors, analyzing educational theories, and reflecting on their own frustrations and accomplishments in writing, teachers will reassess their strategies for teaching writing.
3 Lect Hrs, 3 Credits

BWPEDU 510
Writing in the Content Areas (Middle & High School)
This course is designed to address teachers' growing need to teach writing in specific disciplines. Participants will examine developmental learning theory connecting writing and learning, improve their own writing skills, and learn effective practices for teaching writing. Through journals, writing prompts, and reader response methods, participants will integrate theories with practice. They will examine assessment and evaluation methods for measuring students' progress. Applying their knowledge of the Massachusetts Curriculum frameworks, they will work on interdisciplinary teams to design units of study that reflect the needs of their school contexts and state standards.
3 Lect Hrs, 3 Credits

BWPEDU 530
Teaching & Writing Poetry: K-12
This workshop course allows teachers and pre-teachers to expand their knowledge of poetry and its classroom applications. Based on the National Writing Project model of supporting teachers to explore their own writing process and critical responses, the better to teach their own students, it incorporates ongoing writing response groups to explore new themes, forms, strategies, and models. Teachers will consider how critical theories translate into classroom practice and how developmental theory applies to grade-level expectations. We will become, as well as becoming familiar with a wide range of multicultural poems and poets for ages K-adult.
3 Lect Hrs, 3 Credits

BWPEDU 596
Independent Study
This course involves directed study of a particular topic in the teaching of writing. A proposal or outline of study, signed by the instructor, must be submitted for approval to the certificate program director before the beginning of the semester in which the project is to be undertaken.
1-6 Credits

BWPEDU 597
Special Topics
This advanced course offers intensive study of selected topics in the teaching of writing. Course content and credits vary according to the topic and are announced prior to the advance pre-registration period.
1-6 Credits

EDU G 621
Teaching Writing in the K-12 Classroom
This course deals with the teaching of writing, the teacher as writer, and the interactions between reading and writing. Readings and presentations offer up-to-date information, theory, and practical techniques for teaching reading and writing in all subject areas. Students meet regularly in reader-writer response groups to work on their own writing and to respond to one another's writing about reading. There are a number of guest lecture-demonstrations by elementary and secondary teachers who are teacher/consultants with the Boston Writing Project. The course combines writing process theory with practical methods.
3 Credits

EDU G 689
Teacher Research
The purpose of this course is to introduce students to the methodology and methods of teacher research. Teacher research is characterized by a careful documentation and analysis of teaching practice over time. Participants ask critical questions, analyze methods, and develop a teacher-research project.
3 Credits

ENGLISH (MA)

Faculty

Pamela Annas, PhD, *Indiana University* • Working-Class Literature • Modernism • Contemporary Women Poets • Literature and Pedagogy

Elsa Auerbach, PhD, *Northwestern University* • Literacy and Reading Pedagogy • ESL

Patrick Barron, PhD, *University of Nevada* • Literature and Ecology • Translation • Poetry • Creative Writing

Matthew Brown, PhD, *University of Wisconsin-Madison* • Twentieth-Century British, Irish, and Anglophone Literature • Modernism and Postmodernism • Postcolonial Theory

Kevin Bowen (Joiner Center for the Study of the Vietnam War and Its Social Consequences), PhD, *State University of New York, Buffalo* • War and Poetry • Poetry and Translation

Neal Bruss, PhD, *University of Michigan* • Linguistics • Composition Theory

Robert Crossley, PhD, *University of Virginia* • The Epic Tradition • Utopian and Science Fiction • Literature and Pedagogy

Linda Dittmar, PhD, *Stanford University* • Narrative Theory • Feminist Theory • Film

Elizabeth Fay, PhD, *State University of New York at Stony Brook* • British Romanticism • Critical Theory • Feminist Criticism • Nineteenth-Century Poetry

John Fulton, MFA, *University of Michigan* • Creative Writing • Fiction • Contemporary Fiction

Judith Goleman, PhD, *University of Pittsburgh* • Theory and Practice of Composition • Critical Theory • Composition Pedagogy

Stephanie Kamath, PhD, *University of Pennsylvania* • Medieval and Renaissance Literature • Translation

Elizabeth Klimasmith, PhD, *University of Washington* • Nineteenth- and Early-Twentieth-Century American Literature • Environmental and Urban Literature • Literary Modernism

Eleanor Kutz, PhD, *Indiana University* • Composition Theory • Teaching of Composition • Literacy • Narrative Theory

Barbara Lewis, PhD, *Graduate Center of the City University of New York* • Theater • African-American Literature • Translation

Scott Maisano, PhD, *Indiana University* • Shakespeare • Renaissance Literature

Askold Melnyzcuk, MA, *Boston University* • Creative Writing • Fiction • Contemporary Fiction

Cheryl Nixon, PhD, *Harvard University* • Eighteenth Century • Drama • Literary Theory • Teaching of Literature

Nadia Nurhussein, PhD, *University of California, Berkeley* • Modern and Contemporary Poetry • African-American Literature • Literary Modernism • Creative Writing • Poetry

Shaun O'Connell, PhD, *University of Massachusetts Amherst* • Modern American Fiction • Irish Literature

Thomas O'Grady, PhD, *Notre Dame University* • Irish Literature

Louise Penner, PhD, *Rice University* • Victorian Literature • Women's Literature • Literature and Medicine

Joyce Peseroff, MFA, *University of California, Irvine* • Creative Writing • Modern and Contemporary Poetry

Lois Rudnick, PhD, *Brown University* • American Civilization • Immigrant Literature • Twain • Teaching of Literature

Lloyd Schwartz, PhD, *Harvard University* • Poetry • Creative Writing

Eve Sorum, PhD, University of Michigan • Twentieth-Century British Literature • Modernism • Cartography and Literature • Modern Literature and War

Rajini Srikanth, PhD, *State University of New York at Buffalo* • Teaching of Literature • Multi-Ethnic Literature • American Literature • Postcolonial Literature

Taylor Stoehr, PhD, *University of California*, *Berkeley* • Biography • American Literature

John Tobin, PhD, *University of Toronto* • Renaissance Literature • Shakespeare

Susan Tomlinson, PhD, *Brown University* • Colonial American Literature • African American Literature • Modern Fiction

Len von Morze, PhD, *University of California, Berkeley* • Eighteenth- and Nineteenth-Century American Literature • Critical Theory • Irish Literature

Vivian Zamel, PhD, *Columbia University* • Composition Pedagogy • ESL

The Program

Since its beginning in 1972, the program leading to the Master of Arts degree in English has continued to grow in enrollment, diversity, and reputation. Graduate students from many states and several foreign countries have enrolled in the program. Some students in the program are preparing to teach, while others already are teachers in middle schools, secondary schools, and two-year colleges; some are writers; some are preparing for doctoral study; some are older people with careers and families who love writing and the study of literature. Matriculated students enroll for the degree; non-degree-seeking students may be admitted to specific courses on a space-available basis. The degree can be completed in four semesters of full-time study, but a number of current students attend part-time. Twenty different graduate seminars and four advanced creative writing workshops are offered each academic year (fall and spring semesters); an average of four seminars is offered in the summer session. The seminars are supplemented by occasional cross-listed courses in Applied Linguistics. The University is also a member of the Graduate Consortium in Women's Studies, which offers interdisciplinary, team-taught seminars in the Boston area. All seminars are limited to 15 students. Most are scheduled for late-day hours, once or twice a week, to accommodate students' work commitments. The atmosphere is informal and non-competitive. Matriculating students are assigned faculty advisors who meet with them regularly to help guide their programs of study.

Students may choose among three concentrations: literature, composition, and creative writing. The concentrations are designed to overlap, so that students may take some courses in each. ENGL 608: Introduction to Critical and Research Methods is highly recommended for students in the literature or composition concentrations as an introductory core course. ENGL 609: Graduate Colloquium allows students to engage with presentations by a diverse array of faculty on research and creative work. Each semester's course offerings include at least five seminars with an emphasis on literature, one or two with an emphasis on composition, three in creative writing, one or two in pedagogy, and one crossover course focusing on the study of language and/or critical theory. Special topics seminars (ENGL 697) provide flexibility in the curriculum. Recent and planned special topics seminars have included: War, Politics,

English

and Poetry; the Teaching of African-American Literature; Discourse Analysis; Eco-Criticism; Post-Colonial Literature; Writer's Memoirs.

Degree Requirements

Requirements for the MA degree in English include the satisfactory completion of 30 credits of approved course work, including completion of a final capstone essay or exam, each of which involves at least a semester's work under faculty direction (3 cr.) or, with permission, a master's thesis (6 cr.).

The 30 credits may be earned in graduate English seminars, in writing workshops, in the Graduate English Colloquium (ENGL 609), in the Final Projects courses (ENGL 691 for composition; ENGL 692 for creative writing; ENGL 693 for literature), by completing a Master's Thesis in any of the three concentrations (ENGL 699), in Independent Study (ENGL 696), in the Seminar for Tutors (ENGL 459), or in the Intern Seminar (ENGL 698).

Requirements for Concentrations

Composition: At least four seminars related to composition; completion of a final project in composition.

Literature: At least five courses emphasizing literature, including at least one literature course in which the majority of the texts studied were written before 1850; completion of a final project in literature.

Creative writing: At least four courses emphasizing creative writing and at least three additional courses emphasizing only literature; completion of a final project in creative writing. (The literature course requirement may be modified—with the permission of the Director of Creative Writing and the Director of the Graduate Program—for students with strong backgrounds in literature who have an interest in preparing themselves to teach composition as well as creative writing.)

By petition, up to 6 graduate credits taken at another university and up to 6 taken at UMass Boston as a non-degree student may be transferred into the program. For further details and restrictions, see the "General Academic Regulations: Transfer Credit" section of this publication.

As a required capstone project, students typically complete the 3-credit final essay or exam; with permission from the Graduate Committee, a student may complete the 6-credit Master's Thesis.

The 3-credit final exercise is intended to provide culminating evidence of the graduate student's mastery of subject matter and methodology, either in an article-length paper or in a comprehensive written examination of at least three hours. Concentrators in composition undertake an appropriate research and writing project or prepare for an exam through ENGL 691. Concentrators in creative writing prepare a creative project through ENGL 692. Concentrators in literature may undertake a final paper or examination through ENGL 693. In all cases, students must propose their project in detail and have it approved by their faculty project supervisor and by the Graduate Program Director the semester before the project is due.

The literature or composition concentrator may choose either the final paper or the examination option. Under the first option, the student submits a paper (critical, interpretive, or pedagogical) of approximately 30 pages, with the written approval of a faculty supervisor. The paper may or may not be based on a course paper, should deal with a substantial body of material (primary and secondary), and should include an annotated bibliography of works used.

Under the second option, the student works with his or her project supervisor to compile a reading list, which must then be approved by an exam committee. The three-hour exam, which covers both primary and secondary material on the topic, is prepared by that committee.

The Master's Thesis in the English MA Program (6 credits) may, with permission from the Graduate Committee, be undertaken in any of the three concentrations and consists (for literature or composition concentrators) of a substantial analytical paper of approximately 60 pages, (for creative writing concentrators) of a manuscript of between 60 and 110 pages, accompanied by a related analytical paper of 15 to 20 pages. In all cases, a thesis proposal is required and must be approved by the student's thesis director, the Graduate Program Director, and, as appropriate, the Director of Creative Writing. The Master's Thesis requires a defense in front of the student's thesis committee and is open to the public. Students choosing to undertake the Master's Thesis should have their project well under way the semester before their project is due.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

The English Graduate Committee will recommend full admission for those applicants who present evidence of their ability and appropriate preparation to do graduate work with distinction. Such evidence must include:

1. A distinguished undergraduate record in advanced undergraduate English courses. An undergraduate major in English is preferred.
2. Three substantive and detailed recommendations, at least two from former teachers familiar with the applicant's most recent academic work.
3. An essay of at least 1,200 words by the applicant concerning his or her intellectual, professional, and personal reasons for desiring to pursue the advanced study of English. The essay should give a specific account of the applicant's past studies and projects and an explanation of the applicant's major fields or subjects of interest in the field. This essay is of major importance and is evaluated as a demonstration of ability in writing and thinking about literary issues. It constitutes the second part of the statement of interests and intent described in the "Graduate Admissions Application Instructions" at the back of this publication (see the section on additional instructions for all applicants).
4. A critical essay written in the last four years, at least five to seven pages in length, demonstrating the applicant's ability to read and write critically about literary texts. Students interested in the creative writing concentration should include approximately 6 poems or 2 short stories along with their critical essay, but the creative writing sample may not substitute for the critical essay, which is required.
5. Graduate Record Examination (GRE) scores (Verbal, Quantitative, and Literature in English) are not required but are recommended, especially in cases where the undergraduate record is unusual or uneven, or the undergraduate major is not English.

Otherwise excellent candidates who appear not quite prepared to meet one or more of the above requirements may be admitted provisionally on completion of additional English courses at the advanced undergraduate level, or may be asked to enroll as non-degree students in one or two graduate courses before being reviewed for full admission. Such students should be aware that, if they are later admitted to the degree program, only 6 credits taken as a

English

non-degree student at UMass Boston may count toward the degree.

The department welcomes applications from in-service secondary English teachers.

Some graduate teaching assistantships are available each year. Applications for assistantships are due the third week of April for the following academic year.

Course Information

Graduate courses in English are open to regularly matriculated (degree-seeking) MA candidates in English, and to others (graduate students in other programs, non-degree-seeking students, and qualified seniors) with approval of the Graduate Program Director in English after review of the applicant's academic transcripts and a critical writing sample.

Individual detailed course descriptions are available shortly before pre-registration each semester. For the Graduate Student Handbook / English M.A. Program and course description booklets, write to: English M.A. Program, Department of English, University of Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125-3393; or check the English Department website.

Courses

ENGL 459
Seminar for Tutors
This is an undergraduate-level course that may, with permission, be counted toward the composition concentration. Enrollment is required of English Department tutors. The course involves discussion of alternative approaches to the grammatical, rhetorical, and stylistic problems occurring most frequently in student writing. It addresses various ways of helping students to generate ideas, revise, and gain control over their organizational and linguistic difficulties.
Prerequisite: Permission of the program director. Interested students should contact the English MA office to arrange an interview and obtain permission to enroll.
3 Credits
Ms Auerbach, Ms Zamel

ENGL 600
Studies in Criticism
This course focuses on study of the nature and function of literature, the terms and methods of analysis and evaluation of literature, and the various approaches possible in the criticism of literature.
3 Credits
Mr Barron, Mr Brown, Mr Bruss, Ms Nixon, Mr Schwartz, Mr von Morze

ENGL 601
Studies in Poetry
This course approaches poetry from a number of angles, including the writing of poetry. Experienced poets are encouraged to enroll, but students need not have written poetry before: the point of the course is to learn more about how poetry "works" by experimenting with the techniques used by poets we read and discuss in class. To this end, a large portion of the course focuses on matters of form; there are also units on diction, image/metaphor/symbol, narrative poetry, "political" poetry, and other topics. Historical discussion of some of these subjects occurs from time to time. While all students are required to write some poetry for the course, no one is penalized for an inherent lack of poetic talent. Some assignments offer a choice between a creative and a critical response to a topic, and the final project for the course may be either a long critical paper or a substantial collection of poems written and revised during the semester.
3 Credits
Ms Annas, Mr Barron, Ms Nurhussein, Mr O'Grady, Ms Peseroff, Mr Schwartz

ENGL 602
Studies in Fiction
This course focuses on studies in the nature of prose fiction and its major kinds; topics in the history and sociology of narrative fiction, such as the working class novel, the short story, the prose romance, the historical novel; and studies of representative British and American types in international contexts.
3 Credits
Ms Annas, Mr Brown, Mr Crossley, Ms Dittmar, Ms Klimasmith, Ms Nixon, Ms Srikanth

ENGL 603
Studies in Drama
This course is designed for those who want a broad view of the sweep of Western drama, offering a study of the art of drama as it has evolved from classical Greece. Representative plays are drawn from various periods (medieval, Renaissance, Augustan, romantic, and modern) and from the major modes (tragedy, comedy, farce, realism, expressionism, and the absurdist and social theater). Selected critical works are also considered.
3 Credits
Ms Fay, Ms Lewis, Mr Maisano, Ms Nixon

ENGL 604
Studies in Satire
This course provides an exploration of individual works of satire and critical theories about the mode: pre-modern and modern selections from Swift, Pope, Shaw, Waugh, F O'Connor, N West, Eliot, and others.
3 Credits

ENGL 606
Books, Manuscripts, Libraries
From theory to hands-on work on: 1) the history of the book as artifact and agent of cultural change, and 2) the scholarly work of preserving, editing, circulating, and exhibiting manuscripts and printed materials. The course will include on-site work in the Rare Books Room of the Boston Public Library and in the Massachusetts State Archives.
3 Lect Hrs, 3 Credits

ENGL 608
Introduction to Critical and Research Methods
This course introduces the beginning graduate student to research strategies, provides an introduction to bibliographic, textual, and a range of critical methods, contrasting, for instance, the historical method with new historicism. The aim is to explore the kinds of interpretations each critical method enables and limits. This course also explores literature, literary scholarship, and teaching as material practices and explores the consequences of different ways of conceiving of those practices. (Course offered in the fall only.)
Prerequisite: Matriculation in the MA program.
3 Credits
Ms Fay, Ms Klimasmith

ENGL 609
Graduate English Colloquium
This course meets in public afternoon colloquia at regular intervals (every two weeks) throughout the fall semester and in tutorials scheduled in alternative weeks or after the public sessions. The public sessions are led by members of the graduate faculty, while the tutorials are conducted by the graduate program director. The colloquia concern issues of interest to scholars, teachers, and writers in English, including representative texts, literary genres and practices, pedagogy, and creative writing. The course increases students' familiarity with a variety of forms and periods, introduces problems of literary history and cultural context, and demonstrates various approaches to advanced work in literature, composition,

English

and creative writing. Texts are selected by the colloquium faculty.
(Course offered in the fall only.)
Prerequisite: Matriculation in the MA program.
1 Credit
Ms Annas

ENGL 610
The Teaching of Composition
This course defines the role of composition in the English curriculum in both college and secondary schools; develops a philosophy of language as a foundation for a method of composing; and studies psychological and linguistic aspects of the composing process. The course is offered once each year.
3 Credits
Mr Bruss, Ms Goleman, Ms Kutz

ENGL 611
The Teaching of Literature
This course develops a theory and practice for the teaching of literature, applicable to both secondary and post-secondary education. The class reads, discusses, and analyzes sample presentations on literary texts in a variety of genres. The course serves teachers, prospective teachers, and non-teachers who seek an introduction to literature from a pedagogical point of view.
3 Credits
Ms Annas, Mr Crossley, Ms Nixon, Ms Rudnick, Ms Srikanth, Mr Stoehr

ENGL 612
The Teaching of Shakespeare
This course combines intensive study of a few selected plays and poems with approaches to the teaching of Shakespeare, approaches which emphasize the speaking, hearing, and acting of the texts as well as such practical pedagogical issues as teaching challenging material, the value of performance, and which edition to use. The aim of the course is to transform students of Shakespeare into teachers of Shakespeare and to transform current teachers of Shakespeare back into students. Portions of the course are devoted to workshops affording opportunities to practice these approaches and to see them practiced.
3 Credits
Mr Maisano

ENGL 613
Teaching English with Technology
The English Department offers a series of teaching-focused courses at the master's level that serve both English MA candidates (some of them serving as TAs and teaching interns in composition, literature, and creative writing as well as 6-12 teachers) and students in the Graduate College of Education. This course addresses an important area of pedagogical expertise, one that reflects specific disciplinary priorities and concerns but that is not addressed in the existing courses.
3 Lect Hrs, 3 Credits

ENGL 614
Teaching Creative Writing
The teaching of creative writing involves both the teaching of craft and the nurturing of students' imagination. This course addresses ways of doing both, as well as theoretical frameworks for creating new models. What are the principal elements of poetry and fiction? How does a writing exercise elicit a response that adds to students' understanding of what they're doing? What's a good sequence of exercises, and what should students read to enhance their understanding of technique? How should students share their work—in a workshop, in small groups, on an on-line bulletin board, and other formats? How should creative writing be evaluated? Each week, we will examine a different pedagogical question. The course also addresses workshop and classroom management. Students will leave the course with the practical and theoretical tools necessary to construct a curriculum for their own classroom use, and an understanding of issues involved in exploring creativity.
3 Lect Hrs, 3 Credits

ENGL 618
Life Writing
This course takes as its province a wide range of personal narrative forms, ranging from biography, autobiography, and the memoir to personal essay, letters, case studies, and the obituary. Works may range across centuries, languages, and cultures, or be narrowly grouped. Both critical analysis and practical experiments in life writing may be required.
3 Credits
Ms Annas, Ms Kutz, Mr Stoehr

ENGL 621
Introduction to Linguistics
This course raises the question of the relationship between language and thought; it surveys the application of linguistics to the study of literature, the analysis and teaching of syntax and grammar, and the fields of psychology, sociology, and biology.
3 Credits
Mr Bruss, Ms Kutz

ENGL 623
The Nature of Narrative
This course explores a variety of ways in which modern and contemporary fiction challenge traditional narrative forms. While comparative study of experimentation is the course's main concern, it also examines theories of narration (narratology) as these illuminate the art, reception, and ideologies of twentieth-century fiction.
3 Credits
Ms Dittmar, Mr Fulton, Ms Kutz

ENGL 624
The Language of Film
This theory-based study in the "languages" of film, American and international, concerns the ways films signify. Emphasizing the crafting of films more than any thematic content, it explores mise-en-scene, framing, lighting, camera work, sound, editing, genre, and acting, as these mediate film narratives and, so, comprise their discourses. The course also explores structures of film narration as they relate to literary narration; it includes contextual consideration of history and ideology as these interact with film production and reception. Assigned texts will include readings in literary and film theory, films and film excerpts, and literature.
3 Credits
Ms. Dittmar

ENGL 628
Comparative Studies of Two Writers
This course provides a comparative study of two major American, British, or postcolonial writers. The pairing of two writers enables a comparison of works that present affinities and oppositions in social context or theme so as to pose theoretically interesting questions for discussion, critical analysis, and further research.
3 Credits
Ms Fay, Ms Klimasmith, Mr Maisano, Ms Penner, Ms Sorum

ENGL 630
Chaucer
This course focuses on Chaucer's major works in Middle English. Special attention is given to such considerations as Chaucer's poetic development, his relations to his sources, medieval literary theory, and the social, political, and religious backgrounds of his writings.
3 Credits
Ms Kamath

ENGL 631
Medieval to Renaissance Literature
This is a course in the transition from medieval to Renaissance literature, focusing

English

on study of the transition in prose from homiletic writings and the romances through Elyot, Ascham, and Lyly; in lyric and narrative verse from Chaucer and the Scottish Chaucerians through Sidney; and in drama from the morality and mystery plays through Hamlet.
3 Credits
Ms Kamath, Mr Maisano

ENGL 633
Shakespeare
This course considers Shakespeare's dramatic art as an art of coaching an audience (and readers) in how to respond to and understand his make-believes. Multiple plotting, recurring situation, contrasts and parallels in character and character relations (especially the use of theatricalizing characters who stage plays within the play), patterns of figurative language, repetition of visual effects—these and other such "structures" will be considered as means whereby Shakespeare coaxes and coaches the perception of his audience, shapes the participation of mind and feeling, and, especially, prepares audiences for comic or tragic outcomes. The plays are studied in the light of ongoing critical and/or theoretical debates.
3 Credits
Mr Maisano, Mr Tobin

ENGL 634
Elizabethan and Jacobean Literature
This seminar focuses attention on a select number of English Renaissance works, representing various literary genres, ranging from the age of Elizabeth through the Jacobean era into the Caroline period. Writers such as Shakespeare, Spenser, Sidney, Elizabeth I (and other woman writers), Marlowe, Jonson, Drayton, Daniel, Donne, Marvell, Webster, Marston, Middleton, Ford, Chapman, and Milton are studied in the light of 1) modern critical and scholarly approaches to Renaissance themes and styles, 2) literary manifestations of Neoplatonism, Neostoicism, and political theory, and 3) parallels with developments in the graphic arts (emblem literature, visualized mythology, and the movement toward mannerist and baroque forms). Although the seminar concentrates on a select number of texts, it also provides an overview of the English literary Renaissance and its connections with the continental Renaissance. In short, the seminar serves as both a general grounding in and a specialized study of a major literary period.
3 Credits
Mr Maisano, Mr Tobin

ENGL 635
Metaphysical Poetry
This course provides a survey of the major English poets called "metaphysical" in their historical context: Donne, Herbert, Vaughan, Crashaw, Marvell.
3 Credits
Mr Maisano, Mr Tobin

ENGL 637
Milton
This course studies Milton's poetry and major prose, with particular attention to *Paradise Lost*, focusing on Milton's style, his relation to traditional literary forms, and his thematic concerns. Milton criticism is also examined.
3 Credits
Mr Tobin

ENGL 639
Eighteenth Century Studies
This course studies the Enlightenment in Britain, with emphasis on the major Augustan satirists (Dryden, Swift, and Pope), on prose writers such as Defoe and Fielding, and on critics such as Addison and Johnson.
3 Credits
Ms Nixon

ENGL 640
The Rise of the Novel
This course investigates the invention of a new literary form: the novel. Readings will range from the late seventeenth century to early nineteenth century, including authors such as Behn, Defoe, Fielding, Richardson, Sterne, Inchbald, and Austen, as well as sub-genres such as the sentimental novel and the gothic tale. The course will trace developments in the novel's formal structure (such as the narrator), question the goals of the novel (such as "realism"), and connect the novel to cultural practices (such as crime and courtship).
3 Credits
Ms Fay, Ms Nixon

ENGL 641
Studies in Romanticism
This course examines the different literary movements that make up the Romantic Period (generally 1780-1832). It offers a comparative study of canonical Romantic Period writers and those writers who raised other kinds of questions. In so doing, it explores what it was like to live and write in the culture of this period and asks: What are the stresses on literary production, and what are the terms of aesthetic, subjective, and imagistic difference between male and female writers?
3 Credits
Ms Fay

ENGL 642
Victorian Literature
This course studies the careers and works of major authors such as Carlyle, Tennyson, Dickens, George Eliot, Ruskin, and Wilde, with brief excursions into the works of others. Major themes include the relation of art and society and the problems of faith and doubt, science, and imagination.
3 Credits
Ms Fay, Ms Penner

ENGL 644
Studies in the Modern British Novel
This course concerns the development of modern fiction in the first half of the twentieth century. It focuses on literary developments that shaped the novels of the period in relation to their social, political, cultural, and intellectual contexts, both in Britain and abroad. Among the influences affecting this body of fiction are the two World Wars, social changes consequent to industrialization, Britain's weakening hold over its empire, and the emergence of international modernisms as new modes of expression and inquiry for literature and other arts.
3 Credits
Mr Brown, Ms Dittmar, Ms Sorum

ENGL 645
Modern Poetry
This course provides study of major figures such as Yeats, Eliot, Pound, Williams, Stevens, H.D., Frost, Brooks, Plath, Bishop, Langston Hughes, Ted Hughes, Ginsberg, and currents such as Imagism, surrealism, projectivism, confessionalism, and Beat in modern British and American poetry.
3 Credits
Ms Annas, Ms Nurhussein, Ms Peseroff, Ms Sorum

ENGL 646
Literature and Society
This course focuses on study of literature with special reference to its social and historical circumstances and study of the theoretical questions raised by such a perspective.
3 Credits
Ms Fay, Ms Annas, Ms Dittmar, Ms Klimasmith, Ms Penner

ENGL 647
Irish Literary Revivals
This course studies Irish literature from 1890 to the present. The writings of the "Irish Renaissance" in part inspired the Rising of 1916, then responded to its effects. Recent Irish writings bear similar relations to the renewed "Troubles" in Northern Ireland. The course examines the relationships between literature and politics in the times of Yeats and Heaney. Other writers discussed include

English

A Gregory, JM Synge, S O'Casey, J Joyce, F O'Connor, S O'Faolain, P Kavanagh, R Murphy, T Kinsella, J Montague, S Deane, D Mahon, B Friel, B Moore, J McGahern, B Kiely, and E O'Brien.
3 Credits
Mr Brown, Mr O'Connell, Mr O'Grady

ENGL 648
Modernism in Literature
"On or about December, 1910," Virginia Woolf wrote, "human nature changed." This course examines the trans-Atlantic modernism(s) that arose in the early twentieth century in response to the epochal shifts that Woolf described. Focus is on readings in poetry, prose, and theory by American and British modernists such as Woolf, Stein, Joyce, Eliot, Faulkner, Toomer, Lawrence, Williams, H.D., and Hurston in the context of historical, political, social, and scientific changes, as well as in the context of the cultural changes—in art, music, film, architecture—that surrounded and influenced their aesthetic projects.
3 Credits
Ms Annas, Ms Klimasmith, Ms Nurhussein, Ms Sorum

ENGL 649
Modern Irish Novel
"What the symbols of the new Irish writers are we cannot tell," Sean O'Faolain observed in 1936: "Perhaps they are not so much symbols as typical characters, significant situations." Using as an essential point of departure (and an occasional point of return) James Joyce's image of the sensitive individual in conflict with the values of repressive Irish society, this course will trace the thematic and the technical developments in the Irish novel during the twentieth century. Focusing on a variety of representative authors and texts, the course will consider the novels with reference to their political, social, cultural, and literary contexts.
3 Credits
Mr Brown, Mr O'Grady

ENGL 650
Colonial American Literature
This seminar closely examines texts composed by colonial American women and men who—through their writings—tried to understand their contemporaries and themselves during two periods of cultural change: the Puritan 17th century and the revolutionary 18th century. Included are works by such authors as Anne Bradstreet, Mary Rowlandson, Sarah Kemble Knight, Phillis Wheatley, Benjamin Franklin, Thomas Jefferson, and Hector St. John de Crevecoeur.
3 Credits
Ms Tomlinson, Mr van Morze

ENGL 651
Nineteenth Century American Literature
The nineteenth century brought unprecedented growth and change to the United States. Industry, immigration, urbanization, the Civil War, social justice movements, the end of slavery, and reconstruction marked the country's move from nascent republic to international power. American writers grappled with these changes as they contributed to the development of a national literature: a literature that would, in Walt Whitman's words, "be both transcendent and new." This course will consider both canonized and less familiar texts of the period through a variety of approaches, topics, and themes.
3 Credits
Ms Klimasmith, Mr O'Connell

ENGL 652
American Romanticism
This course focuses on the major authors of the "American Renaissance" (roughly 1840-1860), with some attention to their antecedents (earlier writers such as Irving and Cooper). Familiarity with famous works such as *The Scarlet Letter* and *Walden* will be assumed at the outset, and such texts will be considered from the perspectives provided by other, less-well-known works by the same authors. An attempt will be made to examine the interconnections between these writers, many of whom knew each other personally, and all of whom published within a very brief period.
3 Credits
Mr Stoehr

ENGL 653
Major American Novelists
This course provides in-depth study of two or three American novelists, considered comparatively. Possible authors to be studied include Hawthorne, Melville, Twain, James, Wharton, Chopin, Cather, Dreiser, Faulkner, Hemingway, Ellison, Morrison.
3 Credits
Ms Klimasmith, Mr O'Connell, Mr Stoehr, Ms Tomlinson

ENGL 654
Modern American Fiction
This is a course in the study of significant works of American fiction written in the last century, mostly before WW II. The course discusses major American modernists, such as James, Wharton, Fitzgerald, Hemingway, Toomer, Faulkner, Hurston, as well as the critical and cultural contexts in which these works appeared. The focus is on the establishment of American fiction as a major literary form during an era of social flux, economic dislocation, and foreign wars.
3 Credits
Ms Klimasmith, Mr O'Connell

ENGL 656
Contemporary American Fiction
This course offers study of the scope (times and types) and strains (types and tensions) in the post-World-War-II, postmodern American novel, with special attention to the persistence of realism, the insistent presence of surrealism, and the occasional combination of the two.
3 Credits
Mr Fulton, Mr Melnyczuk, Mr O'Connell

ENGL 657
The Black Presence
This course studies selected literary texts of the last two hundred years by major and minor authors who wrote with a special consciousness of the significance of black people in American society.
3 Credits
Ms Nurhussein, Mr Stoehr

ENGL 658
Regional Literature
This course focuses on regional consciousness in representative works of modern American writers of the South, New England, the West, urban hubs such as New York City, or such cultural hubs as Harlem. Special attention is given to the roles that the sense of history and the sense of place play in the work of writers for whom such settings have proven a source of imaginative creation.
3 Credits
Ms Klimasmith, Mr O'Connell, Ms Tomlinson

ENGL 660
Multi-Ethnic Literature in the United States: Text and Context
This course explores a variety of ethnic literatures written by US writers in the 20th century, within their sociocultural contexts. Students study texts from a variety of disciplinary perspectives: historical, literary, sociological, and cultural. Some of the writers likely to be included are Abraham Cahan and Anzia Yezierska, Richard Wright and Zora Neale Hurston, M Scott Momaday and Leslie Marmon Silko, Maxine Hong Kingston and Frank Chin, Richard Rodriguez and Sandra Cisneros.
3 Credits
Ms Rudnick, Ms Srikanth

English

ENGL 662
Modern Black Writers
The history of black North American literature has sometimes converged with mainstream American literature, but more often it has involved a separate and distinct tradition. This course considers the origins of this tradition in the slave narratives; its development in the early 20th century; its growth through the Harlem Renaissance; and its flowering in major contemporary writers. The course is also directed towards an understanding of the historical "problems" of African-American writers, including the black writer's relation to white audiences; the aesthetic versus the protest tradition; and the sense of "double consciousness" in black writers.
3 Credits
Ms Nurhussein, Ms Tomlinson

ENGL 663
The End of the World
This course provides a study of "terminal visions" in myth, fiction, and poetry, with ancillary readings in historical, scientific, and cultural perspectives on end-times. The main focus is literary, but the seminar may also engage apocalyptic themes in visual arts, religious thought, political history, and popular culture. Writers to be discussed include Mary Shelley, HG Wells, Olaf Stapledon, Mordecai Roshwald, Hilda Schiff, Russell Hoban, Tom Robbins, George Stewart, and Otto Friedrich. In addition to some shorter pieces of fiction, some poems from the English Renaissance and essays on apocalyptic issues will also be discussed, as well as representative films and operas.
3 Credits
Mr Crossley

ENGL 668
Perspectives on Composition: History, Theory, Pedagogy
This course is designed as an introduction to the field of composition studies for students in the composition and literature tracks. The course investigates the rise of English as a discipline in the late nineteenth century and the social and political conditions that led to the split between the teaching of reading and writing (that is, between literature and composition). It focuses on why writing became concentrated in the freshman year and how the entry of women into the new American university along with large numbers of middle-class men affected the way oral and written rhetoric instruction was reconceived as freshman English. Understanding this history and these politics will facilitate development of an informed critique of composition as it was first conceived and will pose the question: What are the alternatives? With this question, the course turns to composition theory and pedagogy for an introductory study of significant responses to composition's original gatekeeping mission. The course is designed to stimulate engaged reading and interactive classes so that students will not just "learn" the history, theory, and pedagogy of composition but learn to think historically, theoretically, and pedagogically.
3 Credits
Ms Goleman

ENGL 669L (APLING 669L)
Writing Theories in Second Language Acquisition
This course considers research and theory in writing and addresses the particular challenges of writing in a second language. Participants examine and evaluate pedagogical approaches in light of research and theory. Emphasis is given to formulating and exploring implications of research and theory for second language and bilingual classrooms. *Prerequisite: Permission of instructor.*
3 Credits
Ms Zamel

ENGL 670
Philosophy and the Composing Process
Current rhetorical theory emphasizing the process of composing has developed several models (e.g., pre-writing, writing, re-writing) which are nevertheless linear. But writers and teachers of writing need ways of apprehending the all-at-onceness of composition. This seminar offers opportunities to develop philosophical perspectives on perception and forming; language and the making of meaning; interpretation in reading and teaching. The course explores the pedagogical and practical implications of a broad range of theories of language and knowing by means of experimental writing and by the study of essays, letters, talks, and other materials by scientists, artists, and philosophers. This course is recommended for students choosing to concentrate in composition for the English MA, at or near the start of their programs.
3 Credits
Mr Bruss

ENGL 671
The History of Children's Literature
This course provides an overview of the field of children's literature and its development. The subject matter is approached with both critical and scholarly attitudes, and works are examined in historical and cultural contexts. Topics and texts include myth, folk, and fairy tale; range includes children's books from the Middle Ages and Renaissance, through materials of colonial America, the nineteenth-century moralists and fantasists, to modern classics; consideration of critical theories and questions of pedagogy is included.
3 Credits

ENGL 672L (APLING 672L)
Theory and Practice of Adult ESL
This course examines new approaches to curriculum development for teaching ESL to adults, focusing on both theory and practice. Starting with an overview of theory in the areas of adult learning, literacy, and acquisition of a second language, the course goes on to link these theories with curriculum models. Students do research in adult ESL classrooms, using ethnographic techniques to analyze classroom interactions as a basis for their own development of curriculum.
3 Credits
Ms Auerbach

ENGL 673L (APLING 673L)
The Teaching of Reading in the Bilingual/ESL Classroom
This course focuses on analysis of current teaching theories about ESL and bilingual reading practices, as well as an examination of specific reading methodologies, materials, and teaching strategies.
3 Credits
Ms Auerbach

ENGL 675
Reading and Writing Poetry
This is a graduate poetry workshop for both experienced writers and students with little poetry-writing experience. For more experienced writers, the concentration is on developing skills, with a chance to extend range by studying great poems in form and in free verse. For students newer to writing poetry, or students who simply wish to learn more about poetry, this is a chance to develop skills from the inside, through studying poems by accomplished poets in various forms, including free verse, and through the actual practice of writing in these forms. The main work of the semester is writing poems, but there are assignments requiring a critical response to other poets.
3 Credits
Ms Peseroff, Mr Schwartz

ENGL 676
Reading and Writing Fiction
This is a graduate fiction workshop for both experienced writers and students with little fiction-writing experience. For more experienced writers, the concentration is on

English

developing skills, with a chance to extend range by studying writers like Mary Gaitskill, Denis Johnson, Geoff Dyer, Lorrie Moore, Steven Millhauser, and Chuck Palahniuk. Fiction-writing assignments are connected to reading assignments.
3 Credits
Mr Fulton, Mr Melnyczuk

ENGL 677
Reading, Writing, and Translating Poetry
This course should be of particular interest both to creative writers and to students with foreign language skills. Students read poetry written in English, poetry translated into English, and selected prose on the nature, practice, and theory of translation. Reading and writing exercises include comparative studies of different translations of the same poem, translations of poems into English, sometimes with accompanying critical commentary; and original poems, some of them "imitations" of poems in other languages.
3 Credits
Mr Barron, Mr Bowen

ENGL 681
Advanced Workshop in Poetry
This is an advanced poetry workshop in which students practice and improve the poetic skills they have already begun to develop by focusing on a pre-approved project for the semester. Class discussion focuses on student work, and individual conferences with the instructor are required. This course may be repeated twice for credit.
Prerequisite: Permission of instructor.
3 Credits
Ms Peseroff, Mr Schwartz

ENGL 682
Advanced Workshop in Fiction
This is an advanced fiction workshop in which students improve the writing skills they have already begun to develop by focusing on a pre-approved project for the semester. All students read contemporary fiction throughout the semester. Class discussion focuses on student work, and individual conferences with the instructor are required. This course may be repeated twice for credit.
Prerequisite: Permission of instructor.
3 Credits
Mr Fulton, Mr Melnyczuk

ENGL 691
Final Project in Composition
This course provides a structure for students working toward completion of the final exercise (capstone) requirement in composition. A project proposal is required and must be approved by the faculty supervisor of the project and by the Graduate Program Director. Paper plans and drafts are studied and critiqued in regular tutorial conferences with individual faculty supervisors, or examination materials and sample questions are analyzed. The final paper or examination is assessed by graduate faculty readers. Students must successfully complete the capstone essay or examination in order to receive the MA.
Prerequisites: English MA matriculation and satisfactory completion of four courses in the composition concentration.
3 Credits

ENGL 692
Final Project in Creative Writing
This course provides a structure for students working toward completion of the final exercise (capstone) requirement in creative writing and supplements work done in creative writing workshops. A project proposal is required and must be approved by the faculty supervisor of the project, by the Director of Creative Writing, and by the Graduate Program Director. Drafts are studied and critiqued in regular tutorial conferences with individual faculty supervisors. The final manuscript is assessed by graduate faculty readers. Students must successfully complete the capstone project in order to receive the MA.
Prerequisites: English MA matriculation, satisfactory completion of four courses in the creative writing concentration, and three in the literature concentration.
3 Credits

ENGL 693
Final Project in Literature
This course provides a structure for students working toward completion of the final exercise (capstone) requirement in literature. A project proposal is required and must be approved by the faculty supervisor of the project and by the Graduate Program Director. Paper plans and drafts are studied and critiqued in regular tutorial conferences with individual faculty supervisors, or examination materials and sample questions are analyzed. The final paper or examination is assessed by graduate faculty readers. Students must successfully complete the capstone project in order to receive the MA.
Prerequisites: English MA candidacy and satisfactory completion of five courses in the literature track, including at least one course in literature before 1850.
3 Credits

ENGL 696
Independent Study
This course provides comprehensive study of a particular area of literature, particular author, or specialized subject not offered in regular seminars. Consultation with the director of graduate studies is mandatory. Students arrange a project with a faculty member who approves a project proposal, providing a description or outline of the research and writing work to be undertaken and a bibliography of reading. The project must be approved by the Graduate Program Director. Project proposals must be submitted by the end of the semester previous to the one in which the study is to take place.
1 to 6 Credits

ENGL 697
Special Topics in Literature and Composition
Experimental new graduate seminars on special subjects are frequently offered under this heading and are announced each semester prior to the advance pre-registration period.
3 Credits

ENGL 698
Intern Seminar
This seminar is for both composition and literature interns during their intern semester. It involves a preliminary summer workshop and weekly meetings and classroom visits during the semester. The course is taught by the two internship supervisors, with students divided into a composition and a literature section according to their intern appointment. The seminar develops more fully the pedagogical and content material covered in ENGL 610 and 611. It involves collaborative work (particularly in designing a joint syllabus, reading list, and assignments for the undergraduate composition and literature sections to be taught by interns), classroom research, and reflective reports.
Prerequisites: ENGL 610 or 611 and assignment as teaching intern.
3 Credits
Ms Goleman, Ms Kutz, Ms Nixon, Ms Srikanth

English

ENGL 699
Master of Arts Thesis
This course culminates in a substantial thesis of approximately 60 pages in literature or composition, or a 60–110-page manuscript of creative writing. Creative writing students must include a related analytical paper with their manuscript. A thesis proposal is required and must be approved by the student's faculty supervisor of the thesis and by the Graduate Program Director. In the case of creative writing theses, approval by the Director of Creative Writing is also required. The student works under the supervision of a faculty thesis director in regular tutorial conferences. Students should begin working on their project a full semester before the semester in which the project is due. The thesis will be read by a committee of three graduate faculty members, who will judge its suitability as partial fulfillment of the requirements for the Master of Arts degree. Finally, a thesis defense before the student's committee and open to all members of the English Department is held.
Prerequisites: English MA matriculation and satisfactory completion of the course requirements of the concentration in which the thesis is written—composition, creative writing, or literature—and permission of the program director.
6 Credits

ENVIRONMENTAL SCIENCES (PhD, MS, GRADUATE CERTIFICATE)

ENVIRONMENTAL, EARTH, AND OCEAN SCIENCES PhD TRACK
ENVIRONMENTAL SCIENCES MS
GEOGRAPHIC INFORMATION SCIENCE GRADUATE CERTIFICATE

Faculty

Robert E Bowen, PhD, *University of Southern California* • Environmental Policy and Management

Robert F Chen, PhD, *University of California, San Diego* • Organic Geochemistry/Marine Organic Chemistry • Environmental Education

Joseph J Cooney (Emeritus), PhD, *Syracuse University* • Microbial Physiology and Ecology

Mary E Davis, PhD, *University of Florida* • Environmental Health Risk

Eileen Douglas, PhD, *Tufts University* • Water • Resources Science

John A Duff, JD, *Suffolk University Law School* • Law and Marine Affairs

Anamarija Frankic, PhD, *College of William and Mary* • Ecosystem Management

Eugene D Gallagher, PhD, *University of Washington* • Benthic Ecology • Environmental Statistics • Marine Community Structure

George B Gardner, PhD, *University of Washington* • Physical Oceanography (Part-time)

Allen Gontz, PhD, *University of Maine* • Coastal Geology

Harlyn Halvorson (Emeritus), PhD, *University of Illinois* • Microbiology

John F Looney, Jr., EdD, *Boston University* • Estuaries • Science Education

Sarah D Oktay, PhD, *Texas A&M University* • Chemical Oceanography (Part-time)

Curtis R Olsen, PhD, *Columbia University* • Environmental Biogeochemistry

Sunil Narumalani, PhD, *University of South Carolina* • Geospatial Sciences

William E Robinson, PhD, *Northeastern University* • Aquatic Toxicology

Michael P Shiaris (Biology Department), PhD, *University of Tennessee* • Microbial Ecology • Environmental Microbiology

David G Terkla, PhD, *University of California, Berkeley* • Environmental and Resource Economics

Yong Q Tian, PhD, *University Waikato* • GIS • Computer Modeling

Juanita L Urban-Rich, PhD, *University of Maryland* • Zooplankton Ecology

Gordon T Wallace, PhD, *University of Rhode Island* • Aquatic and Atmospheric Chemistry

Xuchen Wang, PhD, *State University of New York at Stony Brook* • Geochemistry and Carbon Isotope Geochemistry

Meng Zhou, PhD, *State University of New York at Stony Brook* • Physical Oceanography • Population and Behavior Dynamics

Programs and Facilities

The Doctoral Program in Environmental Sciences is a multidisciplinary PhD program, housed in the Department of Environmental, Earth and Ocean Sciences (EEOS). The University's Master's Program in Environmental Sciences is also housed in the Department of Environmental, Earth and Ocean Sciences (EEOS). The EEOS Department is unique in that it brings together faculty with expertise in biology, chemistry, physics, geology, economics, management, planning, law, and policy into a single interdisciplinary academic unit to effectively address environmental, coastal, and ocean science issues, solve management problems, and advance scientific understanding and education at the interfaces of disciplines. The EEOS vision is to develop the nation's leading interdisciplinary research and educational program that integrates the natural and social sciences to generate and apply new knowledge for understanding and managing the impacts of anthropogenic perturbation on linked watershed and coastal marine systems. Both the doctoral and master's degree programs in Environmental Sciences train individuals for leadership roles as environmental scientists in the public and private sectors. Students prepare for careers in industry, government agencies, health-related fields, and university teaching and research. The program offers advanced course work, research, and other training in a broad spectrum of environmental problems in both the laboratory and the field.

The master's program in Environmental Sciences offers concentrations in applied marine ecology, aquatic chemistry, aquatic toxicology, environmental microbiology, environmental policy and law, and physical oceanography. Students in the master's program may choose either a thesis or a non-thesis option.

The UMass Boston campus is located on Boston Harbor within easy commuting distance of the residential areas of metropolitan Boston. Near the campus are island systems, protected bays, exposed open ocean areas, and Georges Bank. The University's field stations in Gloucester and on Nantucket Island provide possible access to additional marine, aquatic, wetland, and terrestrial study sites and research instruments. Research facilities include modern, well-equipped laboratories, support facilities, the resources of the Healey Library's science collection, computing facilities, and specialized equipment reflecting the research interests of the faculty.

Degree Requirements

The PhD in Environmental Sciences/ Environmental, Earth, and Ocean Sciences (EEOS) Track

Please see the general statement of degree requirements for doctoral programs in the "Regulations, Procedures, and Degree Requirements" section of this publication.

For the PhD in Environmental Sciences/EEOS Track, sixty credits are required. These credits are earned through a combination of course work and research. Formal course work includes a required core curriculum and a concentration area. Core courses include;

One course in data analysis:

EEOS 611 (Applied Statistics) or

EEOS 623 (Introduction to GIS)

Two courses in environmental law, policy, administration, management, or economics (e.g., EEOS 616, 670, 675, 680, 718)

Any two approved core courses drawn from two of the following areas and addressing coastal watershed and/or coastal marine themes:

Biology (e.g., EEOS 630)

Chemistry (e.g., EEOS 640)

Physical Process (e.g., EEOS 650, 655)

An additional fifteen hours of course work are generally necessary to provide a thorough grounding in the student's area of concentration. At present, available areas of concentration include the chemistry of aquatic systems, zooplankton ecology, benthic ecology, environmental microbiology, environmental physiology/toxicology, environmental policy and administration, environmental education, and estuarine physics.

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The remainder of the sixty credits required for the degree are seminar and research credits. Students are required to participate regularly in EEOS 791 (Seminar in Environmental Sciences). Research credits are acquired through registration for EEOS 899 (Dissertation Research).

Each student's program of study and dissertation research are guided by a graduate committee. By the end of his/her second semester, the student must select a major professor (or two co-major professors), who will serve as chair (or co-chairs) of this committee. The major professor and the student together select at least two additional EEOS faculty members to complete the graduate committee.

By the end of the third semester, the student meets with the committee to formulate his/her program of study. The balance among course credits, seminar credits, and research credits in a given student's program of study will vary, depending on his/her area of concentration and the recommendations of his/her graduate committee. The academic plan developed by the committee will include the specification of areas for which the student will be responsible on the comprehensive examination; a written dissertation proposal; and, if considered necessary by the committee, a scientific communication, computer language, or foreign language requirement.

No later than the sixth semester, the graduate committee administers the comprehensive written and oral examination, which tests intellectual maturity and competence both in the broad area of environmental sciences and in the student's area of specialization. In order to advance to the oral portion of the examination, the student must perform satisfactorily on the written portion. A student who fails the comprehensive examination may, at the committee's discretion, be permitted a second and final examination.

The student who successfully completes the comprehensive examination becomes a candidate for the PhD degree and is required to present and defend a scholarly dissertation based on original research. The student's dissertation committee consists of at least four members, one of whom will be from outside the faculty of the EEOS Track. The student's major professor will chair the committee.

Dissertation research may be done in the laboratory or in the field or may be carried out in part during residency with an appropriate private business or governmental agency.

If the presentation and successful defense of the dissertation do not take place within five years of admission to candidacy, the candidate must repeat the comprehensive examination. Please see the general statement on statutes of limitations and leaves of absence in the "Regulations, Procedures, and Degree Requirements" section of this publication.

The adequacy of each student's progress toward the degree will be assessed at least once a year. Until the student's graduate committee is formed, this assessment is made by the graduate program director in consultation with the faculty. The student's committee, when selected, assumes the responsibility for the ongoing assessment of the student's progress.

Criteria for adequate progress include performance in courses and seminar presentations (starting in the second year, each student presents one departmental seminar per year); and substantive progress in selecting/conducting doctoral dissertation research. Students are expected to maintain, at minimum, a B average (3.0) in courses; students who fall below that mark will be placed on academic probation and be subject to dismissal. Normally, two grades of C or one grade of F will result in dismissal from the program. Students on academic probation are not eligible to sit for the comprehensive examination.

The MS in Environmental Sciences

Please see the general statement of degree requirements for master's degree programs in the "Regulations, Procedures, and Degree Requirements" section of this publication. The MS program requires 30 credit hours. Core courses include:

One course in data analysis:

EEOS 611 (Applied Statistics) or

EEOS 623 (Introduction to GIS)

One course in environmental law, policy, administration, management, or economics (e.g., EEOS 616, 670, 675, 680, 718)

Any two approved core courses drawn from two of the following areas and addressing coastal watershed and/or coastal marine themes:

Biology (e.g., EEOS 630)

Chemistry (e.g., EEOS 640)

Physical Process (e.g., EEOS 650, 655)

Additional courses specific to the student's individual area of concentration are taken to acquire the necessary additional credit hours.

By the end of his/her first semester in the program, the student selects a major professor. No later than the second semester, the major professor and student choose one (non-thesis) or two (thesis) additional members to form the graduate committee, which will be responsible for ensuring that he/she fulfills the requirements of the program and those of the Office of Graduate Studies.

Students choosing to write a thesis enroll in EEOS 699 (Thesis Research). Students choosing the non-thesis option enroll in EEOS 698 (Projects in Environmental Sciences).

Students choosing the thesis option must present and defend a thesis based on their research. Students selecting the non-thesis option must present the results of their project to the committee.

Criteria for adequate progress include performance in courses and seminar presentations (starting in the second year, each student presents one departmental seminar per year). Students are expected to maintain, at minimum, a B average (3.0) in courses; students who fall below that mark will be placed on academic probation and are subject to dismissal. Normally, two grades of C or one grade of F will result in dismissal from the program.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

The graduate admissions committees for all programs and tracks recommend admissions on the basis of the completed application, official transcripts, Graduate Record Examination scores (aptitude tests only), letters of recommendation, and (when applicable) TOEFL exam scores (normal minimum: 600).

A BS or BA degree is required for admission, with a major in the natural, physical, or social sciences, or in mathematics. Candidates who have completed a master's degree are particularly welcome in the doctoral program.

Completion of at least one year each of college level mathematics (including calculus), biology, chemistry, physics and social sciences will generally be considered as minimum prerequisites for admission to study at the master's or doctoral level. Applicants should consult with prospective advisors, as there may be additional prerequisites for specific specialty areas. Students are also

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advised to review the subject matter of the prerequisite courses before they begin the program.

At the discretion of the graduate admissions committee, and depending on the area of concentration an applicant chooses, academic deficiencies at the undergraduate level may need to be remedied before the applicant is admitted to either the master's or the doctoral program. After admission, the student's advisory or dissertation committee may also require that academic deficiencies be remedied. The stated interest of a prospective student must coincide to an acceptable degree with the faculty specialties represented within the program. Generally, prospective students should identify potential faculty advisors in their application.

To assure applicants of full and timely consideration, completed applications should normally be received by January 21 for the fall semester and by October 15 for the spring semester; however, applications received after those dates may be considered. Notification of admission is made as soon as possible. In general, students who have been admitted will be notified of assistantship awards shortly thereafter.

Graduate Certificate in Geographic Information Science

This program addresses the theoretical and practical aspects of specifying, designing, developing, implementing, and managing spatial information systems. It also stresses the importance of the end user in resolving information system design and data processing problems. Through this program, students improve their competencies in the areas of spatial and temporal modeling, geo-information mapping, and geo-statistical analysis, allowing them to apply these skills to a broad range of environmental and other areas of interest. Credits from EEOS 623, 625, 627, and 629 may be applied to both the graduate GIS certificate and to the MS and PhD degrees in Environmental Science simultaneously. Degree matriculated students can, therefore, receive both their degree and a GIS Certificate upon graduation.

Certificate Requirements

The certificate program requires a series of four core courses totaling 14 credits:

1. EEOS 623 (4 credits): Introduction to Geographic Information Systems
2. EEOS 625 (4 credits): Remote Sensing
3. EEOS 627 (3 credits): Environmental Modeling & Raster GIS
4. EEOS 629 (3 credits): Advanced Topics in GIScience

Admission Requirements

Applicants are required to have:

1. at least one semester of undergraduate calculus (two preferred)
2. at least one semester's course work in computer applications (two preferred)

Work experience may substitute for the prerequisite in computer applications, with approval of the Graduate Program Director.

Course Information

Graduate courses in the Environmental Sciences Program are open to regularly matriculated students in the program, and to others with permission of individual course instructors.

In addition to the courses listed below as offered by the program, students in environmental sciences may take graduate courses and certain undergraduate courses in biology, chemistry, economics, mathematics, and physics as part of their program of study. Registration for these courses, including 500-level courses, requires the approval of both the student's major advisor and the Graduate Program Director.

Courses

EEOS 510
Teaching Weather and Water
This course crosses the boundaries of the scientific disciplines to focus on weather and the pivotal role that water and solar radiation play in the exchange of energy at the Earth's surface. Basic concepts such as the behavior of gases (deal Gas Law), energy flow, density changes, phase changes, heat capacities, isotopic fractionation processes, thermal convection, and thermohaline circulation will be applied to examine short-term weather and water dynamics (pressure-driven fronts and flows) and longer-term impacts on global warming and climate change. The course has been designed to embrace the 7E learning cycle and instructional model.
3 Lect Hrs, 3 Credits

EEOS 525
Environmental Science Content Institute
This course is designed to use environmental sciences as an integrating context for teachers of middle school science. Field experiences in and activities drawn from the Neponset River Watershed will enhance the teaching of middle school earth science, life science, and physical science curricula. A conceptual framework for environmental sciences will connect field experiences to Massachusetts state curriculum frameworks.
3 Credits

EEOS 601
Introduction to Applied Statistics
This course provides graduate students in the sciences with an intensive introduction to applied statistics. Topics include descriptive statistics, probability, non-parametric methods, estimation methods, hypothesis testing, correlation and linear regression, simulation, and robustness considerations. Calculations will be done using handheld calculators and the Minitab Statistical Computer Software. (Course offered in the fall only.)
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

EEOS 605
Teaching Environmental Science and Technology
Environmental Science offers engaging, integrated, contextual learning opportunities for students from K to gray. This course is intended to explore the effective use of environmental science to teach science at all levels, while a practical focus on general science at the middle school level will guide activities and examples. While attention will be paid to how people learn, curriculum frameworks, and practical limitations in K-12 classrooms, the focus of this course will be environmental science content, including: Biogeochemical Cycles, Energy Flow and Transformation, EEOSystems, Biodiversity and Evolution, Spatial and Temporal Reference Frames, Earth System Science, Ways of Knowing, and Human Interactions.
3 Lect Hrs, 3 Credits

EEOS 611
Applied Statistics
This course is designed to prepare the student to design and analyze experiments and surveys using advanced ANOVA (Analysis of Variance) and regression models, including logistic regression. The course content is based on the analysis of case studies from the environmental science literature. The course will use SPSS or the R statistical packages.
Prerequisites: EEOS 601 or equivalent, or permission of instructor.
3 Lect Hrs, 3 Credits

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EEOS 612
Multivariate Statistics
This course provides an introduction to multivariate statistical methods. Topics include regression analysis and various classification techniques. Theoretical foundations are discussed, but the emphasis is on applications. Students make use of a computer statistics package.
Prerequisite:EEOS611 or equivalent, or permission of instructor.
3 Lect Hrs plus independent work at the computer console, 3 Credits

EEOS 616
Environmental Policy and Administration
This course focuses on study of how solutions to environmental problems are implemented. Techniques of policy-making and administration in both public and private organizations are studied. Government and industrial administrators are brought to campus to provide insight into real-world problems and solutions. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits
Mr Bowen

EEOS 621
Plankton Dynamics
The focus of the course will be on the dynamic processes and interactions between water column plankton (e.g., phytoplankton, zooplankton, bacteria, and protists) with regard to nutrient and energy exchange. The course will examine how changes in the water chemistry can affect biological processes and community composition and the impacts of these changes on marine resources and society. There will be a small field component to this course where students study different plankton organisms and learn the basic methods for studying the different water-column plankton.
3 Lect Hrs, 3 Credits

EEOS 622
Introduction to Zooplankton Ecology
Zooplankton can be called the cows of the sea. These animals range in size from 2 µm to .1 mm and are the food supply for many commercially important fish, whales, and other large animals. This course will examine the different classes and functional groups of marine zooplankton, with an emphasis on copepods and tunicates. Zooplankton morphology, physiology, ecology, and geographical distributions will be discussed in detail and related to larger environmental issues, e.g., global warming, eutrophication.
3 Lect Hrs, 3 Credits
Ms Urban-Rich

EEOS 623
Introduction to Geographic Information Systems
This course teaches the concepts, principles, approaches, techniques, and technologies of geographic information systems (GIS). The specific topics include essential elements of a GIS, hardware requirements and system integration, technologies and techniques for acquiring spatial data, spatial data models, data structures, data formats, database models, spatial analysis and modeling, cartographic design, implementation of a GIS, and environmental and socioeconomic applications. Hands-on exercises on ArcView are assigned each week. A term project on the use of a GIS in solving a specific environmental or socio-economic problem is required.
Prerequisite: Permission of instructor.
2 1/2 Lect Hrs, 2 1/2 Lab Hrs, 4 Credits

EEOS 625
Principles and Applications of Remote Sensing
In this course, students learn the physical principles of remote sensing and become familiar with the capabilities and limitations of current and future remote-sensing systems. They also learn the techniques commonly used for interpreting aerial photographs, satellite remote-sensing data, and thermal and radar imagery, and gain practical lab experience in image interpretation. They are exposed to a wide variety of applications in environmental mapping and monitoring, natural resource management, urban and regional planning, and global change research.
Prerequisite:EEOS611 or permission of instructor.
2 1/2 Lect Hrs, 2 1/2 Lab Hrs, 4 Credits

EEOS 627
Environmental Modeling in Raster GIS
This course has two major components. The first component focuses on GIS raster data models, their structure and function, and in particular their use in a modeling context. The second component focuses on the use of modern structures design techniques for forming a basis for the correct design and implementation of geographic information systems applications.
3 Lect Hrs, 3 Credits

EEOS 629
Advanced Topics in GIScience
This course is an advanced GIS course for graduate students or senior undergraduates, designed to train students in several popular quantitative methods in spatial analysis, to advance critical thinking on currently important technical topics in the GIS field, and to examine and become "expert" in GIS applications. The course provides opportunities for hands-on experience with current spatial modeling software in applied areas and experience in outlining an applied GIS project, learning the techniques required for the project, and advancing the project to completion.
Prerequisite: EEOS 623.
3 Lect Hrs, 3 Credits

EEOS 630
Biological Oceanographic Processes
The processes which govern the population dynamics of phytoplankton, zooplankton, and benthos are studied in the context of ecological simulation modeling. Calculus is recommended, but not required. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits
Mr Gallagher

EEOS 635
Environmental Toxicology
The course will impart basic principles of environmental toxicology, focusing on toxicological assessment, types and mechanisms of toxicological response, the properties and effects of specific groups of toxicants released into the environment (e.g., PAH, PCB, pesticides, metals, dioxins/dibenzoofurans), and an overview of current issues facing the rather broad field of environmental toxicology. Toxicological responses will be discussed at all levels of biological organization, from the molecular/biochemical, cellular, and organismal up through the population, community, and EEOSystem. Biochemical toxicology will be particularly emphasized with respect to toxicant absorption, internal partitioning/transport, metabolism/detoxification, sequestering, targeting, and elimination.
3 Lect Hrs, 3 Credits
Mr Robinson

EEOS 640
The Chemistry of Natural Waters
This course provides a basic description of the chemistry of natural and especially marine waters designed to lay the foundation for more advanced course work. Emphasis is laid on the chemical composition of natural waters and the identification of the important chemical, physical, and biological processes controlling their composition. A case study, emphasizing the multidisciplinary nature of these processes, is completed at the end of the course.
3 Lect Hrs, 3 Credits
Mr Wallace

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EEOS 645
Analytical Techniques in Environmental Science
This course serves as a practical introduction to analytical methods and instrumentation available to the environmental scientist. Topics include 1) sampling of air, water, and sediment and in situ instrumentation (e.g. CTD and sensors); 2) extraction and separation techniques, such as ultracentrifugation and ultrafiltration, and electrophoresis; 3) thin layer, gas, and liquid chromatography; 4) mass spectrometry; and 5) UV-Vis, fluorescence, NMR, and ESR spectroscopy. Emphasis is given to recent analytical developments and to instrumentation available to Environmental Sciencse Program students. (Course offered in the fall every other year.)
Prerequisite: Permission of instructor.
Mr Chen

EEOS 650
Physical Oceanography
This course introduces the physical processes active in the ocean environment, including coastal and estuarine regions, and investigates the connection between those processes and observed physical characteristics of the ocean. Students are expected to have a working knowledge of physics and calculus. (Course offered in the fall only.)
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits
Mr Gardner

EEOS 655
Estuarine and Coastal Physical Processes
Topics include mathematical theories of tides, tidal currents, shallow water waves, mixing, stratification, estuarine circulation, baroclinic currents, frontal dynamics, and baroclinic instability. This course will focus on basic concepts of physical processes in estuaries and coastal oceans. Students should have a solid working knowledge of algebra and solid understanding of physics and calculus. A working knowledge of ordinary and partial differential equations is a plus, but is not required.
Prerequisites: Calculus and physics, or permission of instructor.
3 Lect Hrs, 3 Credits
Mr Zhou

EEOS 658L (BIOL 658L)
Environmental Physiology
This is a discussion course exploring in detail the mechanisms by which organisms adapt to their environment and highlighting the interplay among cellular function, physiological function, and the ecology of the organism. (Course offered in the spring every other year.)
Prerequisites: BIOL 211 or 213, and 371; or permission of instructor.
3 Lect Hrs, 3 Credits
Mr Robinson

EEOS 660
Estuarine Ecology and Management
This course crosses the traditional boundaries of the natural and social sciences to introduce students to the physical and biogeochemical processes that govern the structure and functioning of estuarine ecosystems. As the currency of life, carbon will serve as an integrating theme for examining the dispersal, cycling, and fate of energy and materials (water, carbon, nutrients, particles, and contaminants) in linked watershed and coastal marine systems. The course will provide a science foundation for understanding human impacts on estuarine ecosystems and for developing ecosystem-based management strategies for remediation and restoration.
3 Lect Hrs, 3 Credits

EEOS 670
Environmental Economics
This course is designed for those students in the program who have a minimal background in economics. It focuses on the use of economic analysis as a tool for helping to resolve environmental policy problems. Discussion includes such topics as benefit-cost analysis, the taxation and regulation of polluters, and the analysis of current government policies directed at the regulation and reduction of air, water, and solid waste pollution. (Course offered in the spring every other year.)
Prerequisite: College calculus or permission of instructor.
3 Lect Hrs, 3 Credits
Mr Terkla

EEOS 675
Marine Resource Economics
This course is designed for students with a particular interest in economics. It explores the use of economic analysis in helping to solve natural resource problems of the coastal zone and ocean. In particular, it focuses on such topics as fisheries management, resource scarcity, the concept of economic efficiency, measuring the benefits of natural resources, on-shore coastal development, and depletable, recyclable, and non-recyclable resources. (Course offered in the spring every other year.)
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits
Mr Terkla

EEOS 680
Coastal and Ocean Law
This course examines the laws designed to preserve, develop, and manage coastal ocean resources and space. Judicial decisions interpreting and applying these laws are a major focus; attention is also given to the coastal and ocean policies embodied in them and the process by which these policies have been established.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits
Mr Duff

EEOS 685
Legal Foundations for EEOSystem Management
This course examines current US environmental and natural resource management laws from the perspectives of modern "EEOSystem management." Because these laws were enacted in the late 1960s and 1970s, they typically do not reflect the findings of the ecological sciences with respect to the need to preserve critical ecological processes or the need to manage the natural environment at appropriate spatial and temporal scales. Students participate in discussions of readings in the EEOSystem management literature, select and critically review an environmental or natural management program from an EEOSystem management perspective, and present their findings to the seminar.
Prerequisite: Admission to program or permission of instructor.
3 Lect/Disc Hrs, 3 Credits
Mr Duff

EEOS 691
Current Literature in Environmental Sciences
This is a series of one-credit seminar courses focusing on subfields of environmental science, designed to help students develop the habit of keeping up with recent developments through reading scientific journals. The seminars also provide a forum for discussion of significant new findings in the field, as well as discussion and critique of the students' own research.
Prerequisite: Permission of instructor.
1 1/2 Lect/Disc Hrs, 1 Credit

EEOS 692
WISP Seminar
This seminar is designed to prepare WISP (Watershed-Integrated Sciences Partnership between UMass Boston and three local school districts) Fellows for intensive summer workshops (Teacher Training and Environmental Science Content Institute), to

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initiate an exploration of science education practices, and to expose Fellows to middle school classroom teaching. The seminar is intended to provide consistency and a passing on of experiential knowledge from one cohort of Fellows (outgoing) to the next (incoming). The 1-credit seminar is required of fellows in the GK-12 programs.
1 Lect Hr, 1 Credit
Mr Chen

EEOS 697
Special Topics in Environmental Sciences
This course provides an opportunity for presentation of particularly timely lecture/laboratory/field material which does not fall under the purview of any other course. Topics will be announced in the advance registration period.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-6 Credits

EEOS 698
Projects in Environmental Sciences
This is a practicum course resulting in a substantial written report based on library, laboratory, or field research that involves an original project. Up to 6 credits from this course may be applied to the MS degree, over more than one semester. Please note: This course is required for all master's-level students taking the non-thesis option; it is not open to doctoral students. Students may not take both EEOS 698 and 699.
Prerequisite: Completion of 9 graduate credits in the Environmental Sciences MS Program, or permission of Graduate Program Director.
Hrs by arrangement, 1-6 Credits

EEOS 699
Thesis Research
This is a research course conducted under faculty supervision and leading to the presentation of a master's thesis. Up to 10 credits from this course may be applied to the MS degree, over more than one semester. Please note: This course is required for all master's-level students taking the thesis option; it is not open to doctoral students. Students may not take bothEEOS698 and 699.
Prerequisite: Completion of 9 graduate credits in the Environmental Sciences MS Program, or permission of instructor.
Hrs by arrangement, 1-10 Credits

EEOS 710
Environmental Biogeochemistry
This course identifies and defines the influence of biota on the geochemical cycling of inorganic and organic substances through the atmosphere, hydrosphere, and lithosphere. Particular emphasis is given to contemporary research in the biogeochemistry of carbon, sulfur, selected metals, and organic compounds of natural and anthropogenic origin. Calculus and biochemistry are recommended, but not required. (Course offered in the spring every other year.)
Prerequisites: CHEM 253 and 254 or equivalent; or permission of instructor.
3 Lect Hrs, 3 Credits
Mr Chen

EEOS 715
Isotope Geochemistry
This course explores the use of stable and radioactive isotopes in delineating biogeochemical and geochemical processes in the environment. Emphasis is given to recent advances in the field. Specific topics to be addressed include geochronology, paleothermometry, use of isotopes as tracers, and analytical methods. A team project exercise combining field and laboratory work and presentation of results is required. (Course offered in the fall every other year.)
Prerequisites: EEOS 630, 640, and 650; or permission of instructor.
3 Lect Hrs, 3 Credits
Mr Wallace

EEOS 716
Scientific and Technical Information and the Policy Process
This course considers the role of scientific and technical information in the policy-making process. Questions of the impact of information on policy evaluation, the role of scientists, and research agenda setting are all discussed. (Course offered in the spring only.)
3 Lect Hrs, 3 Credits
Mr Bowen

EEOS 718
Environmental Law and Policy: Federal Agencies, Courts, and Congress
This course surveys three major areas of federal involvement in environmental law and policy. The first is federal environmental and resource management programs and laws, such as the Clean Water, Ocean Dumping, Superfund, Resource Conservation and Recovery, Coastal Zone Management, and Fishery Conservation and Management Acts. The second is the role of the federal agencies and courts in implementing and overseeing federal laws; and the third is the legislative functions of the US Congress in debating, enacting, and monitoring national policy. Emphasis is placed on coastal and marine environmental problems and issues.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits
Mr Duff

EEOS 720
Benthic Boundary Layer Process
This course provides an interdisciplinary view of the benthos in freshwater, estuarine, and marine EEOSystems. Special attention is paid to the interactions between physical, chemical, and geological processes and benthic populations. A good working knowledge of calculus and previous completion of EEOS 630 and EEOS 640 are recommended. (Course offered in the spring every other year.)
3 Lect Hrs, 3 Credits
Mr Gallagher

EEOS 726
Coastal Zone Management
This course introduces and evaluates the legal, political, and social factors that most directly affect the management of coastal area resources. Both conceptual and case-oriented literature are reviewed, in order to familiarize the student with the evolution and practice of coastal zone management generally in the U.S., and particularly in the Commonwealth of Massachusetts.
3 Lect Hrs, 3 Credits
Mr Bowen

EEOS 750
Organic Geochemistry
This course examines the production and cycling of organic matter at the earth's surface. Starting with the photosynthetic fixation of CO2 and the biosynthesis of a diverse array of molecules, the course traces the path of reduced carbon through the biogeosphere to incorporation in sedimentary deposits. Specific topics to be addressed include photosynthesis, biosynthesis, chemical evolution, the organic carbon cycle, diagenesis, and catagenesis: the formation of fossil fuels, and the biogeochemistry of organic compounds of environmental concern. Students are introduced to selected analytical methods used in organic geochemistry. (Course offered in the fall every other year.)
Prerequisite: EEOS 640 or EEOS 710.
4 Lect Hrs, 3 Credits
Mr Chen

EEOS 760
Aquatic Toxicology
This course will provide advanced study in aquatic toxicology, focusing on current topics and issues facing the broad field of aquatic toxicology, including toxicological

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assessment, approaches to modeling toxicant absorption, water and sediment criteria, and the diverse mechanisms employed by aquatic organism to deal with a variety of chemical toxicants. The interdisciplinary nature of the field, particularly the interactions among various natural and social sciences, will be stressed.
3 Lect Hrs, 3 Credits
Mr Robinson

EEOS 780
Seminar in Environmental Chemistry
This course centers on lectures and discussion focused on contemporary issues in environmental chemistry. (Course offered in the fall every other year.)
Prerequisites: EEOS 640 and permission of instructor.
3 Lect Hrs, 3 Credits
Mr Wallace, Mr Chen

EEOS 788
Current Issues in Toxicology
Topical and controversial issues in toxicology are the focus of this lecture/seminar course. Participants explore such concerns as dental mercury amalgam, Alar, radon, Agent Orange, electromagnetic fields, and environmental tobacco smoke. Each topic is assessed with respect to health effects and health risk, cellular mechanisms of toxicological action, route of uptake, persistence in the environment, public concern, and regulatory action. Current data on health effects are scrutinized to determine whether public concerns and regulatory actions are indeed justified. (Course offered in the spring every other year.)
Prerequisites: EEOS 660, BIOL 371 and 372, and permission of instructor.
3 Lect/Disc Hrs, 3 Credits
Mr Robinson

EEOS 791
Seminar in Environmental Sciences
This course centers on presentations and discussions of current topics in environmental sciences by students and visiting lecturers.
1 Disc Hr, 1 Credit

EEOS 796
Independent Study in Environmental Science
This course provides independent laboratory and/or library studies under the direction of a faculty member.
Prerequisite: Permission of instructor and program director.
Hrs by arrangement, 1-3 Credits

EEOS 798
Internship in Environmental Sciences
Students are placed individually at private-sector or government institutions in order to gain practical training and professional experiences not available on campus. Each placement is jointly supervised by an individual at the host agency or company and by a faculty member.
Prerequisite: Completion of 18 graduate credits.
Hrs by arrangement, 1-9 Credits

EEOS 899
Dissertation Research
This is a research course, conducted under faculty supervision and leading to the presentation of a doctoral dissertation.
Hrs by arrangement, 1-10 Credits

FORENSIC SERVICES (GRADUATE CERTIFICATE)

Faculty

Susan Gore (Sociology Department), PhD, *University of Pennsylvania* • Medical Sociology • Research Methodology

Stephanie Hartwell (Sociology Department), PhD, *Yale University* • Criminal Justice • Substance Abuse • Forensics • Mental Health

Rick Houser (Counseling Department), PhD, *University of Pittsburgh* • Mental Health Counseling

Paul Nestor (Psychology Department), PhD, *Catholic University of America* • Clinical Psychology • Schizophrenia • Courts

Russell K Schutt (Sociology Department), PhD, *University of Illinois, Chicago* • Sociology of Law • Homelessness • Sociology of Organization • Research Methodology

Edward Stern (Sociology Department), JD, *Boston University* • Sociology of Law • Criminal Justice • Juvenile Justice (Part-time)

The Program

The Graduate Programs in Applied Sociology and Counseling, the Psychology Department, and the Criminal Justice Program, in cooperation with the University's Division of Continuing Education, offer an interdisciplinary sixteen-credit Graduate Certificate Program in Forensic Services, designed for criminal justice and mental health professionals.

Criminal investigation, law, psychological assessment and evaluation, and the workings of related social service systems are all broadly encompassed by the term "forensic services." The certificate program is designed to enable students to serve as effective professionals in a variety of social and human service settings, by providing them with a strong academic grounding in the behavioral sciences, as well as practical skills in the fields of mental health and criminal justice.

The Forensic Services Certificate Program seeks to help students increase their understanding of public health and the law, especially in areas where issues of mental health and criminality intersect and diverge. Students interested in policy or social service provision for vulnerable populations have the opportunity to take advantage of the program's focus on such specific areas as alternatives to incarceration, clinical assessment, corrections, criminal justice, criminality, law, mental illness, offenders, parole, the police, private agencies, probation, public systems, substance abuse, treatment services, and violence.

Facilities

A range of computational and research resources is available to students in the program. Major statistical packages and other software are available in computer labs and graduate student offices.

These resources are complemented by extensive social science data archives and ongoing social science research projects. Through the Social and Demographic Research Institute at UMass Amherst, students have access to data obtained from Gallup polls, surveys of prison inmates, observations of plea bargaining, records of Massachusetts court cases, and hundreds of other studies of national and local populations. Through the Center for Survey Research at UMass Boston, the program maintains close ties to survey research projects. Ongoing faculty research provides additional opportunities for student projects.

The Healey Library offers an extensive online journal collection, as well as books, journals, and government documents on-site. University membership in the Boston Library Consortium permits students and faculty access to periodicals, books, and a variety of technical material not available in the University's Healey Library.

Degree Requirements

Courses

Students in the certificate program complete five three-credit courses and a one-credit field experience project:

COUMHC 604: Foundations of Mental Health Counseling

PSYCH 614: Forensic Psychology

SOCIOL 598: Field Experience Project (1 credit)

SOCIOL 618: Psychiatric Epidemiology and Forensic Services

SOCIOL 623: Alcohol, Drugs, and Crime

SOCIOL 667: Sociology of Law

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Please note, however, that a reduced application package with only one letter of recommendation may be submitted for this program.

Further Information

For more information about the Forensic Services Certificate Program, please call the program office at 617.287.6276.

Courses

SOCIOL 598
Field Experience Project
This course includes site visits and observation time spent in the field at state or social service agencies.
Prerequisite: Permission of Forensic Services Graduate Certificate Program Director.
1 Credit

COUMHC 604
Foundations of Mental Health Counseling
The intent of this course is to provide students with basic information on the principles and practices of mental health counseling. Topics include the history and philosophy of mental health counseling, professional identity, the roles of the mental health counselor, professional ethics, managed care, various contexts of practice and organizational structures, mandated clients, crisis intervention services, prevention, consultation, and an understanding of how diversity influences the practice of mental health counseling. Particular attention is given to the practice of mental health counseling in a range of such urban settings as homeless shelters and outpatient centers.
3 Lect Hrs, 3 Credits

PSYCH 614
Forensic Psychology
This course examines the intersection of criminal law and clinical psychology. Topics include those that are frequently the concern of forensic mental health clinicians, namely recidivism, violence risk assessment, insanity, legal competence, and false memory. These topics are studied from cultural and developmental (childhood, adolescence, adult) perspectives.
3 Lect Hrs, 3 Credits

SOCIOL 618
Psychiatric Epidemiology and Forensic Services
This course provides necessary professional skills and helps students understand forensic evidence and its use in courts. Topics include research in psychiatric epidemiology, sources of violence, recidivism, and risk assessment.
3 Lect Hrs, 3 Credits

Forensic Services

SOCIOL 623
Alcohol, Drugs, and Crime
This course focuses on the multifaceted associations among alcohol, drug use, and crime in America. It distinguishes legal and policy issues from competing paradigms and contrasts criminal justice and public health models. State-of-the-art etiology, epidemiology, prevention, and treatment studies correlating criminality and substance misuse are assessed and evaluated in historical and sociocultural contexts. The course highlights social service systems in relation to current practices and institutionalized definitions of health and illness, crime and criminals.
3 Lect Hrs, 3 Credits

SOCIOL 667
Sociology of Law
This course provides a general analysis of the social origins, operations, and consequences of law and legal process. Alternative theories of the relation between law and society are considered. Special attention is given to criminal law, the operation of juvenile courts, discretion in the legal system, and methods of legal research. Alternative methods of dispute resolution are considered.
3 Lect Hrs, 3 Credits

GERONTOLOGY (PhD, MS, GRADUATE CERTIFICATE)

MANAGEMENT OF AGING SERVICES TRACK (MS)

Faculty

Ellen Birchander, MS, *Tufts University*, MSW, *Boston College* • Experimental Psychology

Ellen A Bruce, JD, *Northeastern University* • Law

Jeffrey A Burr, PhD, *University of Texas at Austin* • Sociology

Francis G Caro, PhD, *University of Minnesota* • Sociology

Yung-Ping Chen, PhD, *University of Washington* • Economics

Lillian Glickman, PhD, *Brandeis University* • Public Policy

Leonard Gruenberg, PhD, *Columbia University* • Long-Term Care • Health Policy

Jan E Mutchler, PhD, *University of Texas at Austin* • Sociology

Frank Porell, PhD, *Carnegie-Mellon University* • Urban and Public Affairs

Nina M Silverstein, PhD, *Brandeis University* • Social Welfare

Marian Spencer, RN, MS, *Boston University* • Social Welfare

Maximiliane Szinovacz, PhD, *University of Vienna* • Retirement • Families in Later Life • Grandparenting

Barbara F Turner (Emeritus), PhD, *University of Chicago* • Human Development

Robert Weiss (Emeritus), PhD, *University of Michigan* • Sociology

The PhD Program

UMass Boston's PhD Program in Gerontology is located in the McCormack Graduate School for Policy Studies. The PhD Program is designed to prepare students for leadership roles as teachers, researchers, planners, and policy makers in this field of growing importance for both the private and the public sectors. The program's approach reflects the urban mission of the University of Massachusetts Boston. Special attention is given to the needs of the low-income elderly, and to issues of racial and cultural diversity.

The PhD Program in Gerontology qualifies a select group of skilled researchers and policy analysts to extend the frontiers of this growing field through research, teaching, and policy development; and to prepare themselves for leadership roles in our aging society. Advanced work in gerontology is interdisciplinary, bridging theories, concepts, and research methods drawn from the social and behavioral sciences.

The curriculum of UMass Boston's PhD Program in Gerontology is designed to give graduates command of a broad body of specialized knowledge in aging and social policy, as well as the capacity to develop methodologically sound procedures to expand that base of knowledge and understanding. The program may be completed in four years: five semesters of full-time course work, one semester of combined course and dissertation work, and two semesters of full-time dissertation work.

The program's location on campus adjoins UMass Boston's Gerontology Institute. The Gerontology Institute, established by the Massachusetts Legislature, constitutes a major resource for the doctoral program. The Institute's mission is to focus attention on the economic, social, and political issues that confront the aging population. Institute activities include policy research and analysis, as well as publication of the Journal of Aging & Social Policy. The Institute emphasizes the demography of aging, income security, health care, long-term care, retirement and pensions, and productive economic and social roles for the elderly. Older people themselves are often involved in the design and execution of Institute activities. Students in the program gain experience by participating in the Institute's research and policy projects.

Degree Requirements

Please see the general statement of degree requirements for doctoral programs in the "Admissions" section of this publication.

Degree requirements for the Gerontology PhD Program include course work, an empirical research paper, a qualifying paper examination, and a doctoral dissertation.

Course Work

Students in the Gerontology PhD program must accumulate 69 credits, through taking courses as listed below:

A. Four foundation courses, which emphasize different disciplinary approaches to aging:

   GERON 621 (Social Aspects of Aging)

   GERON 626 (Economic Issues in Aging Populations)

   GERON 628 (Psychology of Aging)

   GERON 724 (Ethnic and Racial Diversity in Aging Societies)

   (Total: 12 credits)

B. Six research courses, which emphasize research methods and statistics:

   GERON 601 (Research Methods and Experimental Design)

   GERON 603-604 (Statistical Methods in the Analysis of Social Problems I and II)

   Or PPOL G 604-605 (Statistics I and II)

   GERON 726 (Current National Databases in Gerontological Policy Research)

   GERON 727 (Research Practicum in Gerontology)

   And one of the following:

   GERON 609L (Qualitative Methods and Field Research)

   GERON 701 (Advanced Statistical Methods in Gerontology)

   GERON 732 (Demographic Methods in Aging)

   (Total: 18 credits)

C. Two policy foundation courses:

   GERON 623 (Issues in Aging Policy)

   GERON 760 (Policy Analysis Techniques)

   (Total: 6 credits)

D. One advanced gerontology policy course, providing a scholarly, in-depth examination of aging policy:

   GERON 761 (Advanced Policy Analysis in Aging)

   (Total: 3 credits)

E. Three semesters of Professional Development Seminar:

   GERON 688 (Multidisciplinary Seminar in Aging), one credit each (Total: 3 credits)

F. At least six elective courses at the graduate level; these may be taken in the Gerontology Program or other UMass Boston graduate programs, or (with prior approval by the graduate program director, and subject to University transfer credit limitations) at other cooperating universities.

   (Total: 18 credits)

G. GERON 899 (Dissertation Research)

   (Total: 9 credits)

Please note: Up to 6 credits of appropriate graduate course work not already counted toward another degree may be transferred; please see the University's general transfer policy in the "Regulations, Procedures, and Degree Requirements" section of this publication. In addition, students who enter the program already holding an appropriate master's degree may petition the Graduate

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Program Director for waiver of up to 12 credit hours of required or elective course work. Prior graduate courses will be considered for meeting elective requirements on the basis of their pertinence to the student's course of studies in gerontology. All courses considered for waiver or transfer must have been completed with a grade of at least B. Consideration will be given only to courses completed within 7 years of enrollment. Acceptance of prior course work is subject to the approval of the Graduate Program Director and the Dean of Graduate Studies.

An Empirical Research Policy Paper

By the end of the fourth semester of study, students are expected to complete an empirical research policy paper, comparable to an article that would be published in a professional academic journal. The paper is based on the preparatory course work in research methods and statistical analysis undertaken during the first and second years of study.

In the third semester of study, students enroll in GERON 726, and in the fourth semester they enroll in GERON 727. The two courses provide an opportunity to do an in-depth examination of databases in aging, participate in a process of detailed analysis of findings, and learn how academic material is presented for scholarly review. The resulting research paper contains all the elements of a scholarly article: statement of the problem, literature review, research design or analytic framework, presentation of findings, and conclusions. Completion and acceptance of the paper by two faculty reviewers by the end of the fourth term is a prerequisite to taking the qualifying paper examination.

Qualifying Paper Examination

The qualifying paper exam tests students on their ability to lay the foundation for a substantial research project by reviewing diverse literature and developing a sound conceptual/theoretical framework that reflects the current scientific literature. The exam will normally be taken in the spring semester of the student's third year of study, following the completion of all required course work. After passing the qualifying paper examination, the student becomes a candidate for the PhD degree.

Doctoral Dissertation

Students are required to complete a doctoral dissertation that reflects an original and independent scholarly contribution to the state of knowledge in the field of gerontology. A doctoral dissertation proposal may be prepared upon successful completion of the qualifying paper examination. Following development of a proposal, a dissertation committee is established and approved by the Dean of Graduate Studies. The dissertation is supervised by a primary advisor.

A dissertation committee consisting of at least three members, two of whom must be members of the Gerontology graduate faculty and one of whom must be from outside the Gerontology faculty, is responsible for approving the dissertation proposal, overseeing data collection and analysis, and reviewing drafts of the dissertation. Candidates enroll in GERON 899 (Dissertation Research). An oral defense of the dissertation may be scheduled only after all members of the committee agree that the dissertation is ready to be defended.

If the presentation and successful defense of the dissertation do not take place within eight years of matriculation, the candidate may appeal for a one-year extension. The extension may be granted by the Dean of Graduate Studies if the dissertation chair and the Graduate Program Director are able to certify that the student is actively working on the dissertation and has a realistic plan in place for completion of the dissertation within one year. (Please see the general statement on time limits and leaves of absence for all graduate programs in the "Regulations, Procedures, and Degree Requirements" section of this publication.)

The adequacy of each student's progress toward the degree is reviewed at least once a year. Until the student's dissertation committee is formed, this assessment is made by the Graduate Program Director in consultation with the faculty. Benchmarks for adequate progress include performance in courses, completion of the second-year paper, and passage of the preliminary examinations. Students must maintain at least a B average in courses to remain in good academic standing. Students are strongly encouraged to participate in the Gerontology Speaker Series, as well as other events sponsored by the Gerontology Department and Institute.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

Admission to the program is competitive; approximately six to eight full-time students will be enrolled each year, in addition to a limited number of part-time students. Admission requirements include a bachelor's degree from an accredited institution; an undergraduate grade point average of 3.00 or better; strong general GRE scores (verbal and quantitative); transcripts of all prior academic work; three letters of recommendation; and a personal statement. Applicants in mid-career should also submit a résumé and at least one letter of recommendation from an employer among the required three. Members of minority groups are encouraged to apply. The admissions committee expects to interview applicants in person or by phone, whenever possible. Priority is given to those who submit applications and all supporting credentials by February 1. This deadline is especially important for applicants who wish to be considered for a research or teaching assistantship.

The MS Program

The Gerontology Track

The Master's of Science Program in Gerontology trains students in research and policy issues that will assist the city of Boston, the Commonwealth of Massachusetts, and the nation to address a number of issues confronting a diverse aging population. The MS Program will serve the needs of students who are committed to the aging field and who wish to pursue a master's degree. The curriculum of the MS Program is designed to give graduates command of a broad body of specialized knowledge in aging and social policy, as well as the capacity to develop methodologically sound procedures to expand that base of knowledge and understanding. The MS Program employs social science theories, research techniques, and content to provide students with the tools to accomplish basic research in a range of substantive areas. Students are also introduced to the major policy issues affecting older persons in the United States and enabled to engage with these issues in the public and private spheres.

Students in the MS Program are required to complete 30 credit hours, including the capstone course, which allows students to employ their experiences and training in the production of a research project and report.

The MS Program is designed to be a terminal degree. However, on occasion students in the MS Program may be admitted into the PhD Program. It is also possible that students who are admitted into the Graduate Certificate Program may subsequently be admitted into the MS Program.

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Course Requirements

Students in the Gerontology Master of Science Program must accumulate 30 credits, through taking courses as listed below:

A. Foundation Courses

Social Aspects of Aging (GERON 621)

Issues in Aging Policy (GERON 623)

Economics Issues in Aging Populations (GERON 626)

Psychology of Aging (GERON 628)

(Total: 12 credits)

B. Research Methods and Statistics

Research Methods and Experimental Design (GERON 601)

Statistical Methods in the Analysis of Social Problems I (GERON 603)

or

approved substitutions

(Total: 6 credits)

C. Electives

A combination of three courses selected from the following Gerontology courses:

Statistical Methods in the Analysis of Social Problems II (GERON 604)

Qualitative Methods and Field Research (GERON 609L)

Families of Later Life (GERON 631)

Health and Physical Changes in Aging (GERON 611)

Internship in Gerontology (GERON 798)

Independent Study in Aging Policy (GERON 796)

and/or

Approved graduate courses from the following programs: Applied Sociology, Nursing, Dispute Resolution, Public Policy, and Public Affairs

(Total: 9 credits)

D. Capstone Project

Capstone Project Seminar (GERON 691)

(Total: 3 credits)

Management of Aging Services Track

The Management of Aging Services (MAS) track provides qualified graduate students with advanced training in gerontology and managerial practices relevant to the aging services field, enabling them to be administrators in the aging services network. The MAS track is designed primarily for mid-career professionals in the aging field, but it is also appropriate for persons who wish to enter the field for the first time. With the aging of the American population, especially the baby boom generation, and the concomitant rise in the demand for aging services in Massachusetts and throughout the United States, for-profit and not-for-profit organizations and governmental agencies require persons trained to administer and manage these services. The objectives of the MAS track are to provide graduate students with (a) a foundation in economic, social-psychological, and health aspects of aging populations, along with the service delivery needs of these populations, (b) basic knowledge in formal organizational structures, personnel management, financing and marketing as relevant to the aging services field, and (c) a capstone course that provides firsthand experience with aging services organizations where course work may be applied.

The MAS track requires the completion of 30 credit hours: eight required courses and two elective courses. Courses are offered in the evenings, on Saturdays, and in distance-learning formats to make it possible for persons who are working to take the courses. The delivery of courses relies on distance learning technologies, including online courses and interactive television, which allows students to attend class both at the UMass Boston campus and at satellite locations (e.g., UMass Boston Plymouth Campus and North Shore Community College).

Prior to graduation, students are required to take a capstone course which will involve working with the course instructor to develop and complete a final project tailored to the student's interests and work goals. The project is based on a work/internship experience in an agency within the aging network and includes a traditional term paper summarizing and analyzing the experience. The student's project will demonstrate his/her understanding of management issues within an aging services organizational setting and a capacity to respond to these issues in a thoughtful and resourceful manner.

Each summer, incoming students are required to attend an event on campus where they are provided an orientation to the program and the UMass Boston campus. In addition, workshops are held during the academic year at the UMass Boston campus on a variety of topics to assist students with incorporating academic material learned in the courses into the professional workforce.

Required Courses

GERON 611 (Health and Physical Aspects of Aging)

GERON 623 (Issues in Aging Policy)

GERON 650 (Service Delivery Issues in Aging)

GERON 645 (Marketing of Aging Services)

GERON 660 (Organization and Financing of Aging Services)

GERON 670 (Human Resources and Personnel Management in Aging Services)

GERON 680 (Financial Management in Aging Services)

GERON 691 (Capstone Project Seminar)

Elective Courses

GERON 621 (Social Aspects of Aging)

GERON 626 (Economic Issues in Aging Populations)

GERON 628 (Psychology of Aging)

GERON 665 (Program Review and Analysis)

Other relevant courses as approved by the Coordinator of the MAS Track

Admission Requirements

To apply to the MS in Gerontology Program, students should submit an application portfolio to the UMass Boston Graduate Admissions Office, for review by the Gerontology Admissions Committee. The application should include official scores from the general (verbal and quantitative) Graduate Record Exam (GRE) (not required for the Management of Aging Services track), official transcripts from all universities and colleges attended by the applicant, a personal statement explaining the student's goals and experiences, and all standard UMass Boston application requirements (completed application forms, fees). The application deadline is June 1. Full- and part-time students are accepted into the program. For full-time students, the MS Program will take three to four semesters to complete.

The Graduate Certificate

The Graduate Certificate in Gerontology is designed to provide students with a broad overview of issues in gerontology. Students enrolled in the certificate program must complete five substantive three-credit courses in gerontology. These may be chosen from among foundation courses, advanced policy courses, and elective courses. In every case, students must satisfy all course prerequisites before enrolling. Research courses

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(such as statistics or research methods) may not be used to satisfy graduate certificate requirements.

The following is a partial list of courses through which graduate certificate requirements may be satisfied:

GERON 611 (Health and Physical Changes in Aging)

GERON 614 (Issues Concerning Specialized Target Populations of the Elderly)

GERON 621 (Social Aspects of Aging)

GERON 623 (Issues in Aging Policy)

GERON 626 (Economic Issues in Aging Populations)

GERON 628 (Psychology of Aging)

GERON 631 (Families of Later Life)

GERON 650 (Service Delivery Issues in Aging)

GERON 645 (Marketing of Aging Services)

GERON 660 (Organization and Financing of Aging Services)

GERON 665 (Program Review and Analysis)

GERON 670 (Human Resources and Personnel Management in Aging Services)

GERON 675 (Organizational Theory, Behavior and Aging Services)

GERON 680 (Financial Management in Aging Services)

GERON 697 (Special Topics in Aging Policy (topics vary)

GERON 721 (History and Political Economy of Social Policy toward the Elderly)

GERON 724 (Ethnic and Racial Diversity in Aging Societies)

GERON 734 (Law and Health Policy for the Elderly)

GERON 761 (Advanced Policy Analysis in Aging)

GERON 771 (Seminar in Long-Term Care)

GERON 772 (Seminar in Health Care Financing)

GERON 779 (Seminar in Productive Aging)

GERON 798 (Internship in Gerontology)

Eligibility for Courses

Graduate courses in gerontology are open to regularly matriculated PhD and master's students in the program, to certificate students, and to other graduate students with the permission of individual course instructors and the Graduate Program Director.

Courses

GERON 601
Research Methods and Experimental Design
This course provides the conceptual and practical foundations for policy research on aging. It covers the methodological skills necessary for empirical dissertation research. Students should have completed an upper-level undergraduate statistics course and one research methods course in the natural or social sciences before registration.
3 Lect Hrs, 2 Lab Hrs, 3 Credits
Mr Burr

GERON 603
Statistical Methods in the Analysis of Social Problems I
This course introduces students to statistics as a social science tool. It is designed to provide students with a working knowledge of descriptive statistics, the logic of statistical inference, hypothesis testing, analysis of variance, and correlation. In addition to classroom instruction, students are required to attend a statistical lab each week to use a statistical package. Students should expect to use the statistical package outside of class for homework assignments.
4 Lect Hrs, 2 Lab Hrs, 3 Credits
Mr Porell

GERON 604
Statistical Methods in the Analysis of Social Problems II
This course introduces students to advanced statistical procedures as social science tools. It is an application-oriented course covering multiple regression analysis in extensive detail and logistic regression models. It is designed to provide students with a working knowledge of advanced statistical techniques. Additional focus is on path analysis, simultaneous equation methods, factor analysis, summary measures, and econometrics. Students are required to use a statistical package available in computer labs outside of class for homework assignments.
Prerequisite: GERON 603.
4 Lect Hrs, 2 Lab Hrs, 3 Credits
Mr Porell

GERON 609L (PPOL 609L)
Qualitative Methods and Field Research
This course is designed to introduce students to qualitative research methods; its specific focus is on policy research and aging. Students practice the skills needed to observe the world around us by attending to social phenomena, descriptively and analytically. The course functions as both a seminar and a research workshop, and students learn by engaging in a field work project.
Prerequisite: GERON 603.
3 Lect Hrs, 3 Credits

GERON 611
Health and Physical Changes in Aging
Those who provide and manage services for the elderly, or are involved in public policy and research concerning the elderly, need knowledge about the physical process of aging. This course describes the physiological changes that accompany the aging process and relates these to social and economic factors that influence health status. Discussion topics include issues of prevention, health promotion and health maintenance, and selected disorders that affect health and independent living.
3 Lect Hrs, 3 Credits

GERON 614
Issues Concerning Specialized Target Populations of the Elderly
This course provides an opportunity for the presentation of current research affecting such specialized target populations of the aged as the disabled, veterans, homeless, abused, minority or ethnic groups, or those in various income categories.
3 Lect Hrs, 3 Credits

GERON 621
Social Aspects of Aging
This course presents a social perspective on the aging process. It considers social factors that influence aging and the nature of the integration of the aged into society, as well as the way in which population aging affects the society as a whole. The course also looks at social theories of aging, paying special attention to changing social roles, social stratification and aging, and the development of institutions for the aged. Gender, race, ethnicity, and class are discussed as social categories that influence aging and that play a role in the determination of social policy for the aged. Readings on the status, role, and culture of the aged are drawn from the literature of sociology, economics, and anthropology.
3 Lect Hrs, 3 Credits
Ms Mutchler

GERON 623
Issues in Aging Policy
This course introduces students to the development, implementation, and analysis of social policy in the United States on major issues affecting older people. Income security, health care financing, and long-term care receive major attention.

Discussions also focus on the programs mandated by the Older Americans Act; participants examine the major normative, demographic, economic, and political forces that underlie aging policy.
3 Lect Hrs, 3 Credits

GERON 626
Economic Issues in Aging Populations
This course deals with the economic issues raised by aging populations. It begins by introducing population trends and projections and provides a primer on microeconomic and macroeconomic concepts and analyses. The course then discusses a range of economic issues and some of the major institutions and elements in our society that play important roles in providing people with income and health security: Social Security, private pensions, private savings, public assistance, work, and retirement. Special attention is paid to problems affecting racial and ethnic minorities, women, widows, and the "old old." Emphasis is also given to the potential for productive aging and for economic relationships across generations.
3 Lect Hrs, 3 Credits
Mr Chen

GERON 628
Psychology of Aging
This course focuses on psychosocial processes throughout the second half of life, from middle age through the "young old" and "old old" years. It addresses both normal aging and psychopathology. Of special concern is the question of whether there are any systematic intrinsic psychological or personality changes associated with development in later life. The course also focuses on the processes used to cope with age-associated transitions ranging from the empty nest to impending death. It explores theoretical models for understanding coping and adaptation, developmental changes, and psychopathology. Other topics include clarification of the causes and nature of the most common psychopathologies, depression, and Alzheimer's disease, as well as the psychodynamics of institutionalization and family care of the very old.
3 Lect Hrs, 3 Credits
Ms Turner

GERON 631
Families of Later Life
This course presents an overview of gerontological research on family relations in later life. Its objective is to provide a summary of the major theories, theoretical concepts, and research findings about later life. The course addresses social policy issues, applications of family theory, and such practical implications as intervention strategies for helping older families and caregivers. Family theory and research are looked at from a multidisciplinary perspective.
3 Lect Hrs, 3 Credits

GERON 641
Historical and Theoretical Foundations of Gerontology
This course examines the development of science as an evolving and changing concept. Participants study the philosophy of science and the pertinent literature relevant to the structure of the social sciences. The course explores various concepts of theory building, as a way of providing students with a framework showing how theory is developed and influenced by research, and how research is subsequently influenced by theory. The course seeks to provide students with a perspective from which they can critique gerontological theory and develop new research agendas to assist in the development of theory in this evolving field.
3 Lect Hrs, 3 Credits

GERON 645
Marketing of Aging Services
This course examines marketing principles as applied to aging services organizations. Students learn about marketing concepts, objectives, and brand names. The course also explores the current structure of aging organizations in Massachusetts and relates these to current marketing principles and strategies. Students learn to apply marketing concepts to manage and operate an aging services organization effectively. This course provides students with the opportunity to see how marketing principles and practice come together within the context of various types of aging services organizations in Massachusetts.
3 Lect Hrs, 3 Credits

GERON 650
Service Delivery Issues in Aging
This course focuses on the links between consumers and aging services in organizational settings with well-developed formal services. The aim of the course is to provide students with an understanding of the structural problems that underlie the challenges that consumers face in using formal services. The course covers a wide range of services that older people may need, the complementary relationship between formal and informal services, boundary issues among service specialties and service professionals, service coordination and integration, and the role of both consumer direction and professional case management in negotiating service systems.
3 Lect Hrs, 3 Credits

GERON 660
Organization and Financing of Aging Services
The influences of organizational and financial forces upon aging services are analyzed in this course. Various public (federal and state) and private sources of funding are considered. Three sources of public financing—Medicare, Medicaid, and the Older Americans Act—are examined in depth. The relative strengths of public and private funding are examined with attention to both access and quality issues. The implications of both the financing and organizational forces are considered for several major service modalities, including nursing homes, assisted living, home care, and adult day care.
3 Lect Hrs, 3 Credits

GERON 665
Program Review and Analysis
This course explores program development—from need identification to evaluation—using examples from the aging services network in Massachusetts and in other venues. Design, implementation, and analytical strategies are examined. A thorough examination of the review process is made, giving special attention to the views of the various stakeholders and the interplay among personnel, budgets, organizational structure, and program goals. Factors influencing program development and the implementation process are addressed, with focus on political, social, and financial considerations.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

GERON 670
Human Resources and Personnel Management in Aging Services
This course is designed to familiarize students with the concepts of human resources management as they are applied in primarily public, non-profit, and for-profit settings. In particular, the course focuses on human resources and personnel management as applied to the aging services field. The examples used in the course are drawn from organizations such as nursing homes, assisted-living facilities, home health agencies, senior centers, and councils on aging. Issues to be addressed include hiring and supervision, performance appraisal, mentoring, career planning, equal employment

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opportunity diversity, and collective bargaining. Students examine job design and pay systems, methods of personnel selection and training, issues of productivity and work hours, team building, effects of government regulations on working conditions, and personnel administration.
3 Lect Hrs, 3 Credits

GERON 675
Organizational Theory, Behavior, and Aging Services
This course examines the evolution of organizational theory from early principles to current approaches and practices. Students learn about the structure of organizations, including internal and external forces. This course also explores the current structure of aging organizations in Massachusetts. Students research the various levels of aging services organizations and their relationship with federal, state, and local government agencies and with other local organizations
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

GERON 680
Financial Management in Aging Services
The objective of this course is to introduce principles and applications of healthcare/long-term care financial management based on theory and practices in accounting and finance. The course is user-oriented and focuses on issues that are important to managers for planning and decision-making in the eldercare industry. Given the increased emphasis on financial viability, all aspiring managers in any organization, for-profit or not-for-profit, should have a basic understanding of factors that help improve the financial well-being of an organization. For any organization, the three critical elements of financial management are: 1) basic knowledge about accounting information, 2) relevant industry factors, and 3) principles of economics upon which many types of business decisions are made. Although the user is not aspiring to become a CPA, in order to make informed decisions it is essential to have an understanding of the terminology and techniques of generating and reporting financial information. Also, all organizations work within specific industries and fields, and they have to work within the competitive and regulatory environment surrounding that industry that impacts all managerial decisions. This course provides students with the tools to operate within these contexts.
3 Lect Hrs, 3 Credits

GERON 688
Multidisciplinary Seminar in Aging
A multidisciplinary colloquium series highlights current research and theory in gerontology. Presentations are made by students, faculty, and other scholars. The course must be taken three times for credit by students enrolled in the PhD program.
Hrs by arrangement, 1 Credit

GERON 691
Capstone Project Seminar
This course guides each master's student through the production and completion of a research project and report. Topics include a critique of unresolved issues in analyses of age, cohort, and period effects; an exposition of theoretical developments in social gerontological theory and their application to social policy and aging; explication of the requirements and methodologies of a research project, including interview training; research problem development, implementation of appropriate research methods for specific problems, and how to prepare a written document that describes the design of the project, the results of the analysis, and conclusions.
3 Credits

GERON 697
Special Topics in Aging Policy
This course provides an opportunity for presentation of current topics in aging policy that do not fall under the purview of any other course.
Hrs by arrangement, 1-6 Credits

GERON 701
Advanced Statistical Methods in Gerontology
This course instructs students in advanced statistical topics and provides training in the use of corresponding computer methods. The course builds upon the statistical foundations established in GERON 601, 603, 604, and 605, providing technical skills for use in the complex and specialized statistical research found in the social sciences. In addition to class time, this course requires independent work at the computer.
Prerequisites: GERON 604.
3 Lect Hrs, 3 Credits
Mr Porell

GERON 721
History and Political Economy of Social Policy Toward the Elderly
In the United States, public policy toward the elderly is a relatively recent phenomenon, first articulated in the 1935 landmark Social Security legislation. Participants study the history that led up to the development of Social Security and go on to use it as a context in which to examine other significant federal legislation for the aged such as Medicare and Medicaid. Particular emphasis is placed on the competing political forces that influenced the development of aging policy in the past and continue to do so. Economic, social, and health-related benefits for the aged in the United States are analyzed in comparison to those existing for other age groups in this country, and for the elderly in other industrialized nations.
3 Lect Hrs, 3 Credits

GERON 722
Social and Health Service Delivery Systems for the Elderly
This course provides an overview of the various delivery systems that provide social and medical services to the elderly. Students examine the highly fragmented delivery systems that presently exist and explore alternative models for service delivery. The course involves a technical analysis of recent research on health care and social service reimbursement systems in which cost containment is part of the optimal service delivery mechanism. The course seeks to acquaint graduate students with the planning models used in developing reimbursement and service delivery systems and to explore new models that can achieve high-quality service goals in a political environment.
3 Lect Hrs, 3 Credits

GERON 724
Ethnic and Racial Diversity in Aging Societies
This course examines the implications of race, ethnicity, socioeconomic status, and social class for the experiences of people in later life. Major attention is given to the cumulative consequences for life in old age of the life-long adversity experienced by many members of disadvantaged groups. Discussions also focus on the supports provided through families and ethnic associations for older people who are members of low-income racial and ethnic groups and on the implications for aging of migration patterns among members of these groups. The course examines programs and policies designed to address the special needs of racially disadvantaged elders in the United States. While emphasis is on the United States, some consideration is given to cross-national comparisons of the role of culture in establishing normative expectations for the aging experience and in providing the context for the development of aging policy.
Prerequisites: GERON 621 and GERON 626.
3 Lect Hrs, 3 Credits
Ms Mutchler

Gerontology

GERON 726
Current National Databases in Gerontological Policy Research
This course introduces students to the use of large national databases for gerontological social policy research. It provides a brief survey of the scope and content of various public-use national databases used in gerontological research, as well as an in-depth examination of one of these major databases. Students are introduced to the fundamentals of statistical programming; to the use of such standard statistical packages as Statistical Analysis System (SAS); and to methods and strategies for basic analytic data-file construction. These programming skills are applied to actual gerontological databases through examples presented by the instructor, as well as through a series of take-home assignments completed by the students. In addition to class time, this course requires independent work at a computer.
3 Lect Hrs, 3 Credits
Mr Porell

GERON 727
Research Practicum in Gerontology
This course provides students with a guided experience in writing an empirical research paper of publishable quality. Participants address a research question through secondary statistical analysis of a large survey data set supplied by the instructor. They critically examine published papers to learn how to write empirical papers for refereed gerontology journals. The statistical analysis involves application of multiple regression techniques. Students receive guidance from the instructor in all aspects of writing the paper: introduction, literature review, methodology, findings, and discussion. They also learn how to construct complex statistical tables. The course requires independent work conducting analysis of statistical data at a computer.
Prerequisites: GERON 604 and 726.
3 Lect Hrs, 3 Credits
Mr Porell

GERON 732
Demographic Methods in Aging
This course provides a foundation in basic demographic methods for gerontology doctoral students. Its underlying assumption is that population aging will be the major demographic phenomenon affecting this nation's institutions over the next half century. Students develop an understanding of how demographic trends and characteristics of populations are measured and examine the social and policy implications of major demographic trends for the United States and other countries.
Prerequisite: GERON 603 or equivalent.
3 Lect Hrs, 3 Credits

GERON 734
Law and Health Policy for the Elderly
This course examines the use of law in creating health policy that affects older Americans. It presents students with a brief introduction to the sources of law, to legal reasoning, and to the structure of the legal system. Cases are used to explore the impact of our legal system on issues of access, quality, and the cost of health care for older citizens. Other issues to be discussed include consent to and withdrawal of treatment.
3 Lect Hrs, 3 Credits
Ms Bruce

GERON 760
Policy Analysis Techniques
This course introduces students to a variety of formal methods used in policy analysis in gerontology. Topics include methods of legal research; projection techniques; factorial survey designs to determine the normative underpinnings of policy; measurement of inequality; measurement of efficiency in targeting; use of matrices for analysis of goals and alternatives; benefit-cost analysis; assessment of political feasibility; assessment of feasibility of implementation; and evaluation research. Students learn how to apply the various techniques through a series of assignments. Students should have completed two graduate-level statistics courses before registration.
Prerequisite: GERON 623.
3 Lect Hrs, 3 Credits

GERON 761
Advanced Policy Analysis in Aging
This course is concerned with the formation, justification, and implementation of aging policy in the United States. Designed for students with a background in the history, economics, and political economy of aging policy, the course provides an opportunity to apply this knowledge to the shaping of current public policy. The course explores agenda setting, the dynamics of the political process, and the variety of ways in which political power can be used. Students write a paper designed to inform decision-makers on a current policy issue in aging.
Prerequisites: GERON 623 and 626.
3 Lect Hrs, 3 Credits
Mr Caro

GERON 771
Seminar in Long-Term Care
This course analyzes major public policy issues in the organization and financing of long-term-care services in the United States. It examines the full spectrum of long-term-care services, including both institutional and non-institutional long-term care. The course also includes systematic descriptions of the characteristics of existing interventions, reviews of policy research findings, and critical analyses of policy options.
3 Lect Hrs, 3 Credits

GERON 772
Seminar in Health Care Financing
This course analyzes historical, current, and proposed policy options in health care financing, including Medicare, health insurance, and issues of provider reimbursement.
Prerequisites: GERON 623, 626.
3 Lect/Disc Hrs, 3 Credits
Mr Porell

GERON 774
Seminar in Economic Security of the Aged
Through lectures and discussion, this course focuses on contemporary issues in economic security for the elderly.
3 Lect/Disc Hrs, 3 Credits

GERON 779
Seminar in Productive Aging
This course provides advanced doctoral students with an opportunity to examine and critique research and scholarly discourse on the economic and social roles of older people in contemporary society. Students analyze the major positions and debates about productive aging and review the most recent research concerning productive activities of older people. Though the primary focus is on the United States, there are also readings and discussion about other industrialized nations.
3 Lect/Disc Hrs, 3 Credits

GERON 796
Independent Study in Aging Policy
This course provides students the opportunity for independent research under the direction of a faculty member.
Hrs by arrangement, 1-6 Credits
Prerequisite: Permission of instructor.

Gerontology

GERON 798
Internship in Gerontology
Students participate in policy research or policy analysis of aging-related issues in various settings, including but not limited to government agencies, research institutes at other universities, and nonprofit organizations. Each internship is supervised by a faculty member. Students receive credit on the basis of a paper that reflects the substantive work accomplished through the internship and/or the general knowledge gained through the internship about policy research or policy analysis. Students may register for this course as often as they like but may apply no more than 3 credits toward their degree.
1-3 Credits

GERON 891
Dissertation Seminar
This course assists students in preparing the dissertation proposal and in the design and data collection phases of the dissertation process.
3 Disc Hrs, 3 Credits

GERON 899
Dissertation Research
This course focuses on research conducted under faculty supervision, leading to the presentation of a doctoral dissertation.
Hrs by arrangement, 1-9 Credits

HISTORICAL ARCHAEOLOGY (MA)

Faculty

Amy Den Ouden, PhD, *University of Connecticut* • Historical Anthropology • Ethnohistory • Native American History • North America • Eastern United States

David B Landon (Fiske Center for Archaeological Research), PhD, *Boston University* • Historical Archaeology • Environmental Archaeology • Eastern United States

Stephen A Mrozowski, PhD, *Brown University* • Historical Archaeology • Urban Archaeology • Postcolonial Studies • Eastern United States

Stephen W Silliman, PhD, *University of California, Berkeley* • Historical Archaeology • Colonialism • Postcolonial Studies • Indigenous Archaeology • North America • California • Eastern United States

John Steinberg (Fiske Center for Archaeological Research), PhD, *University of California, Los Angeles* • Complex Societies • Economic Anthropology • GIS and Remote Sensing • Viking Iceland

Heather Trigg (Fiske Center for Archaeological Research), PhD, *University of Michigan* • Prehistoric and Historical Archaeology • Culture Contact and Colonialism • Paleoethnobotany • North America • Southwest • Eastern United States

Judith Francis Zeitlin, PhD, *Yale University* • Prehistoric and Historical Archaeology • New World Colonialism • Mesoamerica • Peru

Affiliated Faculty

Ping-Ann Addo (Anthropology Department), PhD, *Yale University* • Cultural Anthropology • Material Culture • Visual Arts • Cultural Migration • Pacific Islands

Jonathan M Chu (History Department), MSL, *Yale Law School*, PhD, *University of Washington* • Colonial America • American Revolution • American Legal History

Spencer DiScala (History Department), PhD, *Columbia University* • Modern Italy • History of Socialism • 19th- and 20th-Century Europe

Timothy Sieber (Anthropology Department), PhD, *New York University* • Urban Anthropology • Anthropology of Education • Ethnicity

Woodruff Smith (History Department), PhD, *University of Chicago* • German and Modern European History • African History

Malcolm Smuts (History Department), PhD, *Princeton University* • History of England to 1850 • Early Modern Europe

Lauren Sullivan (Anthropology Department), PhD, *University of Texas* • Mayan Archaeology • Ceramic Analysis • Complex Society • Mesoamerica

Julie Winch (History Department), PhD, *Bryn Mawr College* • Afro-American History • Maritime History

The Program

The Historical Archaeology MA degree administered by the Anthropology Department offers a program of study in archaeology, anthropology, and history with concentrations in material culture, social theory, Native American history, archaeobiology, industrialization, labor, public archaeology, urban cultural history, globalization, and the comparative study of colonialism. The program emphasizes the interdisciplinary and international nature of contemporary historical archaeology and historical anthropology. Combining faculty and staff from the Anthropology Department and the Fiske Center for Archaeological Research, the program offers diverse laboratory and field experiences to complement regular course work. These laboratories focus on artifact processing, materials conservation, identification of plant remains, animal bone and shell analysis, data entry and processing, computer graphics and mapping, and microscopy. With additional course work in the Environmental, Earth, and Ocean Sciences Department, students may choose to pursue a specialization in historical archaeology and GIS (Geographic Information Systems), and they are encouraged to take courses and conduct research with interested faculty in the History Department. Area concentrations in the program are available in North America, Mesoamerica, South America, and Iceland, with subarea foci in the Northeastern US, California, American Southwest, the Chesapeake, Mexico, and the Andes.

The graduate program is designed (1) to begin a student's advanced degree path with course work, research, and training that ensure competitiveness for and success in PhD programs, and (2) to provide a solid methodological and theoretical foundation for students seeking jobs in cultural resource management, museums, non-profit organizations, Native American tribal programs, secondary education, government agencies, and community colleges. Students are expected to take four required courses— three in anthropology, one in history—and four electives in anthropology, history, or related disciplines, plus a graduate-level archaeological field school. The latter often serves as a vehicle for thesis research. Research opportunities are available through the Fiske Center for Archaeological Research and Anthropology Department. Museum internships may be sought with several area museums, including Plimouth Plantation, Old Sturbridge Village, and Strawberry Banke. Graduate assistantships and research assistantships that carry tuition/fee waivers and stipends may be available to qualified students.

Degree Requirements

Students must complete 36 credits for the MA degree. Students will complete eight 3-credit courses (four required and four elective), participate in graduate field training in archaeology, and complete a master's thesis. The four required courses are:

ANTH 625 (Historical Archaeology)

ANTH 640 (Archaeological Methods and Analysis)

ANTH 665 (Graduate Seminar in Archaeology)

HIST 685 (Topics in Atlantic History)

The four elective courses may be drawn from several other courses in Anthropology, as well as from selected offerings in History and allied departments. The 6-credit graduate field course, ANTH 685, is usually completed in the summer following the first year of the program, unless students can demonstrate sufficient field training to waive this requirement. If a waiver is approved, students must take six credits of additional elective courses to ensure meeting the 36-credit minimum. Students are expected to complete course work in three or four semesters and complete the thesis in one to four semesters thereafter through enrollment in ANTH 699 (Thesis Research),

Completion of a thesis is the capstone requirement for the Historical Archaeology degree. Every student must produce an MA thesis based on original research, using archaeological data, primary documents, oral history, and/or ethnographic field results. Thesis research and writing are accomplished with the guidance of a faculty advisor, following approval of the thesis proposal by the graduate committee. For the thesis, a length of 70-80 pages, exclusive of bibliography, is recommended, although individual theses will vary in length. The thesis should be structured in the form of a long, refereed journal article, although this is an ideal model that can

Historical Archaeology

vary according to individual circumstances. The completed thesis will be read and approved by a committee of three, consisting of the advisor and two other readers chosen in consultation among the advisor, the student, and the Graduate Program Director. At least two of the three readers must be members of the Anthropology Department faculty or Fiske Center senior staff, but the remaining reader may come from other UMass Boston departments (for example, History or American Studies) or from a limited range of off-campus scholars with the approval of the thesis committee. More details can be found in the graduate program's "Handbook," which can be downloaded from the Anthropology Department's website at:

http://www.umb.edu/academics/departments/anthropology/graduate/index.html.

Additional Requirements

All students are assigned a graduate advisor upon entering the program based on stated interests and faculty availability. Students may choose to pursue the master of arts degree either full or part time. It is expected that all requirements for the degree will be completed within six years of each student's first enrollment.

Each student in the Historical Archaeology program must pass an oral thesis defense before being awarded the master of arts degree. The thesis will be defended in front of the three-person thesis committee described above with a corresponding public presentation to the department and program. To pass this examination, the student must receive at least two affirmative votes. A student who fails may repeat the examination no more than two times at intervals of not less than three months.

A student who has not passed the examination within two calendar years from the date upon which it was first taken will be subject to dismissal from the program.

Graduate students are required to maintain a 3.0 overall GPA; within the Historical Archaeology MA program, any grade below B- is not considered to be a passing grade and will not count toward degree requirements.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Applicants must submit evidence that they are able to perform graduate work at a high level of competence. Applicants must also present solid scores on the Graduate Record Examination for consideration of admission and funding.

Students with insufficient background in anthropology may be provisionally admitted and required to complete prerequisite undergraduate courses before being admitted to certain graduate courses.

Applicants for the program will normally be expected to have maintained at least a 3.0 cumulative average in undergraduate course work, with a major in anthropology, history, historic preservation, or other related field. The more successful applicants tend to be those with a grade point average of 3.5 or better, particularly in their undergraduate major.

Courses

ANTH 615
Public Archaeology

This course examines cultural resource management in New England and the United States, studying the significance of state and federal environmental and historic preservation legislation, and the implementation of these laws from drafting proposals and the granting of contracts to the collection and analysis of data for recommendations to mitigate the impact of construction on archaeological sites. Students learn the processes of national register nomination, problem-oriented proposal and report writing, and calculation of budget estimates for proposed work.
3 Lect Hrs, 3 Credits
Mr Landon, Mr Mrozowski

ANTH 625
Graduate Seminar in Historical Archaeology

This course provides an overview of the field of Historical Archaeology. Since its emergence in the 1960s, historical archaeology has grown to become the most rapidly expanding field of archaeological research. Having started from a focus on North America, historical archaeology is now a global field that concentrates on the study of the emergence of the modern world and other complex societies. Drawing on a rich palette of interdisciplinary approaches, historical archaeology explores complex global processes such as colonization, industrialization, urbanization, and globalization. This course will focus on the methods employed by the field's practitioners, the various contexts in which this work is conducted, and the theoretical underpinnings of the field as a whole.
3 Lect Hrs, 3 Credits
Mr Mrozowski

ANTH 630
Seminar in the Prehistory of the Americas

This course introduces key topics and literature in the precontact traditions, politics, lifeways, and material practices of the indigenous people of the Americas. The course is designed as a seminar discussion that runs concurrently with a lecture-based course at the undergraduate level. Topics will vary per semester among the following four options: Ancient North America, Ancient Peru, Ancient Mesoamerica, and New England Prehistory. By approval of the Graduate Committee, the course may be repeated for credit if topical focus varies.
3 Lect Hrs, 3 Credits
Mr Silliman, Ms Zeitlin

ANTH 640
Archaeological Methods and Analysis

This course introduces the practice of historical archaeology in the laboratory and in the field through considerations of research design, methodology, material culture, and technical analyses of archaeological remains. The first portion of the course will involve discussions and readings on research design, field methodology, and sampling and recovery. The remaining segments will cover material culture and technical analyses in the laboratory, with a focus on ceramics, metal, glass, stone, plant remains, animal remains, and conservation techniques. The latter component of the course will be strongly devoted to hands-on, practical training in laboratory techniques and material identification.
3 Lect Hrs, 3 Credits
Mr Landon, Mr Mrozowski, Mr Silliman

ANTH 645
Topics in Environmental Archaeology

This course provides an overview of tools and techniques archaeologists use to investigate the interrelationship between culture and their environments. It will explore how archaeologists and environmental scientists study past human/environment interactions, including human alteration of the environment and cultural responses to environmental change. Discussions of case studies provide examples of the interpretive power of interdisciplinary environmental archaeology research. Laboratory work with collections from archaeological sites provides practical experience and the basis for student research projects.
3 Lect Hrs, 3 Lab Hrs, 4 Credits
Mr Landon, Mr Steinberg, Ms Trigg

Historical Archaeology

ANTH 650
Materials in Ancient Societies
A one- or two-semester laboratory course offered as part of the teaching program of the MIT-based Center for Materials Research in Archaeology and Ethnology, of which UMass Boston is a member. The topic of the course rotates annually among lithic materials, ceramics, faunal/floral materials, metals, and archaeological data analysis. The course may be repeated for credit if topical focus varies.
3 Lect Hrs, 7 Lab Hrs, 5 Credits

ANTH 665
Graduate Seminar in Archaeology
This course is designed to provide students with a comprehensive background in current archaeological method and theory. It focuses on the major theoretical schools in archaeology and their historical development. The course includes lectures and discussions on theory and method in archaeology, as well as discussions of methods employed in other historical disciplines. Emphasis is also given to the articulation of social theory as developed in anthropology, history, and archaeological research.
3 Lect Hrs, 3 Credits
Mr Mrozowski, Mr Silliman

ANTH 670
Research Methods in Historical Archaeology
This course introduces the methods, analytical concerns, and theoretical approaches employed by anthropologists investigating past societies through documentary evidence. Readings for the course will range from the foundational literature of ethnohistory, with its primary focus on the historical study of marginalized cultures traditionally the subject of anthropological scrutiny, to recent trends in historical archaeology that reflect both a broader global bias and a heightened sensitivity to issues raised by feminist, postcolonial, and indigenous scholars. Using historiographic tools outlined in class, students will conduct small documentary research projects during the term.
3 Lect Hrs, 3 Credits
Ms Den Ouden, Ms Zeitlin

ANTH 672
Culture Contact and Colonialism in the Americas
This course explores the multifaceted nature of colonial encounters between Europeans and indigenous people. Using the Americas as the geographical focus, the course devotes special attention to the analytical and theoretical discourse-shaping anthropological approaches to colonialism through the topics of material culture, gender, ideology, ethnicity, race, identity, labor, class, and resistance. Readings and discussions will draw on data and perspectives from ethnohistory, historical archaeology, and cultural anthropology to tackle the simultaneously global and local nature of colonialism.
3 Lect Hrs, 3 Credits
Ms Den Ouden, Mr Silliman, Ms Zeitlin

ANTH 675L (AMST 575L)
Cultural Theory in Anthropology
This course surveys 20th-century sociocultural theory, providing students in historical archaeology, American studies, and other disciplines with a complementary background in cultural anthropology. The emphasis is on American anthropologists, their theories of culture, and the attention these theories give to history, as well as the discursive contexts within which these various theories have emerged.
3 Lect Hrs, 3 Credits
Ms Den Ouden

ANTH 685
Summer Field School in Historical Archaeology
Summer field survey or excavation in historical archaeology for 6-8 weeks, generally in the Northeastern U.S.
Prerequisite: Permission of instructor.
3 Lect Hrs, 6 Credits
Mr Mrozowski, Mr Silliman

ANTH 696
Individual Research in Archaeology
Students may take this course in addition to those required in the program in order to pursue further research relevant to the program of study.
Prerequisite: Permission of instructor.
1-4 Credits

ANTH 697
Special Topics in Archaeology
The content of this course, while always relevant to the program, will vary depending on the specialty of the visiting or permanent faculty member who may teach this course on a one-time basis.
Prerequisite: Permission of instructor.
1-6 Credits

ANTH 698
Practicum in Archaeology
This course focuses on application of theories and principles in a practical situation, such as field work or a research project for a public archaeology contract agency, museum, archaeological laboratory, historical commission, or preservation agency. In the practicum students develop a wide range of valuable skills and experience related to possible future employment.
Prerequisites: ANTH 625, 665, and permission of instructor.
Variable Hrs (depending on credits), 1-6 Credits

ANTH 699
Thesis Research Projects in Historical Archaeology
The thesis will be developed from a problem-oriented analysis of documentary and archaeological data, following the process laid out in this publication and in the graduate program handbook. Students receive a "Y" (In progress) grade on their transcript for this course until the thesis is completed.
6 Credits

HISTORY (MA)

HISTORY TRACK, HISTORY TEACHING TRACK

Faculty

Paul Bookbinder, PhD, *Brandeis University* • History of Germany • Holocaust • Political Violence

Vincent Cannato, PhD, *Columbia University* • 20th Century American Political History • Urban History • Immigration

Michael Chesson, PhD, *Harvard University* • Civil War and Reconstruction • Old South • Slavery

Jonathan M Chu, MSL, *Yale Law School*, PhD, *University of Washington* • Colonial America • American Revolution • American Legal History

Spencer DiScala, PhD, *Columbia University* • Modern Italy • History of Socialism • 19th- and 20th-Century Europe

Tamara Griggs, PhD, *Princeton University* • 17th and 18th Century European Social and Intellectual History • Historiography

David Hunt, PhD, *Harvard University* • French Social History • Peasant Society • Vietnam

Esther Kingston-Mann (American Studies Program, History Department), PhD, *Johns Hopkins University* • Modern Russian Soviet and Post-Soviet History • Peasants and Issues of Economic Development • The Cold War

Ruth Miller, PhD, *Princeton University* • Modern Middle East • Ottoman Islamic Law in the Modern Period

William A Percy, PhD, *Princeton University* • Medieval History • Gay History

Woodruff Smith, PhD, *University of Chicago* • German and Modern European History • African History

Malcolm Smuts, PhD, *Princeton University* • History of England to 1850 • Early Modern Europe

Julie Winch, PhD, *Bryn Mawr College* • Afro-American History • Maritime History

Roberta L Wollons, PhD, *University of Chicago* • American Progressive Era History • Women's History • History of Education

The Program

The History Department offers a master's degree in history with a choice of two tracks: a history track and a history teaching track.

History

The Master of Arts Program in History offers a rigorous, individually planned set of courses and supervised research and writing. Both demanding and flexible, it suits those students who intend to pursue a PhD or a career in secondary-school teaching, as well as those who seek to test their capacity for graduate work. Not all students enter directly from college; many return at the beginning graduate level after long absences from school. The student body includes teachers at the secondary level who desire to improve their knowledge of the field. Students who simply wish to pursue advanced studies for their own intellectual enjoyment and development also benefit from the program's design. Graduate enrollment is small, affording the graduate student close faculty attention and support. All graduate courses consist of seminars that are capped at 15 students.

History Teaching

The history teaching track is specially designed to meet the needs of current and prospective secondary-school teachers of history/social studies. It emphasizes extensive and varied course work in history, culminating in a teaching-oriented capstone project rather than a thesis. It is not a teacher licensure program. Students interested in teacher licensure should consult with the Graduate College of Education's Teacher Education Program to determine the requirements for licensure at either the initial or professional level. Those requirements may be satisfied in coordination with the History MA Program.

Degree Requirements

The MA in History

Students in this track take 30 credit hours: seven 3-credit courses, a 3-credit thesis preparation course, and the MA thesis (6 credits). A maximum of two undergraduate courses at the 300 level or above may be counted toward graduate credit; extra work is required of all graduate students in these courses. There are three required courses: HIST 600 (Research Seminar), an introduction to historical research and methods, with special attention to primary sources, usually given in American history; HIST 605 (Colloquium), an introductory course in historiography, normally given in European history, with topics varying each semester; and HIST 690 (Thesis Preparation), a course in which the student works with an advisor to develop a thesis topic and produce a formal proposal. Other courses are electives, chosen according to the student's interests. The thesis, normally undertaken after completion of course work, should be approximately 60 pages long and based on original research. It is prepared under the guidance of an individual faculty advisor and defended before a committee of three faculty members. Students enrolled in the History track must demonstrate a reading proficiency in one foreign language—French, German, Spanish, or another judged relevant to the student's major area of interest. This requirement is met through passing a test administered by the program.

The MA Track in History Teaching

This track requires 30 credit hours: nine 3-credit courses and a capstone project (3 credits). Two courses are required: HIST 600 (Research Seminar) and HIST 605 (Colloquium). There are seven electives, three of which may be upper-level undergraduate courses (extra work is required of graduate students in undergraduate courses). There is no foreign-language requirement.

For the capstone project, the student prepares a 30-page research paper, under the supervision of an individual faculty member, on a topic of the student's choice. The paper includes a curricular section indicating how the topic or subject area could be taught to secondary-school students. The capstone project is presented and defended before a three-member faculty committee.

Additional Requirements for All Students

Students may choose to pursue the master of arts degree either full or part time. In normal circumstances, it is expected that all requirements for the degree will be completed within five years of the student's first enrollment.

Each student in the History Track must pass an oral thesis defense before being awarded the master of arts degree. The examining committee consists of the student's thesis advisor and two additional readers (one of whom may be external to program faculty), to be chosen by consultation among the advisor, the student, and the graduate program director. To pass this examination, the student must receive at least two affirmative votes. A student who fails may repeat the examination two times at intervals of not less than three months.

A student who has not passed the examination within two calendar years from the date upon which it was first taken will be subject to dismissal from the program.

History

No grade below B- awarded to a graduate student will count toward fulfilling the requirements for a master of arts degree in history.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Applicants must submit evidence that they are able to perform graduate work at a high level of competence. Graduate Record Examination scores should be submitted if available (History and History Teaching Tracks). Applicants will normally be expected to have majored in history as undergraduates and maintained a 3.0 cumulative average in the major. Applications from persons who did not major in history as undergraduates will be considered; students whose background in history is judged insufficient may be admitted provisionally and required to complete prerequisite undergraduate courses before being fully admitted to the program.

Eligibility for Courses

Please note: Graduate courses are open to non-matriculated graduate students and graduate students from other programs with permission of the graduate program director. They are open to advanced undergraduates by permission of the instructor. History 600 and 605 are not open to undergraduates.

History Courses

HIST 600
Research Seminar
This is the introductory course in historical research and methods. Readings draw upon diverse historical materials, with special attention to primary materials. Emphasis is given to the development of research and writing skills. It is normally taught in American history. (Course offered every semester.)
3 Lect Hrs, 3 Credits
Mr Di Scala, Ms Winch, and Staff

HIST 602L (AMST 602L)
Historical Sequence I: American Society and Political Culture: 1600-1865
This course follows the evolution of American society and political culture from the colonial period to the Civil War. The concept "political culture," as used here, embraces institutions, public behavior, and above all, attitudes—beliefs, values, expectations, fears—regarding the distribution and exercise of political power. Two momentous events, the wars for independence and union, are major course milestones at which the development of political culture is assessed from the perspective of different social groups, including leaders, artists, writers, women, workers, and slaves. A central theme is the interplay between regional divergences and national convergences. Thematic questions running through the course are: Did a common political culture emerge? Who was included, who excluded? Was American political culture distinctive?
3 Lect Hrs, 3 Credits
Mr Chu and Staff

HIST 605
Colloquium
This is the introductory course in historiography. A topic, varying from year to year, is treated in the light of past and present schools of historical thought. Emphasis is given to the development of analytical skills. The colloquium is normally taught in European history. (Course offered every semester.)
3 Lect Hrs, 3 Credits
Mr Di Scala, Mr Smith, Mr Smuts, and Staff

HIST 610
American Historical Tradition
This course focuses on the history of American historical writing from the eighteenth century to the present. Topics include the Progressive, Consensus, New Left, New Social, and other schools of historical interpretation. (Course offered every year.)
3 Lect Hrs, 3 Credits
Ms Winch

HIST 615
European Historical Tradition
This course focuses on the history of European historical writing from Voltaire to the present, including both classic and contemporary historians. (Course offered every other year.)
3 Lect Hrs, 3 Credits
Staff

HIST 631
Fall of the Roman Empire
This course examines one of the great problems of European history and in the process surveys the entire period from the third century to the early seventh. It considers the reasons for the fall of the Roman empire and discusses some of the explanations that have been proposed. Topics include the crisis of the third century; Diocletian and Constantine; the Germanic invasions; and the reign of Justinian.
3 Lect Hrs, 3 Credits

HIST 636
Weimar Germany
This course examines German life and culture under the Weimar Republic, chiefly through studies of diverse primary sources ranging from memoirs and public addresses to literature, the arts, and architecture. Each student investigates one aspect of Weimar history using the available primary source material (in translation) and delivers an oral presentation and a final major paper.
3 Lect Hrs, 3 Credits
Mr Bookbinder

HIST 646
The Early New England Town
This course uses the early history of New England towns to examine the social life of Americans from the first settlements to the American Civil War. Through the study of the town, students consider topics in social, political, legal, economic, demographic, and environmental history.
3 Lect Hrs, 3 Credits
Mr Chu

HIST 647L (PPOL G 747L)
Law and Public Policy
This course exposes students to differing theoretical perspectives in the academic literature, as well as to important areas of law. The course focuses on judicial policy-making and on the nature of the litigious US society. In addition to examining why the courts are such central actors in US policy-making, participants also explore the consequences of the distinctive role the courts play in various policy areas—for example, abortion, civil rights, desegregation, the environment, health care, labor policy, social legislation, special education, and welfare.
3 Lect Hrs, 3 Credits
Ms Bussiere

HIST 650L (AMST 650L)
Leadership in 19th-Century Antebellum America
This course explores leadership in 19th-century America and the contributions of various leaders to the development of the nation. Topics include reform leaders, political leaders, and lesser-known leaders.
3 Lect Hrs, 3 Credits
Staff

History

HIST 670
European Diplomatic History, 1815-1914
This course examines specific topics during the age of chancellery diplomacy, including the Congress of Vienna, the Metternich System, mid-century breakdown of the Concert of Europe, the Bismarckian era, diplomatic revolution, and the July 1914 crisis leading up to World War I.
3 Lect Hrs, 3 Credits

HIST 681
Topics in European History
This course examines important themes in European political, social, cultural, and intellectual history. Topics vary.
3 Lect Hrs, 3 Credits

HIST 682
Topics in American History
This course examines important themes in American political, social, cultural, and intellectual history. Topics vary.
3 Lect Hrs, 3 Credits

HIST 685
Topics in Atlantic History
This course examines important themes in the history of the Atlantic world between the sixteenth and nineteenth centuries. Such themes will involve economic, cultural, social, and/or political interactions between peoples and countries on both sides of the Atlantic.
3 Lect Hrs, 3 Credits

HIST 689
Capstone Project
This course focuses on guided research, culminating in a 30-page research paper on a topic selected by the student and approved by the graduate program director. The paper must include a curricular section discussing the methods and materials that would be used in teaching this topic or subject area on the secondary school level. The paper will be defended before a committee consisting of a faculty advisor and two other readers.
Hrs by arrangement, 3 Credits

HIST 690
Thesis Preparation
This is a one-semester, supervised research experience designed to help students develop a viable thesis topic. Subjects will vary according to the individual student's interest and will include extensive guided reading.
Hrs by arrangement, 3 Credits

HIST 691
Teaching History
Students in this course will analyze historical thinking and work to learn those skills that contribute to effective college teaching. The course is designed for students who will be Teaching Assistants and for those who hope to teach at the community college or university level.
3 Lect Hrs, 3 Credits

HIST 696
Independent Study
This is an advanced course of independent readings under the guidance of and subject to the examination of the instructor. Areas and topics are tailored to student interest and need. This course may be taken only once.
Prerequisite: Permission of graduate program director.
Hrs by arrangement, 1-3 Credits

HIST 697
Special Topics
This advanced course offers intensive study of selected topics in history. Course content varies according to the topic and will be announced prior to the advance registration period.
1-6 credits

HIST 699
Master of Arts Thesis
The MA thesis is prepared, under the supervision of the appointed advisor. All topics must be approved by the program's graduate committee prior to registration. The thesis will be defended before a committee of three faculty members, who will judge its suitability as partial fulfillment of the requirements for the master of arts degree.
Hrs by arrangement, 6 Credits

HUMAN SERVICES (MS)

Faculty

Luis Aponte-Pares, PhD, *Columbia University* • Strategic Planning • Urban Planning

William M. Holmes, PhD, *Ohio State University* • Criminal Justice • Research Methodology • Family Violence

Chi-Kan Richard Hung, PhD, *Indiana University* • Public Policy • Public Finance

Sylvia Mignon, PhD, *Northeastern University* • Substance Abuse • Criminal Justice • Family Violence

Margaret Rhodes, PhD, *Brandeis University* • Ethics and Social Policy

Miren Uriarte, PhD, *Boston University* • Race, Ethnicity, and Gender in Human Services • Human Services Program Development and Evaluation

Ann Withorn, PhD, *Brandeis University* • Social Welfare • Politics and Human Services

The Program

The Master of Science Program in Human Services is designed to meet the graduate educational needs of practitioners in a broad range of human service jobs. It allows experienced people to acquire the knowledge, skills, and direction necessary for moving into new or more advanced positions in the field of human services. The MS in Human Services Program is unique in that it is outcome-based. This approach to education—in which competencies (defined through learning outcomes) are earned through demonstration of knowledge and skills in a particular area—provides a variety of options for learning, all aimed at assuring that the graduate's knowledge and skills are relevant to the real world of practice. Students receive grades based on their demonstration of these competencies. Each competency is equivalent to three credit hours.

The curriculum content, carefully constructed to match workforce needs, is designed to provide professional orientation to the context and core values of human services practice as a foundation for planning and managing people, programs, finances, and information systems. The program objectives are to provide professional education that

1. Prepares experienced human services professionals for leadership positions that provide opportunities to participate in shaping the future of human services; and
2. Prepares competent planners and managers who are knowledgeable about the core values of human services and about the professional, legal, ethical, and policy context of human services practice and who can apply this knowledge in managing and planning human services.

In order to accommodate the needs of the majority of students in the program, who are employed full-time, most courses and other activities are offered in the evenings and on weekends. Students are admitted to the program only for the fall semester, and are invited to an orientation held during the summer before the fall term begins.

Degree Requirements

The MS in Human Services requires successful completion of 13 competencies (39 credits), including the capstone project, according to the following guidelines:

I. Six core competencies (18 credits):

HMS-G 601, 602, 603, 606, 628, 634.

II. Four competencies (12 credits) in a concentration in either management or planning. Choose from:

Management: HMS-G 620, 621, 623, 625, 626, 627.

Planning: HMS-G 626, 630, 631, 632, 633, 649.

In lieu of the standard management and planning concentrations, a student may tailor a concentration in gerontology or dispute resolution, with the permission of the appropriate program director and the director of the Human Services Program. For further information on these programs, see the "Dispute Resolution" and "Gerontology" sections of this publication.

III. Two elective competencies (6 credits) chosen from among those required for other concentrations, as listed above, and/or from the following: HMS-G 609, 613, 622, 648.

IV. A capstone project: HMS-G 655 (one competency, 3 credits)

Students demonstrate competencies through course work and a combination of independent study and prior learning. All students are required to complete the program within the four-year statute of limitations. Entering students who bring with them a substantial amount of classroom and work experience may complete the degree in two academic years.

Admission Requirements

Please see the general statement of admission requirements for all graduate programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

The MS in Human Services Admission Committee seeks to admit students with a diversity of backgrounds and educational and professional experiences. Applicants will be recommended for admission on the basis of both academic preparation to pursue graduate studies and appropriate professional experience in human services. Evidence of those qualifications includes

1. A résumé of professional activities that demonstrates substantial practical experience (paid or volunteer) in public or community service, and a personal statement that reflects harmony between the student's goals and program options.
2. Three letters of recommendation, at least one of which is from a supervisor currently working with the applicant in a professional context.
3. A score on the Miller Analogies Test or the Graduate Record Examination. Please note: A test score is not required if the applicant holds an advanced degree from an accredited US university.

Competency Summaries

Each of the competencies in the MS Program in Human Services is listed below, along with a summary statement of the learning that the student is expected to demonstrate, through course work or a combination of prior learning and independent study. Course descriptions and complete competency criteria are available from the program office.

HMS G 601
Human Services Policy
Students will analyze the historical, social, and political development of human service policies and organizations in the United States and can apply this analysis to comprehensive study of formulation and implementation of Massachusetts policy in a particular area.
3 Credits

HMS G 602
Ethics in Human Services
Students will understand some of the chief ethical conflicts in the delivery of human services and their ethical and political underpinnings, including the centrality of

Human Services

these conflicts to the evaluation of organizational structure, program design, professionalism, and the relationship between worker and client.
3 Credits

HMS G 603
Race, Culture, and Ethnicity in Human Services
Students will be able to identify and analyze discrimination based on race, sex, culture, or ethnic group in the values, attitudes, behaviors, policies, and practices of human services systems, agencies, or providers (personnel), and to develop appropriate interventions/methods to address this discrimination.
3 Credits

HMS G 606
Research Methods
Students will learn the basic principles of social science research and various qualitative and quantitative research designs. Using this knowledge, students will critically evaluate existing research as reported in professional journals, as well as design a research study.
3 Credits

HMS G 609
Supervision of Human Service Workers
Students will be able to explain the interrelationship between organizational behavior and the supervisory role in organizations and to use theoretical constructs in the area of organizational behavior to distinguish good supervision practice from poor supervision practice. The ultimate outcome of this competency is that students will be able to identify, diagnose, and resolve critical issues that arise in facilitating the work of others.
3 Credits

HMS G 613
Training Human Service Workers
The student will show an understanding of the purpose and limits of staff training, as well as the elements that go into it. The student will be able to set up a training program and discuss the theory(ies) of learning on which the training is based.
3 Credits

HMS G 620
Leadership and Organizational Development
Students will analyze a variety of theories, issues, and models of leadership and be able to select those that are appropriate for application in human services organizations.
3 Credits

HMS G 621
Human Resources Administration
Students will be able to design effective human resource policies and systems, involving all internal and external constituencies, appropriate to particular public or non-profit human service organizations.
3 Credits

HMS G 622
Marketing Human Services
Students will be able to develop appropriate marketing strategies for public and non-profit human service organizations.
3 Credits

HMS G 623
Financial Management of Non-Profit Organizations
Students will learn to perform the basic financial tasks of a non-profit organization. These tasks include recording financial transactions, preparing financial statements, retrospective evaluation ratio analysis, prospective planning (including budgeting, cost analysis, and revenue generation), budget execution, and preserving the integrity of the financial operation.
3 Credits

HMS G 625
Public Sector Budgeting
Students will understand the public budgeting process and be able to carry out the financial management tasks associated with the development and implementation of a budget for a state-funded human service agency. They will also be able to analyze the impact of the political system on the public budgeting process.
3 Credits

HMS G 626
Strategic Planning for Public and Nonprofit Organizations
Students will be able to identify strategic planning needs, to develop and implement a strategic planning process, and to develop an operational plan for short-term implementation. In addition to recognizing the value of strategic planning, managers and planners will also be able to determine when strategic planning is not practical or desirable. In such situations, students will be able to take appropriate action to prepare the organization for strategic planning.
3 Credits

HMS G 627
Performance Monitoring and Evaluation
Students will be able to use performance monitoring as a results-oriented management tool. They will be able to conduct periodic measurement of progress toward explicit short- and long-term objectives and report the results to decision-makers. Students will understand how performance monitoring can help managers make better decisions. They will also know the kinds of problems that arise in developing and implementing performance monitoring systems and how to address these challenges. The ultimate goal is that students will be able to oversee the design and implementation of effective performance-monitoring systems.
3 Credits

HMS G 628
Legal Issues in Human Services
Students will acquire a theoretical legal framework, develop experience in applying these principles to real situations, and acquire skill in finding and using law important to their work or area of interest. This knowledge will help students develop strategies to comply with and also change the law, as well as advocating for their agency and its consumers.
3 Credits

HMS G 630
Human Services Planning
Students will utilize planning theory and methodology to prepare a comprehensive plan addressing a specific human service problem at the community, organizational, or service delivery level.
3 Credits

HMS G 631
Human Services Needs Assessment
Students will understand and utilize a range of research methods for conducting needs assessments and will be able to design and analyze needs assessments for human service issues.
3 Credits

HMS G 632
Evaluation Research
Students will understand the basic issues involved in planning evaluation research and will be able to design and analyze an evaluation for a specific policy program.
3 Credits

HMS G 633
Fund Raising and Grant Seeking
Students will describe and analyze the range of funding options available to human service organizations and be able to develop a plan for implementing a fund-raising strategy for a particular human service program or organization.
3 Credits

Human Services

HMS G 634
Information Technology for Management and Planning
Students will be able to use information technology to leverage existing data systems and to create new ones. Students will be able to ensure the appropriate selection and deployment of technology to meet the organization's specific needs. They will be able to apply the data/information/knowledge/action transformation process to managing and planning human services. The ultimate goal is that, as managers and planners, students will use information technology to improve management and overall organizational functioning.
3 Credits

HMS G 648
Comparative Social Policy and Practice
Students will, through analysis of appropriate literature and field research, analyze a human service system in another country and make informed comparisons between it and a comparable system in the United States.
3 Credits

HMS G 649
Program Development
Students will develop an implementation plan for a human service program, based on a needs assessment and current research and theory, utilizing appropriate resources and anticipating barriers to implementation.
3 Credits

HMS G 655
Capstone Project
Students will integrate the content of their learning through a research or action project focused on management or planning. Students will participate in a seminar as part of the capstone experience.
3 Credits

INFORMATION TECHNOLOGY (MS)

The Master of Science in Information Technology program will begin accepting applications in Fall 2006 for matriculation as of Spring 2007.

Faculty

Noushin Ashrafi, PhD, *University of Texas at Arlington* • Management Science and Information Systems

Pratyush Bharati, PhD, *Rensselaer Polytechnic Institute* • Management Science and Information Systems

Roger Blake, MS, *Massachusetts Institute of Technology* • Management Science and Information Systems

Jeffrey Keisler, PhD, *Harvard University* • Management Science and Information Systems

Jean-Pierre Kuilboer, PhD, *University of Texas at Arlington* • Management Science and Information Systems

Sathasivam Mathiyalakan, PhD, *University of Kentucky* • Management Science and Information Systems

Daniel Shimshak, PhD, *City University of New York* • Management Science and Information Systems

Frenck Waage, PhD, *The University of California, Berkeley* • Management Science and Information Systems

Janet Wagner, PhD, *Massachusetts Institute of Technology* • Management Science and Information Systems

Peng Xu, PhD, *Georgia State University* • Management Science and Information Systems

Wei Zhang, DBA, *Boston University* • Management Science and Information Systems

For allied MBA faculty, see under Business Administration in this publication.

The Program

The Master of Science in Information Technology program, located in the College of Management, is designed to equip managers with the essential knowledge and skills needed for them to achieve professional success in information technology-related roles as business systems analysts, database administrators, communications managers, IT management-corporate liaisons, IT product managers, or project managers. Specific program goals are to:

Provide high-quality and relevant education in the techniques, methods, and strategies for the effective execution and management of IT initiatives in organizations.

Educate students to understand and apply the fundamental principles and technical requirements of the IT profession in their practice.

Prepare students for IT work practice in diverse organizations and client systems of all sizes.

Educate students about the socio-technical contexts of IT practice, the changing nature of those contexts, the dynamics of change, and the manager's role in facilitating transformation and creating efficient and effective organizations through technology.

Contribute to addressing the needs of the region's IT education requirements at the graduate level.

Engage in scholarly activity including the discovery, integration, application, dissemination, and evaluation of information-intensive and technology-based research.

Deliver service that maintains the currency of the Master of Science in Information Technology program and promotes collaboration with local organizations.

Degree Requirements

The MSIT is a 30 to 45-credit degree program. To receive the MSIT, students must complete 10 courses (30 credits): six required core classes, three electives, and the capstone course. Students without a BS in Management or a related field may also need to complete some or all of the following prerequisites (15 credits):

Foundation prerequisite:

MSIS 640 Computers and Information Processing Systems

Business Core:

MBA AF 601 Economics for Managers

MBAMS 630 Statistical Analysis for Managers

MBAMS 635 Operations Management

MBAMGT 650 Organizational Analysis and Skills

A mathematics requirement will be satisfied through testing, waiver, or course work. Students without adequate mathematical background will be required to complete MBAMS 600: Mathematical Analysis and Skills, prior to admission.

The MSIT courses are organized into three clusters:

A. Technical Foundation of Information Technology (6 credits required)

Courses designed to provide a solid understanding of the technical foundation of IT: this group of courses offers the technical foundation for understanding the architecture of modern IT and the dynamics of information technology projects. Choose two; others may be taken as electives:

MSIS 613 Information Security, Privacy, and Regulatory Compliance

MSIS 614 Business Data Communications and Computer Networks

MSIS 615 Object-Oriented Information Systems

MSIS 618 Database Management

B. Applications of Information Technology (3 credits required)

Applications of information technology courses focus on the role that information technology plays in organizations. They demonstrate the integrative nature of IT and its role in business architecture. Emphasis is placed on developing the students' abilities to build absorptive capacity and to manage and execute change and integration of innovative projects. These courses promote IT as a function aligned with the business goals and providing innovative competitive advantages to the organization. MSIS 611 is required; other courses in this group may be taken as electives:

MSIS 611 Knowledge Management and Business Intelligence

MSIS 612 Information Technology Controls and Auditing

MSIS 617 Management of the Supply Chains

MSIS 620 Customer Relationship Management

MSIS 622 e-Business and e-Commerce

C- Information Technology Management and Strategy (12 credits required)

These courses are designed to provide the student with an understanding of both the operational and strategic frameworks under which information technology initiatives exist. They build communication network and knowledge communities, develop leadership traits, and illustrate the needs for business alliances. Courses support the development of students' abilities and skills to operate effectively under these frameworks. The MSIS 610, 616, 619, and 630 are required; MSIS 621 may be taken as an elective:

Information Technology

MSIS 610 Innovation in IT Management

MSIS 616 Information Technology for Quality and Competitive Management

MSIS 619 Business Process Innovation and Systems Analysis and Design

MSIS 621 Information Technology Strategy and Operations

MSIS 630 Project and Change Management

The MSIT degree will be offered on both a full-time and a part-time basis. Courses will be offered year-round.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication, and the "Special Instructions for Applicants to Individual Programs" section at the back of this publication.

The Master of Science in Information Technology (MSIT) Admissions Committee will recommend admission for applicants who show evidence of high promise of success in the MSIT program. Candidates are evaluated on the basis of their:

1. Undergraduate and any previous graduate performance
2. Professional work experience
3. GMAT scores
4. Application Essays
5. Recommendations
6. Interview (recommended)

The MBA Admissions Committee will consider all of the above in making admissions decisions. Admission to the program is very competitive, and students are judged in relation to other applicants that semester. Grade point averages and GMAT ranges will be published each semester and distributed at MSIT Information Sessions for the use of applicants in preparing for admission.

Courses

All core MSIT courses are listed here. For a complete list of potential electives, please see under Business Administration in this publication.

MSIS 610
Innovation in IT Management
The most successful firms are those that have been able to systematically exploit innovation. Instituting innovation to create value is not an easy task. It is a complex, cross-functional, and results-oriented endeavor. Traditionally, the necessary ingredients for innovation were investments in research and development, implementing change, or enhancing creativity. Today, technological breakthroughs are the primary drivers of innovation. A new category of technology has emerged that, when used effectively, makes the innovation process more economical while ameliorating some of its uncertainties. The course starts by addressing five basic questions on innovation: what, when, where, who, and how. It describes innovation models, the importance of timing in innovation, the globalization aspect of innovation, and what it takes to be innovative. In addressing these questions, the course considers the impact and role of technology. Real world case studies are used to illustrate the practical implications of innovation in IT management.
3 Lect Hrs, 3 Credits

MSIS 611
Knowledge Management and Business Intelligence
Enterprises are investing in information technology in order to manage the information glut and to glean knowledge that can be leveraged for competitive advantages. Two approaches in particular—business intelligence and knowledge management—have shown good return on investment in some applications and are benefiting from a large concentration of research and development. The technologies are . Catering to the ever-increasing interests in these fields in all kinds of organizations, this course introduces students to the concepts and practice of knowledge management and business intelligence. The focus of the course is on the issues that concern the design and execution of knowledge management strategies. Essential underlying technologies that influence the functioning of organizations and political relations will also inform class readings and discussion.. The format of the course includes lectures, discussion, and case analyses.
3 Lect Hrs, 3 Credits

MSIS 612
Information Technology Controls and Auditing
This course enables students to learn key concepts and methods for managing information technology controls and audits. It examines the foundations of IT audit and control, discussing both what IT auditing involves and the guidance provided by organizations in dealing with control and auditability issues. It then analyzes the process of audit and review, explores IT governance and control, and discusses the COBIT framework and steps that align IT decisions with business strategy. The course surveys project management processes that ensure that projects are controlled from inception through integration. It continues by addressing auditing IT acquisition and implementation and describing risks and controls as related to the life cycle of application systems. It highlights the purchase and installation of new systems as well as change management. It examines the auditing of IT operations in stand-alone and global environments, covering types of IT operations, issues related to specific platforms, risk and control assessment, audit methods, and support tools. Students learn how to scope and plan information technology audits, identify key information technology risk areas within the enterprise, and gain perspective on leading practices for information technology management tasks.
3 Lect Hrs, 3 Credits

MSIS 613
Information Security, Privacy, and Regulatory Compliance
This course provides a broad overview of threats to the security of information systems, responsibilities and basic tools for information security, and levels of training and expertise needed in organizations to reach and maintain a state of acceptable security. Topics include an introduction to confidentiality, integrity, and availability; authentication models and protection models; intrusion detection and response; operational security issues; physical security issues; and personnel security. Additional topics include policy formation and enforcement; access controls and information flow; legal and social issues; identification and authentication in local and distributed systems; classification and trust modeling; and risk assessment.
3 Lect Hrs, 3 Credits

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MSIS 614
Business Data Communications & Computer Networks
This course develops a managerial level of technical knowledge and terminology for data, voice, image, and video communications and computer networks to enable secure, cost-effective, and efficient communication among technical, operational, and management personnel. Students are expected to learn the concepts, models, architectures, protocols, standards, and security for the design, implementation, and management of digital networks and apply data communications concepts to situations encountered in industry; learn general concepts and techniques of local area networks (LAN), wireless local area networks (WLAN), and wide area networks (WAN); and understand the technology of the Internet and the regulatory environment. Other topics introduced include network operatin systems, e-commerce and associated web sites and practices, as well as middleware for wireless systems, multimedia, and conferencing.

MIS 615
Object-Oriented Information Systems
This course provides a review of systems development principles with an object orientation as they relate to the analysis and design of database applications, knowledge base systems, and object-oriented programming. The course critically evaluates alternative approaches to information systems development and highlights the integrative nature of object-oriented principles. The JAVA programming language is used to illustrate the characteristic properties of current object-oriented programming techniques such as encapsulation, inheritance, and polymorphism.
3 Lect Hrs, 3 Credits

MSIS 616
Information Technology for Quality and Competitive Management
This course exposes students to the concepts and frameworks required to manage information technology (IT) towards strategic goals. Discussions include the characteristics of new technologies such as groupware, client/server, Internet, intranets, and high-band-width communication networks. The course develops linkages between strategic goals and technology characteristics and considers the impact of these technologies on organizations ranging from small, entrepreneurial companies to multinational corporations. Topics include developing a technology strategy for a firm, creating technology-based alliances, managing a technology portfolio, and exploiting the potential of electronic commerce to re-engineer the value chain in an industry. Cases focus on companies that have succeeded as a result of imaginative use of IT and those that have failed as a result of the inability to exploit IT Assets for competitive advantage. No IT background is presumed.
3 Lect Hrs, 3 Credits

MSIS 617
Management of the Supply Chains
This course examines how to create opportunities for revolutionizing manufacturing and logistics, with increased efficiencies in designing, operating, and managing supply chains. This course presents state-of-the-art models and practical tools for supply chain management and multi-plant coordination. Sessions focus on effective logistics strategies for companies operating in multiple countries and on the integration of supply chain components and their associated information workflows into a coordinated system to increase service levels and to reduce costs. The effective use of the Internet and developments in information systems and communication technologies are presented through real-world case studies that illustrate and analyze important concepts, such as strategic partnering and outsourcing.
3 Lect Hrs, 3 Credits

MSIS 618
Database Management
This course introduces the fundamental concepts necessary for the design, use, and implementation of database systems. The course stresses the fundamentals of database modeling and design, the languages and facilities provided by database management systems, and the techniques for implementing relational database systems. Upon completion of the course, the students will be able to use Entity-Relationship Diagrams as a tool to assist in logical database design, be able to design logical databases in third normal form, be able to identify current issues in the uses of database management systems, be able to identify issues in physical database implementation, and gain familiarity with industrial-strength database management systems.
3 Lect Hrs, 3 Credits

MSIS 619
Business Process Innovation and Systems Analysis and Design
This course focuses on the analysis and logical design of information systems to support business processes. This knowledge is then utilized to explore the suitable use of information systems to transform and improve business processes and structures to compete in the digital economy. The course discusses recent diagramming and notational techniques that define and model business processes, business requirements, and computer systems. This course also provides hands-on experience of using Computer Aided Software Engineering (CASE) tools for real-world problem-solving.
3 Lect Hrs, 3 Credits

MSIS 620
Customer Relationship Management
Customers are a firm's most valuable resource—and Customer Relationship Management (CRM) techniques can ensure they remain loyal. This course provides students with the knowledge they need to select appropriate technologies, understand the CRM process, create best practices, and build a successful CRM program in an organization. Students gain an understanding of how to develop a customer-centric data warehouse, debate the advantages of outsourcing CRM services, discuss what data a firm should collect, learn how to use data mining, and master techniques to convert data into information that informs business practices.
3 Lect Hrs, 3 Credits

MSIS 621
Information Technology Strategy and Operations
This course emphasizes strategy formulation for IT initiatives as a driver in information systems design and deployment. Among the topics examined are: approaches to IT organization, how IT can be used to create business value, measuring returns on IT investments, developing an IT strategic plan, alignment of IT with organizational strategy, IT governance and ethics, outsourcing IT, developing IT as an organizational core competency, and improving business processes through the application of IT.

MSIS 622
e-Business and e-Commerce
This course provides a broad coverage of the technology involved in the development of e-business and e-commerce. The course material is designed to introduce students to the field of e-commerce, Web developments for e-commerce models, programming, and a number of software packages. The course pursues the objective of initiating the students into theoretical and hands-on web development aimed at organizational Internet presence. Recommended pre-

Information Technology

requisite skills include some awareness of Internet usage and the principles of programming.
3 Lect Hrs, 3 Credits

MSIS 630
Project and Change Management
This course provides an understanding of how to manage projects in the context of change. The course discusses concepts and techniques in project management such as planning, scheduling, and implementation. It also provides students with an understanding of change management as relevant to project management in a dynamic organizational environment. The course also develops an understanding of the software tools employed for project management. It applies the concepts and software to hypothetical and real world cases.
3 Lect Hrs, 3 Credits

INSTRUCTIONAL DESIGN (MEd, GRADUATE CERTIFICATE)

INSTRUCTIONAL TECHNOLOGY DESIGN (GRADUATE CERTIFICATE)

Faculty

Lynn Andrews, MEd, *University of Massachusetts Boston* • Instructional Design (Part-time)

William Braun, PhD, *Catholic University* • Communication (Part-time)

William Coughlin, JD, *New England School of Law* • Organization Development (Part-time)

Dennis Maxey, PhD, *University of Texas* • Online Learning

Canice McGarry, MEd, *Boston University* • Adult Education (Part-time)

Dianne Nerbosa, MEd, *University of Massachusetts Boston* • Curriculum Development (Part-time)

Laurio Poklop, MEd, *University of Massachusetts Boston* • Instructional Design (Part-time)

Domenic Screnci, EdD, *Boston University* • Educational Media and Technology (Part-time)

The Program

The MEd in Instructional Design is an ideal master's degree for career professionals engaged in the education, training, and development of adult learners in the workplace. Students experience a dynamic learning process and curriculum that meets the current educational demands of the marketplace. This unique program offers a comprehensive course of study which gives equal importance to both the design and delivery of adult instruction. Applications of this process appear in every kind of organization, including business and industry, educational institutions, government agencies, the military, health care, and professional societies.

This multidisciplinary academic program requires 36 credits for completion. Using the principles and practices of adult education, theoretical and applied courses concentrate on three objectives:

1. Building a foundation/conceptual framework for the instructional design process;
2. Developing instructional strategies and skills to facilitate adult learning; and
3. Using educational media and technology to enhance the learning process.

Students are given the opportunity to increase their knowledge and to develop the skills and techniques necessary for the effective design and presentation of instructional materials. Course study focuses on the instructional design process, adult learning theory, communication, media, technology, and organizational knowledge. Emphasis is placed on the students' application and evaluation of their learning. Faculty members holding part-time status in this program are career professionals, strongly committed to sharing their knowledge and skills with those entering the field.

The program offers evening classes that meet once each week to accommodate full-time and part-time students. Many courses are available online; there is also an option by which the degree may be completed primarily online (see below). Non-degree students are invited to select individual courses to meet their career-development or other specialized needs; their admittance to courses is on a space-available basis.

Degree Requirements

The 36-credit program, flexibly designed to meet individual needs, combines a total of 12 required and elective courses (which may include a field experience), and completion of a final project or thesis.

Required and Elective Courses

The program curriculum includes courses in three areas:

Area I: Instructional Design Core Courses

The following five courses, required of all degree candidates, provide a foundation and a context for the instructional design process. The first two courses (INSDSG 601 and 602) form the basis of the program and should be completed first. The next two (INSDSG 604 and 618) may be completed at any time during the program. The Capstone Seminar is normally completed in the student's final semester.

INSDSG 601 (Introduction to Instructional Design)

INSDSG 602 (The Adult as Learner)

INSDSG 604 (Communication Theory for Organizations)

INSDSG 618 (Assessment in the Instructional Design Process)

INSDSG 690 (Capstone Seminar)

Area II: Instructional Strategies and Skills

Students take two courses in this area. Current course offerings include:

INSDSG 603, 612, 614, 630, 632.

Area III: Educational Media and Technology

Students take two courses in this area. Current course offerings include:

INSDSG 608, 610, 616, 617, 640, 650, 655.

Additional Electives: In order to complete the 36-credit program, students may choose three additional electives from Area II, Area III, or (with prior permission of the program director) a wide range of graduate offerings throughout the university. They may also choose to complete some of their credits through Independent Study (this option is available with permission of the program faculty).

The Capstone Project: An instructional design capstone project is required of all degree candidates for the MEd. For additional information, please consult the program faculty.

Students are required to maintain a 3.0 GPA throughout the program.

Advising

All students are expected to meet with an advisor each semester for prior approval of course selection.

Admission Requirements

Please see the general statement of admission requirements for all graduate programs in the "Admissions" section of this publication.

The MEd Program in Instructional Design invites applications from individuals with a variety of academic and experiential backgrounds who hold baccalaureate degrees from accredited institutions. Admissions criteria include:

1. A personal interview with the program faculty.
2. A statement of interests and intent.
3. Three letters of recommendation from former teachers familiar with the applicant's recent academic work, and/or from employers familiar with his/her professional ability.
4. A competitive score on the Miller Analogies Test. Please note: A test score is not required if the applicant holds an advanced degree from a U.S. university.
5. An updated résumé.

Instructional Design

The Certificate in Instructional Technology Design

The graduate program in Instructional Design also offers a certificate program in Instructional Technology Design, to meet the increasing challenges created by the high technology training needs of academic, corporate, and public educators. Through a combination of classroom and hands-on laboratory work, this certificate program provides participants with the opportunity to design and produce computer-mediated learning activities and interactive multimedia materials and to make effective use of instructional technology in curriculum development.

Degree Requirements

Participants seeking the certificate take a total of five courses (15 credits), which offer them experience with the kinds of software commonly used for educational computer materials, as well as studies relating to the place of educational technologies in instructional strategies, to techniques of project management, and to the proposal and design phases of technology-based instructional development:

INSDSG 616 (Production of Computer-Based Training)

INSDSG 617 (Advanced Computer-Based Training) or equivalent

INSDSG 640 (Planning and Design of Educational Multimedia Programs)

INSDSG 650 (Assessment of Educational Technologies)

INSDSG 655 (Project in Multimedia)

Students are required to maintain a 3.0 GPA throughout the program.

For complete information about the certificate program, please contact the graduate program director.

Admission Requirements

Admission requirements for the certificate program are the same as for the MEd program. In addition, applicants to the certificate program must have completed INSDSG 601 (Introduction to Instructional Design) or its equivalent, as determined by the faculty, and must demonstrate basic competence in computer use by satisfactorily completing a proficiency test. It is recommended that interested persons consult with the program faculty before applying for admission to the certificate program.

The program is also open to students currently matriculated in any UMass Boston graduate program. They may enroll in the program after consulting with academic advisors in their own programs and should submit a statement of purpose to the program faculty. These students must also complete INSDSG 601 or its equivalent and take a computer proficiency test before enrolling in the program.

Instructional Design Online Option

To better meet the working schedules of our students, many of our courses are offered in an online format as well as in a traditional on-campus format. As presently constructed, these courses are accessible from a home computer via the Internet.

Students pursuing the certificate program in Instructional Technology Design may take all the courses required for the certificate online; they may also choose to combine online courses with face-to-face courses.

Students pursuing the MEd in Instructional Design must take INSDSG 602 and 604 face-to-face. They may complete any or all of their remaining course work online, depending on availability of online sections.

Currently, the following courses are offered online:

- INSDSG 601
- INSDSG 616
- INSDSG 617
- INSDSG 618
- INSDSG 640
- INSDSG 650
- INSDSG 655
- INSDSG 690

Additional online courses are being added each semester.

Online courses are designed to have thirteen class sessions. Students have a week to access the material for each class and to complete the assignments. Also built into course expectations are two face-to-face or electronic meetings, using Centra audio/video conferencing. Students can sit at home in front of their computers as they talk and share documents.

University online technology allows for the utilization of such features as video chat sessions and seminars, case studies using threaded discussion, resource-rich websites, and guest lecturers. Strategies used to promote learning may include:

- Formation of student teams for projects and other activities
- Peer-to-peer learning through e-mail communication
- Clear information from instructor about expected quality and expected timeliness of e-mail exchanges, and expectations for online participation.
- Stimulating material such as audio or video lecture, PowerPoint presentation, streaming video segments
- Comprehensive and detailed online syllabus
- Clear student assessment and grading policy.

Courses

INSDSG 601
Introduction to Instructional Design
This course provides an introduction to the cognitive and experiential content of the program, emphasizing the components of the instructional design model. Various instructional design models are analyzed, and students are expected to complete, as a final project, a learning module microdesign.
3 Lect Hrs, 3 Credits

INSDSG 602
The Adult as Learner
Students are introduced to the body of knowledge concerning adults as learners. This course focuses on the principles of adult education, learning styles, variables that affect adult learning, motivation techniques, appropriate training methodologies, reinforcement of learning, skill transfer, and measurement procedures for identifying learner characteristics..
3 Lect Hrs, 3 Credits

INSDSG 603
Selection and Evaluation of Instructional Materials
This course analyzes the factors that determine the selection, evaluation, and utilization of materials used in instructional design. It studies the comparative instructional value of a wide range of electronic and print materials. At the end of the course, students will be able to choose materials on the basis of cost effectiveness, technical quality, teaching-learning mode, physical facilities, and availability of equipment.
Prerequisite: INSDSG 601.
3 Lect Hrs, 3 Credits

INSDSG 604
Communication Theory for Organizations
This course focuses on the study of communication as applied to instructional design

Instructional Design

and on theories of media communication. It covers audience variables, systems of media analysis, message structure, environmental factors, and the integration of these elements into an efficient communication model.
Prerequisites: INSDSG 601 and 602.

INSDSG 605
Production of Media Materials
This course provides a systematic survey of a variety of media formats, including visual displays and audio and visual presentations. Aspects of theory include psychological principles and research on media as a teaching mode. Students have the opportunity to apply knowledge and skills to selected areas of media production, especially as they provide solutions to instructional problems.
Prerequisite: INSDSG 601.
3 Lect Hrs, 3 Credits

INSDSG 608
Information Design and Visual Literacy
In this course, students explore the principles of visual literacy and apply them to a variety of instances in instructional design, instructional technology, and information presentation. Topics include the theoretical foundations of visual learning, the role of perception in communication and learning, verbal and visual communications, and visual and information design.
Prerequisite: INSDSG 601.
3 Lect Hrs, 3 Credits

INSDSG 610
Video Principles for Instructional Design
This course provides a comprehensive introduction to video production theory and technique, including the study of principles for analyzing and synthesizing information and of some basic video instructional formats. The goal is to equip those responsible for developing instructional materials with the skills they need in order to work with video professionals in creating, designing, and producing instructional video programs.
Prerequisite: INSDSG 601.
3 Lect Hrs, 2 Lab Hrs, 3 Credits

INSDSG 612
Instructional Strategies and the Adult Learner
This course is designed to assist participants in making classroom training more effective. Emphasis is on instructor roles and tasks, determining learning styles, and selecting appropriate techniques. Techniques focus on stand-up teaching skills, including lecture, question-and-answer, discussion and facilitation, as well as common media formats, role-playing, games and simulations, and case studies.
Prerequisite: INSDSG 602.
3 Lect Hrs, 3 Credits

INSDSG 614
Writing for the Business Professional
This course is designed to help participants develop effective writing. It provides both analysis of written documents and a theoretical review of professional writing techniques. Assignments emphasize the writing tasks typically required of training and development specialists in any organization. They include the design, assessment, marketing, and evaluation of instruction. Participants develop the skills for effective communication with those outside the organization, and those at all levels within it.
Prerequisites: INSDSG 601 and 602.
3 Lect Hrs, 3 Credits

INSDSG 616
Production of Computer-Based Training
This is a basic course in developing e-Learning programs with an emphasis on Web-Based Training (WBT). The course addresses user interface design, the execution of common instructional strategies employed in training products, and techniques of graphics production. The course is project-based: students work in teams to design, make prototypes, and produce CBT/WBT/multimedia programs.
Prerequisite: INSDSG 601.
3 Lect Hrs, 3 Credits

INSDSG 617
Advanced Computer-Based Training
This course builds on the students' basic knowledge of creating courseware and multimedia. Students learn techniques of advanced scripting and data architecture, and methods of developing student tests and student tracking systems. Students create simple animations and interactive simulations. The course is project-based: students work in teams to design, make prototypes, and produce simple CBT or multimedia programs.
Prerequisite: INSDSG 616.
3 Lect Hrs, 3 Credits

INSDSG 618
Assessment in the Instructional Design Process
This course examines assessment in all phases of the instructional design process, including needs analysis and the various stages of formative and summative evaluation. Topics include various types of data, techniques for data gathering, the construction of questionnaires, a hands-on review of computer programs, and characteristic issues in the analysis and interpretation of assessment. The course also offers practical experience in the use of representative measures and applications.
Prerequisites: INSDSG 601 and 602.
3 Lect Hrs, 3 Credits

INSDSG 620
Interpersonal Skills and Group Dynamics
This course introduces students to the body of knowledge governing interpersonal, intrapersonal, and public communication. Through readings and the laboratory method, students learn human relations skills for effectiveness in personal and career situations. Topics include perception, listening, conflict resolution, and group dynamics.
Prerequisite: INSDSG 604 or permission of program director.
3 Lect Hrs, 3 Credits

INSDSG 630
Managing the Training Function
This course focuses on the requirements for successfully managing an organization's training function. Areas of concentration include building a training department; managing change and stress; delegating; communicating performance expectations; winning management support; and long-range planning. Classes include small and large group instruction, video, participatory exercises, and case studies.
Prerequisite: INSDSG 618.
3 Lect Hrs, 3 Credits

INSDSG 632
Workplace Education: Theory and Practice
This course introduces workplace education through the study of organizational and human resource development. Emphasis is on managing productive change by using tested theory in actual workplace situations.
Prerequisites: INSDSG 604 and 618.
3 Lect Hrs, 3 Credits

INSDSG 640
Planning and Design of Educational Multimedia Programs
This course provides an overview of the process of designing interactive multimedia instruction. Since instructional multimedia are created and delivered in a technical environment, the course covers a combination of technical and non-technical topics,

Instructional Design

including the technical environment and tools used to create and deliver multimedia instruction; the technical requirements and educational value of various media elements; how to structure multimedia experiences; and how to plan multimedia projects.
Prerequisite: INSDSG 601.
3 Lect Hrs, 3 Credits

INSDSG 650
Assessment of Educational Technologies
This course in formative and summative evaluation brings students' practical experience with computers and multimedia to bear on study of the use of these technologies in the classroom. Students examine the formative evaluation process for technology-based programs in corporate training programs and school curricula. By obtaining feedback from representatives of the target audience in the early stages of a product's development, the developer can assure that it meets goals while staying within its budget. Formative evaluation plans are now required by most funding sources and corporations. Summative evaluation—the evaluation of an educational product at the end of its development process—is a way to determine whether the project has met its goals. Students learn to apply these assessment procedures in a project based on a real-world application.
Prerequisite: INSDSG 601.
3 Lect Hrs, 3 Credits

INSDSG 655
Project in Multimedia
Students work with UMass Boston faculty, teachers in cooperating schools, and/or sponsoring corporations to make a prototype multimedia application or to produce a planning document for multimedia implementation in the client organization. Students may participate in projects prearranged by the instructional technology staff or may generate their own, working individually or in a team.
Prerequisites: INSDSG 601, 640, and 616.
Hrs to be arranged, 3 Credits

INSDSG 690
Capstone Seminar
This course provides guidance and a structured environment in which students develop advanced instructional design skill in the context of their capstone project. Seminar topics, selected to support participating students' projects, may include: component display analysis; needs assessment data, analysis and reporting techniques; cognitive flexibility theory; competency modeling; and self-directed/learner-centered strategies. Students who have completed twenty-four or more credits toward the Instructional Design MEd may enroll in this course.
3 Lect Hrs, 3 Credits

INSDSG 696
Independent Study
This course focuses on comprehensive study of a particular topic or area in instructional design, as determined by the needs of the individual student. The student works under the guidance and supervision of the instructor.
Prerequisite: Permission of graduate program director.
3 Lect Hrs, 3-6 Credits

INSDSG 697
Special Topics in Instructional Design
This is an advanced course offering intensive study of selected topics in instructional design. Course content varies according to the topic and will be announced prior to the advance registration period.
3 Lect Hrs, 1-6 Credits

LATIN AND CLASSICAL HUMANITIES

Faculty

Kellee Barnard, PhD, *University of Pennsylvania* • Classical Archaeology and Material Culture • Aegean Prehistory • Greek History • Ancient Rome in 20th Century Perception

Jacqueline Carlon, PhD, *Boston University* • Women in Roman Literature • Pliny • Tacitus • Roman Imperial Identity

Randall Colaizzi, PhD, *University of California, Berkeley* • Latin Poetry • The Bay of Naples • Computers and Classics (Part-time)

Emily A McDermott, PhD, *Yale University* • Greek Tragedy • Euripides • Augustan Poetry • The Classical Tradition

Frank S Nisetich, PhD, *Harvard University* (emeritus) • Translation • Pindar • Greek Tragedy • Callimachus • The Age of Nero

Kenneth S Rothwell, Jr, PhD, *Columbia University* • Greek and Roman Comedy • Athenian Democracy • Ancient Rhetoric

Graduate courses in Latin and Classical Humanities are available to students matriculated in the MA in Applied Linguistics/Latin and Classical Humanities Track, to students matriculated in initial and professional licensure tracks in the Teacher Education MEd in the Graduate College of Education, and to non-matriculated students.

The MA in Applied Linguistics/Latin and Classical Humanities Track is a unique program combining traditional study of Latin and Classical Humanities with study of linguistics, language acquisition theory, and foreign language pedagogy. The program consists of courses in Latin language, literature, classical culture, and methods given by the Classics Department and courses in linguistics, language acquisition, and foreign language pedagogy given by the Applied Linguistics Program. For details, see under "Linguistics" in this bulletin.

The Track for Professional Licensure in the Teacher Education MEd offers a program of study leading to professional licensure in Latin and Classical Humanities, as does the Post-Master's Certificate with Professional Licensure. The program consists of courses in Latin language, literature, and methods given by the Classics Department, courses in language acquisition and foreign language pedagogy given by the Applied Linguistics Program, and courses in pedagogy given by the Department of Curriculum and Instruction. For details of this or the initial licensure programs, see under "Education: Teacher Education" in this publication.

Courses

LATIN 501
Cicero
The focus of this course is on Cicero's orations, with special attention to the Catilinarians and the *Pro Caelio*. The course will emphasize careful analysis of Cicero's Latin style and the political, legal, and literary issues that arise from these works. Students will be introduced to relevant scholarly literature.
3 Lect Hrs, 3 Credits

LATIN 503
Roman Comedy
This course focuses on readings in the comedies of Plautus and Terence. It will entail intensive study of one representative play by each playwright; other plays will be read in English translation. Topics to be covered include: the influence of Menander and Greek New Comedy; the rise of a literary culture in second-century-BC Rome; and analysis of character, language, and plot.
3 Lect Hrs, 3 Credits

LATIN 510
Virgil
This course focuses on readings in the works of Virgil, with primary emphasis on the *Aeneid*. Significant attention is paid to historical and cultural context, literary history and epic genre, Virgil's poetic and patriotic programmes and poetic diction, as well as to secondary, scholarly literature.
3 Lect Hrs, 3 Credits

LATIN 515
Methods of Teaching the Latin Language
This course focuses on the theory and practice of teaching Latin in the schools. Special emphasis is given to assessing the pedagogical approaches that have emerged in recent decades and the textbooks they have produced. There will also be discussion of specific ways to integrate these approaches into the contemporary classroom.
3 Lect Hrs, 3 Credits

LATIN 520
Latin Letters
This course offers a survey of the epistolary genre in Latin literature. Readings will focus on Cicero, Seneca, and Pliny; short examples from Horace, Ovid, Fronto, and Petrarch will also be included. Letters will be considered in their historical, social, and literary contexts. Students will evaluate the structure, content, and evolution of the genre.
3 Lect Hrs, 3 Credits

LATIN 525
Literature in the Age of Nero
The Emperor Nero, despite his reputation for viciousness, presided over a literary renaissance in Rome of the first century AD. This course devotes attention to key figures in this renaissance, including Seneca, Petronius, Lucan, and Persius. Through extensive readings in selected Latin texts, students will find that literary, political, and philosophical issues intersect.
3 Lect Hrs, 3 Credits

LATIN 530
Latin Love Poetry
This course focuses on readings in the amatory poetry of Catullus, Horace, Virgil, and the Roman elegists. Significant attention is paid to historical, philosophical, and cultural context, literary history and genre distinctions, and the love poets' use of their poetry to reflect their constructions of self and society. Students will be introduced to relevant secondary literature.
3 Lect Hrs, 3 Credits

LATIN 535
Latin Historians
This course surveys the Latin historians, focusing primarily on Sallust, Livy, and Tacitus. Earlier writers, such as Cato the Elder, and later ones such as Ammianus Marcellinus are briefly considered. These historians will be read in Latin and studied in their historical, social and literary contexts.
3 Lect Hrs, 3 Credits

LATIN 597
Special Topics
This course offers intensive study of a selected topic in Latin language and/or literature. Course content varies according to the topic, which will be announced prior to the advance pre-registration period.
1-6 Credits

CLASSICS 597
Special Topics
This course offers intensive study of a selected topic in classical humanities. Primary texts are read in English translation. Course content varies according to the topic, which will be announced prior to the advance pre-registration period.
1-6 Credits

APPLIED LINGUISTICS (MA)

CONCENTRATIONS IN BILINGUAL STUDIES, ENGLISH AS A SECOND LANGUAGE, FOREIGN LANGUAGE PEDAGOGY; LATIN AND CLASSICAL HUMANITIES MA TRACK

Faculty

Lilia I. Bartolome, PhD, *Stanford University* • Language and Literacy Development • Multicultural Education • Bilingual Education

Mary Cazabon, EdD, *University of Massachusetts Boston* • Language Testing • ESL Writing • Bilingual Policy (Part-time)

Corinne Etienne, PhD, *Indiana University* • Language Contacts and Language • Attitudes in Creole-Speaking Areas (in particular Haiti) • Foreign Language Pedagogy • French Applied Linguistics • Teacher Cognition

Panayota Gounari, PhD, *Pennsylvania State University* • Cultural Studies in Education • Politics of Language • Technology in Language Education

Pepi Leistyna, EdD, *Harvard University* • Literacy • Curriculum Development • Critical Pedagogy • Parent Education

Donaldo Macedo (Graduate Program Director), EdD, PhD, *Boston University* • Applied Psycholinguistics • Sociolinguistics • Second Language Acquisition • Pidgins and Creoles • Critical Literacy

Charles Meyer, PhD, *University of Wisconsin* • Corpus Linguistics • Structure of Modern English • English as an International Language

Candace Mitchell, PhD, *Boston University* • Discourse and Narrative Analysis • Literacy Theory • Cross-Cultural Communication

Timothy Sieber (Anthropology Department), PhD, *New York University* • Urban Anthropology • Social Class and Ethnicity • Cultural Issues in Urban Development • Schooling

George Smith (English Department), PhD, *University of Virginia* • Stylistics • Linguistic Theory • Computational Linguistics • Technology in the Language Classroom

For Classics Department faculty participating in the MA in Applied Linguistics/Latin and Classical Humanities Track, see under "Latin and Classical Humanities" in this publication.

The MA in Applied Linguistics

The MA Program in Applied Linguistics at UMass Boston is comprehensive in its scope and designed to introduce students to the theoretical, empirical, and practical dimensions of applied linguistics. The program emphasizes both theory and practice. These areas of inquiry are reflected in faculty and student research and the intellectual diversity characterizing the content of the various courses that students will be taking.

Courses are offered in basic theoretical linguistics, applied linguistics, and the interdisciplinary areas of psycholinguistics and sociolinguistics. These courses provide students with a thorough understanding of the linguistic, cultural and ideological considerations that govern language acquisition. The program also offers courses in discourse analysis and ethnographic research methods, ESL/EFL methodologies, and cross-cultural studies. The program is thus designed to enable students to understand the diversity of issues inherent in the study of language so they are well prepared to teach and do research in applied linguistics.

The program in Applied Linguistics offers concentrations in **Bilingual Education, English as a Second Language** (ESL) instruction for English language learners (ELLs), and **Foreign Language Pedagogy** (EFL). The program presents a wide range of opportunities to students interested in conducting research, working with community-based organizations, or preparing to teach in various contexts, such as public schools (K-12), adult education, and language schools outside the United States. Many of our students go on to pursue doctoral work in such fields as linguistics, education, and literacy studies.

Nearly 25% of our students come from outside the United States, contributing to a culture of linguistic and cultural diversity which enriches the department's intellectual and social life. In addition, students from a variety of American cultural and linguistic minority groups make up a percentage of the current student body.

An online option in the MA in Applied Linguistics is available, combining our faculty's expertise and our long tradition of excellence in applied linguistics studies with new technologies for online delivery and E-learning.

All courses in the Applied Linguistics MA program are offered in the evening and meet for 2.5 hours per week. The program can be completed in a minimum of two years; the program is open to students wishing to attend on a full-time or part-time basis.

The Applied Linguistics Department also collaborates with the Classics Department to offer the MA in Applied Linguistics/Latin and Classical Humanities Track. This track is targeted primarily to in-service teachers of Latin seeking to combine preparation in language acquisition theory and foreign language pedagogy with study of Latin literature and classical culture. Secondarily, it is available to non-teachers or pre-service teachers who are interested in study of linguistics, the classical languages, and classical humanities, either purely for enrichment or as a stepping-stone to doctoral study in classics or related fields. This is not a licensure program; those interested in teacher licensure in Latin and Classical Humanities should look under "Education: Teacher Education: Tracks with Initial or Professional Licensure" in this publication.

The MA in Applied Linguistics

Concentrations in Bilingual Studies, English as a Second Language, Foreign Language Pedagogy

Degree Requirements

All candidates are required to complete 30 graduate credits (10 courses), together with a comprehensive examination to be taken once all course work has been completed.

Thirty (30) graduate credits are required of all candidates. The program has three components:

1. Core requirements. Students are required to take four core courses (12 credits):

   APLING 601 (Linguistics)

   APLING 603 (Cross-Cultural Perspectives)

   APLING 621 (Psycholinguistics)

   APLING 623 (Sociolinguistics)

2. Students choose a concentration from the three listed below and complete its required four courses (12 credits):

- Bilingual Studies Concentration

  APLING 605 Theories and Principles of Language Teaching

  APLING 615 Methods and Materials in Bilingual Education

  APLING 616 Curriculum Development in Bilingual Education

  APLING 698 Practicum/Field Experience

- ESL Studies Concentration

  APLING 605 Theories and Principles of Language Teaching

  APLING 614 Foundations of Bilingual/Multicultural Education

  APLING 618 Teaching ESL: Methods and Approaches

  APLING 698 Practicum/Field Experience

- Foreign Language Pedagogy Concentration

  APLING 605 Theories and Principles of Language Teaching

Applied Linguistics

APLING 611 Methods and Materials in Foreign Language Instruction

APLING 612 Integrating Culture into the Language Curriculum

APLING 698 Practicum/Field Experience

3. Electives (6 credits). The program offers more than two dozen elective courses to students in all three tracks. Students from one track may enroll in required courses from another track and count those credits toward their electives. Students also have the option to take two courses as electives in related disciplines that complement their specialization in one of the three majors.
4. Practicum. A practicum is required of all students. This requirement may be satisfied through teaching in University undergraduate ESL classes, in a public school system, or at a community agency. The practicum requirement may be waived for students with significant on-site teaching experience (paid teaching, supervised student teaching, supervised teaching in an adult social or educational agency).
5. Final exercise. All degree candidates must either successfully pass a four-hour-long written comprehensive exam or (by invitation of the faculty only) write a thesis as their capstone experience.

Teacher Licensure

In conjunction with the Applied Linguistics MA Program or master's-level studies in any other UMass Boston graduate program, students may pursue Massachusetts teacher licensure for English Language Learners (ELL) at the elementary or secondary levels.

Students interested in bilingual special education should matriculate into the Special Education Program, where they can incorporate several applied linguistics courses into that degree program and into a bilingual special education practicum. Further information may be obtained from the graduate program director of the Special Education MEd Program in the Graduate College of Education.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Please see also the description of admission requirements listed under "Professional Preparation Programs for Education" in the "Regulations, Procedures, and Degree Requirements" section of this publication.

Applicants for the MA in Applied Linguistics must meet the following additional requirements:

1. Candidates must have at least a 3.0 undergraduate grade point average, preferably in a relevant field of study such as anthropology, English, foreign language, history, linguistics, political science, psychology, or sociology.
2. Non-native speakers of English must submit a minimum TOEFL score of 575 on the paper- based test or 230 on the computer-based test.
3. Candidates for the Bilingual and Foreign Language Concentrations must indicate native or near-native proficiency in the language they expect to teach in.
4. Candidates for the ESL Concentration must indicate proficiency in a language other than English at a level equivalent to two years of successful college study.
5. Applicants should use the 1200-word statement accompanying the application to address directly any areas of academic weakness in the application. A discussion of the applicant's experiences in language study, language teaching/ tutoring, travel, or living in other cultural settings is also appropriate, as is a discussion of the candidate's career goals. The statement should specify the applicant's interest in the ESL, bilingual, or foreign language pedagogy concentration.
6. GREs are not required but may be submitted to strengthen the application.

The MA in Applied Linguistics/ Latin and Classical Humanities Track

Degree Requirements

All candidates must complete 36 credits. Course requirements include

1. The Linguistics Component (12 credits)

APLING 601 (Linguistics)

APLING 621 (Psycholinguistics)

APLING 605 (Theories and Principles of Language Teaching)

APLING 611 (Methods and Materials in Foreign Language Teaching)

Substitutions may be made with the prior approval of the Graduate Program Director.

2. The Methods Component (3 credits)

LAT 515: Methods of Teaching the Latin Language

With prior approval of the Track Coordinator, a different Latin methods course may be substituted, or the requirement may be waived and a 3-credit elective in either Applied Linguistics or Classics taken in its place.

3. The Classics Component (21 credits)

Eighteen credits to be earned in Latin, chosen from among graduate Latin seminars, Latin electives, and (by invitation of the faculty only) a 3-credit Final Paper or a 6-credit Master's thesis.

Three credits to be earned in a Classical Studies graduate course.

With prior approval of the Track Coordinator, a graduate course in an allied department (e.g., HIST 631) may count toward this requirement.

4. Capstone**.** A set of two rigorous comprehensive exams is required. One will test facility in Latin language; the other will be based on course work in linguistics, on a comprehensive reading list in Latin literature, and on required readings in Greek literature in English translation.

Optionally, and upon invitation by the faculty only, students may complete either a Final Paper (3 credits, approximately 30 pages in length) or a Master's Thesis (6 credits, approximately 60 pages in length) involving extensive original research/scholarship. Both the final paper and the thesis are prepared under the guidance of an individual faculty advisor and defended before a committee or three faculty members. This option does not substitute for the comprehensive exams, which must be taken by all candidates.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Please see also the description of admission requirements listed under "Professional Preparation Programs for Education" in the "Regulations, Procedures, and Degree Requirements" section of this publication.

Applicants for the MA in Applied Linguistics/Latin and Classical Humanities Track must meet the following additional requirements:

1. Applicants must have at least a 3.0 grade point average in undergraduate work and any prior graduate-level work, with a minimum of 3.25 in the major field.

Applied Linguistics

2. Applicants are expected to present an undergraduate major in classical language, or its equivalent. Students with deficiencies in their Latin preparation may be admitted provisionally and required to take Latin courses at the undergraduate level before full admission to the program.
3. Applicants are required to present strong scores on the general Graduate Record Examination.
4. An interview should be arranged, whenever feasible.

Note: Classics Department courses that count toward the MA in Applied Linguistics/Latin and Classical Humanities Track are listed in the Latin and Classical Humanities section of this publication.

Courses

APLING 601
Linguistics
This course examines the nature and origin of language, the history of linguistics, and new theoretical developments in the field. Principles of language analysis phonology, morphology, syntax, and semantics are discussed. The course systematically compares the structure of English with a variety of other languages.
3 Lect Hrs, 3 Credits

APLING 603
Cross-Cultural Perspectives
This course is designed to help students develop perceptions of cultural similarities and differences from knowledge of concepts and meanings of culture. Special emphasis will be given to issues of linguistic and cultural discontinuities, the acculturation process, minority education, and interethnic communication. Discussions and research will be directed toward developing multicultural educational programs and activities.
3 Lect Hrs, 3 Credits

APLING 605
Theories and Principles of Language Teaching
This course is designed to present students with a theoretical background in the principles and methods of teaching English as a second language. It presents concepts from the fields of linguistics, sociology, anthropology, psychology, and education as they relate to language teaching theory. In addition to these influences on the field of ESL, the course will include a survey of major methodological approaches to ESL teaching in order to evaluate how well theory has been applied to practice.
3 Lect Hrs, 3 Credits

APLING 611
Methods and Materials in Foreign Language Instruction
This course seeks (1) to relate methods of teaching a foreign language to current Second Language Acquisition (SLA) research and theory and evaluate these methods; (2) to discuss classroom problems in light of current SLA theory; (3) to look critically at textbooks and create new, specific course material to be tested and shared among all class participants. The course's hands-on approach bridges the gap between theoreticians and classroom practitioners: students are encouraged through reading, discussion, teaching demonstrations, and classroom observations to explore and define the language teacher's role and to question their experience as language learners and teachers.
3 Lect Hrs, 3 Credits

APLING 612
Integrating Culture into the Language Curriculum
This course takes a hands-on approach and bridges the gap between theoreticians and classroom practitioners. Participants can tie in their critical understanding of cross-cultural perspectives into numerous aspects of the language curriculum. They explore how culture has been taught traditionally and how cultural values are embodied in authentic documents. They gain awareness of potential cultural conflicts between their own culture and the culture they teach or their students' culture. Discussion and research are directed towards developing instructional units based on a large variety of authentic documents that reflect multicultural diversity and help students discover and resolve cultural conflicts.
Prerequisite: APLING 603.
3 Lect Hrs, 3 Credits

APLING 614
Foundations of Bilingual/Multicultural Education
This course is designed to expose students to issues pertaining to the historical, philosophical, legal, and theoretical foundations of bilingualism, bilingual and multicultural education. Through the study of the relevant literature, students develop a theoretical/philosophical framework that enables them to better understand the politics of diversity and multiculturalism and their implications for education in the United States and across the globe.
3 Lect Hrs, 3 Credits

APLING 615
Methods and Materials in Bilingual Education
This course examines major contemporary theories of learning in bilingual education, with focus on instructional improvement strategies and objectives and procedures of evaluation as they relate to the developmental needs of elementary and secondary bilingual students. Course participants acquire an understanding of the process of developing culturally embedded teaching materials in the areas of art, music, social science, and language arts.
3 Lect Hrs, 3 Credits

APLING 616
Curriculum Development in Bilingual Education
This course offers an analysis of the major components of curriculum study, including practices, innovations, positions, and theories as applied to bilingual education.
3 Lect Hrs, 3 Credits

APLING 618
Teaching ESL: Methods and Approaches
This course familiarizes students with methods of language teaching, such as audiolingualism, cognitive code and notional functionalism, and the more specific methodological models that represent extensions and adaptations of these differing perspectives. In addition, approaches to teaching English language skills and techniques that transcend skill areas are studied and evaluated.
3 Lect Hrs, 3 Credits

APLING 621
Psycholinguistics
Contemporary issues in the fields of first and second language development and bilingualism are addressed within the framework of the psychological development of the individual, from early childhood through adolescence. Theories of learning are also addressed, particularly as they have been used to explain language development, including behaviorism, cognitive psychology, Piagetian constructivist theory, Vygotsky's Social Interactionism, and Freirean critical consciousness and praxis.
3 Lect Hrs, 3 Credits

APLING 623
Sociolinguistics
This course focuses on the study of language variation and its social, political, and cultural significance. Students evaluate current sociolinguistic theory and research and conduct mini-projects of their own. Topics of study include language attitudes, lan-

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guage identity, and the relationship of language and power.
3 Lect Hrs, 3 Credits

APLING 624
Language and the Media: Semiotics, Representations, and Discursive Formation
This course is designed to introduce the student to the history and current research in the study of symbols, signs, and images (visual language) that function in the various media of popular culture as a formative means of communication. The course explores the production and exchange of meanings and circulating signifying systems by introducing the student to important schools of thought in this area of analysis. Focus is on analysis of the language/symbolic orders used in news media, comedy, television advertising, children's cartoons, music video, situation comedies, soap operas, magazine photos, music lyrics, museum exhibits, and history as text. In exploring how formative systems of representation set the rules, norms, and conventions by which social life is ordered and governed, this course offers curricular insights for the language/multicultural classroom by presenting a cultural studies approach to formal pedagogy.
3 Lect Hrs, 3 Credits

APLING 625
Second Language Acquisition
Exploring the acquisition of representative language forms or language functions by second language speakers, this course draws on contrastive linguistics for patterns of systematic variation among languages or continua along which languages vary and on empirical second language research for regularities in learners' performance that reveal how their individual, internal representations of the target language systematically change with meaningful exposure to that language.
3 Lect Hrs, 3 Credits

APLING 626
Structured English Instruction
This course is designed to equip teachers and prospective teachers with the theoretical and practical knowledge and skills to organize and implement language and literacy instruction for English language learners (ELLs) effectively. It explores the pedagogical and legislative history of linguistic minority education and English as a second language education in the United States. Primary focus is on instructional approaches utilized in Structured Sheltered English Immersion classroom settings. Students are challenged to develop instructional plans that simultaneously teach ESL, content area knowledge, and metacognitive learning strategies to ELLs. The course content is taught/learned through the kinds of experiential, participatory, and process-oriented strategies that are used in successful English language development classrooms.
3 Lect Hrs, 3 Credits

APLING 627
Phonetics and Phonemics
This course covers the sound system of English and the principles of phonetics and phonemics , while also providing an introduction to phonology. Students practice using this knowledge to do error analysis and to teach aural/oral skills.
3 Lect Hrs, 3 Credits

APLING 629
The Structure of the English Language
This course covers ways of describing the structure of English, starting with traditional methods used in many textbooks and finishing with alternative methods. It involves discussions of teaching methodologies and sociolinguistic considerations and provides opportunities for practice in applying these theories and techniques.
3 Lect Hrs, 3 Credits

APLING 633
Discourse Analysis in ESL
This course deals with approaches to discourse analysis, defined as a set of procedures for interpreting utterances in context. The course examines different descriptive models from the disciplines of linguistics, sociology, and anthropology and applies them to a variety of texts and contexts. It concentrates on face-to-face oral interaction, but some aspects of written or "planned" texts are also discussed. The models of discourse analysis are applied to the areas of everyday conversation, classroom interaction, and native/non-native interaction in interviews, classrooms, and everyday conversation.
3 Lect Hrs, 3 Credits

APLING 635
Literacy and Culture
This course takes a sociolinguistic and anthropological approach to the analysis of discourse and seeks to explicate the nature of literacy practice in the academic context. The course addresses the distinction between "oral style" and "literate style" communication strategies. Participants look at so-called "oral cultures" and at those cultures influenced by writing, as well as at cross-cultural differences in orientation toward speech communication, language acquisition, and literacy. Emphasis is given to the analysis of "non-literary" texts, which may include interactions between teachers and young children during "show and tell," and between writing instructor and student writers during writing conferences; narratives told in Black English Vernacular; and written texts produced by student writers from various non-mainstream backgrounds.
3 Lect Hrs, 3 Credits

APLING 637
Ethnography of Language, Culture, and Learning
This course addresses the how and why of ethnographic inquiry. It introduces students to ethnographic approaches and research methodologies and, most importantly, to the kinds of questions demographers ask. Participants read and critically assess a wide variety of ethnographic research which addresses issues in language, learning, and the enculturation process. They also implement ethnographic approaches and insights in developing and conducting their own qualitative research. As a final project, students are required to write a project proposal for ethnographic research.
3 Lect Hrs, 3 Credits

APLING 644
Cape Verdean Linguistics
This course acquaints students with the dialectal varieties of the Cape Verdean language from the various islands of Cape Verde. Special attention is given to the historical, cultural, and sociopolitical factors that have played a role in the pidginization and creolization of Cape Verdean. Students conduct a contrastive analysis of Cape Verdean with English. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 645
Franco-American Linguistics
This course acquaints students with the similarities and differences in the linguistic structures of Franco-American and universal French. The focus of the course will be on the regional and social variations in the linguistic structures of Franco-American speech, and on the discrimination between levels of language acceptability in Franco-American speech. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

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APLING 646
Haitian Linguistics
This course provides a contrastive analysis of Haitian to French and English. Haitian phonology, syntax, semantics, and morphology are contrasted with French and English features. Consideration is also given to problems in bilingualism/biliteracy for Haitian students, as well as to the issue of language planning and policy making in the educational setting. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 647
Portuguese Linguistics
This course provides a linguistic analysis of the phonology, morphology, and syntax of Portuguese, as well as a systematic comparison of its structures with those of English. The course focuses on issues related to the acquisition of English by Portuguese speakers. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 648
Cape Verdean Culture
This course provides an overview of the social political, religious, and ethnic aspects of Cape Verdean culture. Myths, legends, folktales, poetry, and riddles are analyzed, along with culture shock caused by the conflict of cultures encountered by the Cape Verdean immigrant to the United States. Course assignments help students better understand the educational needs of Cape Verdean students in the process of acquiring English. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 649
Franco-American Culture
This course introduces students to Franco-American culture in New England and Louisiana through a study of the history, folklore, language, literature, art, and music of Franco-Americans. Special emphasis is placed on social, political, religious, economic, and historical events which have contributed to the reality of the Franco-American of today. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 650
Haitian Culture
This course examines Haitian culture as revealed through its historical, economic, social, political, religious, and ethnic institutions. The course focuses on both oral and written literate traditions in Haiti. The educational needs of Haitian students in the United States is a major focus of the course. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 651
Portuguese Culture
This course examines Portuguese culture as evidenced through its historical, social, economic, religious, and ethnic institutions. Various cultural traditions such as myths, legends, folktales, poetry, and riddles are analyzed, along with the Portuguese immigrant's experience of culture shock in the United States. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 652
Asian Cultures
This course introduces students to the peoples and cultures of Asia in the context of their shared history and parallel contemporary development. It focuses on themes that resonate throughout the area: the early influences of China and India, traditional sociopolitical and religious organization, European colonization, and economic development and modernization. Discussion and assignments are designed to address these issues, as they are relevant to teachers and others who work with Asians. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 credits

APLING 653
Asian Linguistics
This course acquaints students with the languages of Asia, including Chinese, and their geographical distribution, historical relationships, and common structural characteristics. The course provides students with the conceptual tools to better understand and articulate the similarities and differences faced by Asians learning English. The ability to speak an Asian language, though helpful, is not required for this course. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 669L
Writing Theories in Second Language Instruction
This course considers the key issues in writing theory, research, and pedagogy as they are specifically related to writing in a second language. It introduces students to the existing research and developing theories on the composing process and examines, critiques, and evaluates current traditional theories and practices by exploring the ways in which theory and research can be translated into instruction.
3 Lect Hrs, 3 Credits

APLING 670
Testing in the Bilingual/ESL Classroom
Students become familiar with language proficiency and language dominance testing and with other measurement and evaluative procedures needed in the administration and instruction of limited-English-proficient students in ESL and bilingual programs.
3 Lect Hrs, 3 Credits

APLING 671
The Bilingual Child with Special Needs
Students in this course become familiar with the various types of testing needed for bilingual special needs children. The course surveys existing tests in intelligence, academic achievement, and language development, as well as post-test remediation and therapy. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 672L
Theory and Practice in Adult ESL
This course is designed for those currently teaching or planning to teach in adult ESL programs. Participants begin by examining adult learning theory and second language acquisition. Several approaches to curriculum development, including survival, competency-based and participatory models, are contrasted. Implications for practice in adult literacy, vocational and workplace literacy, and family literacy are examined in light of these models. Issues arising from participants' classroom practice are incorporated throughout, and projects may involve classroom-based curriculum development, materials design, and research.
3 Lect Hrs, 3 Credits

APLING 673L
Teaching Reading in the Bilingual/ESL Classroom
Current reading theories are analyzed in reference to bilingual and ESL reading practices. Specific reading methodologies, materials, and strategies are explored.
3 Lect Hrs, 3 Credits

APLING 674
ESL Materials Development
This course surveys major methodological trends in curriculum and syllabus design and provides an overview of ESL materials and an analysis of ESL texts. While engaged in extensive review of existing

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materials, students explore possibilities for adaptation, supplementation, and the development of original materials for specific ESL populations.
3 Lect Hrs, 3 Credits

APLING 678
Technology in Language Education
This course has two primary goals: (1) to survey the various kinds of technological resources available for use in the ESL classroom; and (2) to evaluate critically the use of technology in the ESL classroom and the extent to which it is compatible with current theories of language acquisition.
3 Lect Hrs, 3 Credits

APLING 680
The Computer in the Bilingual/ESL Classroom
This course covers various applications of personal computers in the bilingual or ESL classroom and develops a Conversational Statistical Package for analyzing problems of the limited-English-proficient student.
3 Lect Hrs, 3 Credits

APLING 681
Computer Assessment in the Bilingual/ESL Classroom
This course equips students with the necessary computer skills to construct instruments to evaluate bilingual/ESL student competencies, design measures for placement, and construct exit tests in both the native language and English. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 682
Bilingual/ESL Computer-Assisted Instruction
This course trains students to develop programs for the bilingual or ESL student in computer-aided instruction, both in the native language and in English as a second language. An analysis of learning difficulties and appropriate computer instruction activities in reference to the bilingual or ESL student is included. (Course normally offered less frequently than every two years.)
Prerequisite: APLING 680.
3 Lect Hrs, 3 Credits

APLING 683
Bilingual/ESL Computer Curriculum Development
Students learn the role of computer processing in curriculum development and in the evaluation of materials used in Bilingual/ESL programs. Using a microcomputer, students develop and program appropriate teaching strategies at the elementary or secondary level for their bilingual or ESL curricula. (Course normally offered less frequently than every two years.)
3 Lect Hrs, 3 Credits

APLING 684
Bilingual/ESL Computer Research Methods
This course examines the role of microcomputers in quantitative educational research. Topics include conceptualization of research problems, development of hypotheses, definition and measurement of the important variables, design of research strategies, analysis of data, interpretation and inference, and writing and implementing a research proposal in Bilingual or ESL education. (Course normally offered less frequently than every two years.)
Prerequisites: APLING 680 and APLING 681.
3 Lect Hrs, 3 Credits

APLING 685
Internet in the Bilingual/ESL Classroom
This course is designed to address the need for the integration of the Internet in the language classroom, whether in the form of web-enhanced or web-based lessons. Special focus is placed on the ways the Internet can be used to enrich, enhance, and deliver lesson plans that successfully address language goals and the needs of second language learners. Students taking this course gain competence in effectively browsing the web, integrating Web resources for educational resources, and thoughtfully using technology and the Internet to plan classroom activities. Issues such as the digital divide, acceptable use policies, copyright, quality assurance, and content validity are addressed with the aim of developing a theoretical framework and thinking about the Internet critically.
3 Lect Hrs, 3 Credits

APLING 691
Research Seminar
This advanced course provides experimental seminars on special topics.

APLING 696
Independent Study
This course provides opportunities for students to work independently in one of the following areas: Applied Linguistics, Psycholinguistics, Sociolinguistics, Second Language and Bilingual Methodology, and Cross-Cultural Studies. Students who wish to do an independent study should submit a study plan including a brief description of their area of interest and an outline of the topic they plan to research in terms of the content, timing and structure of their project. Students eligible to take an independent study course should be at the end of the course work for their MA and have at least a 3.5 GPA. All research plans for an independent study must be approved by the student's advisor and the GPD.
1-6 Credits

APLING 697
Special Topics in Applied Linguistics
This advanced course offers intensive study of selected topics in bilingual studies/ESL/foreign language pedagogy. Course content varies according to the topic and will be announced prior to registration.
1-6 credits

APLING 698
Practicum/Field Experience
This course provides a supervised, on-site experience in the teaching of bilingual education, ESL, or foreign language on an elementary or secondary level, or in a social or educational agency serving limited-English-proficient students. Students must meet with their academic advisor to discuss available practicum options. Students interested in a certification practicum must meet with the certification specialist to discuss options.
Hours by arrangement, 3-6 Credits

MARINE SCIENCES AND TECHNOLOGY: INTERCAMPUS GRADUATE SCHOOL (PhD, MS)

Intercampus Graduate School Director

Harlyn O. Halvorson (Policy Center for Marine Biosciences and Technology), PhD, *University of Illinois* • Microbiology

Boston Faculty

Gregory Beck (Biology Department), PhD, *State University of New York at Stony Brook* • Evolutionary Immunology

Robert E Bowen (EEOS Department), PhD, *University of Southern California* • Environmental Policy and Management

Solange Brault (Biology Department), PhD, *University of London* • Population and Conservation Ecology

Robert F Chen (EEOS Department), PhD, *University of California, San Diego* • Organic Geochemistry/Marine Organic Chemistry • Environmental Education

Joseph J Cooney (EEOS Department) (Emeritus, NA), PhD, *Syracuse University* • Microbial Physiology and Ecology

Mary Davis (EEOS Department), PhD, *University of Florida Gainesville* • Environmental Health Risk

John A Duff (EEOS Department), JD, *Suffolk University* • Law and Marine Affairs

Ron **J Etter** (Biology Department), PhD, *Harvard University* • Evolution and Ecology of Marine Invertebrates

Eugene D Gallagher (EEOS Department), PhD, *University of Washington* • Benthic Ecology • Environmental Statistics • Marine Community Structure

George B Gardner (EEOS Department), PhD, *University of Washington* • Physical Oceanography (Part-time)

Allen Gontz (EEOS Department), PhD, *University of Maine* • Coastal Geology

William Hagar (Biology Department), PhD, *Temple University* • Environmental Monitoring and Photobiology

John F Looney, Jr. (EEOS Department), EdD, *Boston University* • Estuaries/Science Education

Sarah D Oktay (Nantucket Field Station), PhD, *Texas A&M University* • Chemical Oceanography (Part-time)

Curtis R Olsen (EEOS Department), PhD, *Columbia University* • Environmental Biogeochemistry

Michael A Rex (Biology Department), PhD, *Harvard University* • Deep-Sea Biology

William E Robinson (EEOS Department), PhD, *Northeastern University* • Aquatic Toxicology

Michael P Shiaris (Biology Department), PhD, *University of Tennessee* • Microbial Ecology

David G Terkla (EEOS and Economics Departments), PhD, *University of California, Berkeley* • Environmental and Resource Economics

Yong Qian Tian (EEOS Department), PhD, *University of Waikato* • GIS • Computer Modeling

Juanita L Urban-Rich (EEOS Department), PhD, *University of Maryland* • Zooplankton Ecology

Gordon T Wallace (EEOS Department), PhD, *University of Rhode Island* • Aquatic and Atmospheric Chemistry

Xuchen Wang (EEOS Department), PhD, *State University of New York at Stony Brook* • Geochemistry and Carbon Isotope Geochemistry (Part-time)

Jack Wiggin (Urban Harbors Institute), MS, *Boston State College*

The Programs

The UMass Intercampus Graduate School (IGS) of Marine Sciences and Technology is a unique program offered cooperatively by four University of Massachusetts campuses (Amherst, Boston, Dartmouth, and Lowell). It awards both master's (MS) and doctoral (PhD) degrees in marine sciences and technology. Students graduating from IGS receive a joint degree from the University of Massachusetts Amherst, Boston, Dartmouth, and Lowell. The degree programs are grounded in a broad, integrated, interdisciplinary approach to the study of marine sciences and technology. Students located at the four participating campuses are required to complete core courses selected from the natural and social sciences to equip them for interdisciplinary studies and research before focusing upon an area of concentration.

The programs prepare students for employment opportunities in the private and governmental sectors and academia. Emphasis is placed on the education of researchers and scholars who will contribute not only to basic research but also to the application of that research in a coherent approach to resource management and economic development issues.

Combining facilities and resources on four campuses into a single, coherent graduate program greatly expands the opportunities for IGS students. Students have access to a much greater range of education and research opportunities, expertise, and facilities than exists on one campus alone. Each campus has a number of departments and interdepartmental programs with areas of strength in marine-sciences-related teaching, research, and outreach that either complement or constitute critical units of IGS.

IGS is also closely affiliated with a number of on-campus research centers and institutes and off-campus marine research facilities, expanding its realm of research opportunities and resources.

Degree Requirements

PhD Program

The PhD program requires four core courses taken by all students (12 credits), courses in a concentration area (minimum: 24 credits) that helps the student prepare for the written and oral candidacy examinations, seminars, and dissertation research (minimum: 18 credits). PhD students are expected to enroll full-time. Courses may be taken at any IGS-affiliated program on the four campuses or at other area institutions, as determined by the student's major advisor and/or dissertation committee.

Core Courses

Each IGS student must complete four core courses (12 credits), one in each of four core areas: biological oceanography, chemical oceanography, physical oceanography, and marine policy and/or management (including law and economics). The Core column in the IGS course list available at www.umassmarine.net identifies the core courses and their respective areas. The core courses are intended to provide a common grounding in the biological, chemical, and physical oceanographic areas of marine sciences and technology and in related marine policy and management disciplines. At least two core courses are offered each semester using the University's distance learning facilities and technology. Students normally complete the core courses in the first two semesters.

Concentrations and Electives

To build on the core courses, each IGS student selects an area of concentration and chooses a marine policy or management core course and electives appropriate to this concentration, as approved by his/her faculty advisor and/or dissertation committee.

The Concentrations and Courses section of the IGS website describes the concentrations and lists the electives associated with each.

Students typically take most of their elective courses on the campus where they and their major faculty advisor are in residence. Some elective courses, however, will also be taught via distance learning. In addition, students may choose to be in residence at different campuses for a period of time during their course of study, in order to take certain courses or to take advantage of research opportunities.

Weekly Seminars

Weekly seminars presented by students and by visiting speakers are intended to broaden the scope of each student's experience and to provide experience in verbal communication. Each PhD student is required to present at least one seminar each year after the first year. Attendance at the weekly seminars is required; students receive 1 credit for each of the first two semesters of seminar participation, but no credit after the first year.

Candidacy Examinations and Dissertation

Generally at the end of the fourth semester, but not later than the end of the sixth semester, the student and major faculty advisor select additional faculty who constitute the student's graduate committee, and the student presents a written dissertation proposal to the committee. The student's major advisor and committee may determine a later date for the presentation of the dissertation proposal. A student's committee is chaired by the student's major advisor and guides the student's research. Committee members may be selected from IGS faculty, other departments, and other institutions. All committees must include at least one IGS faculty member from a campus other than the campus where the student resides. Dissertation committees for Boston-based students must be approved by the Dean of Graduate Studies and meet the university-wide requirements for such committees as described in the "Doctoral Degree Requirements" section of this bulletin.

Successful performance in the core courses (defined as a grade of B or better in each core course and an overall GPA of 3.0 or better) is required for continuation in the program. No later than the sixth semester, the student's committee administers the written and oral candidacy examinations. The candidacy examinations are comprehensive and cover the core areas and the student's area of concentration. They are designed to test the intellectual competence and maturity of the student in the broad area of marine sciences and technology and in the selected area of concentration. Upon successful completion of the PhD candidacy examinations, the student may petition to receive an en-route MS degree.

A scholarly dissertation based on original research is required of all PhD candidates. Dissertation research may be done in the laboratory or the field, or may be carried out in part during residence with an appropriate private business or government agency. Presentation and defense of a satisfactory dissertation, normally to be completed within five years from the date of advancement to candidacy, fulfill the degree requirements. The dissertation defense consists of a public lecture on the dissertation and a subsequent oral examination by the candidate's dissertation committee.

Sequence of Courses by Semester

In the first two semesters, PhD students normally complete the core courses (12 credits), register for the seminar series (1 credit each semester), and take two electives (6 credits). Additional course work (24 credits minimum) is normally completed by the end of the fifth semester, in order to complete the written and oral candidacy examinations no later than the sixth semester. Upon advancement to candidacy, PhD students register each semester for dissertation research and other courses as appropriate until graduation. Example tables summarizing the sequence of courses for the first five semesters can be found at www.umassmarine.net under "PhD Degree Requirements."

The MS Program

The MS program requires a minimum of 30 credit hours with the thesis option and 33 credit hours with the non-thesis option. Students are required to take three core courses (9 credits) and choose additional courses appropriate to a selected area of concentration. Attendance at a weekly seminar series is required (1 credit each for two semesters), and each student must present at least one seminar in his/her third or fourth semester. Full-time MS students normally complete their degree requirements in four semesters. Part-time MS students are encouraged to take two courses per semester.

Core Course Requirements

Each IGS student must complete three core courses (9 credits), which include two of the three core courses in biological, chemical, and physical oceanography and a third core course in marine policy and/or management (including law and economics). The core courses are intended to provide a common grounding in the biological, chemical, and physical oceanographic areas of marine sciences and technology and in related marine policy and management disciplines. The "Core" column in the IGS course list available at www.umassmarine.net identifies the core courses and their respective areas. Courses covering technology and quantitative skills are generally subject to student choice and guidance committee approval, though there may be requirements specific to each option area. At least two core courses are offered each semester using the University's substantial distance-learning facilities and technology. Students normally complete the core courses in the first two semesters.

Concentrations and Electives

To build on the core courses, each IGS student selects an area of concentration and chooses a marine policy or management core course and electives appropriate to this concentration, as approved by his/her faculty advisor and/or thesis committee.

Students typically take most of their elective courses on the campus where they and their major faculty advisor are in residence. Some elective courses, however, will also be taught via distance learning. In addition, students may choose to be in residence at different campuses for a period of time during their course of study, in order to take certain courses or to take advantage of research opportunities.

Weekly Seminars

Weekly seminars presented by students and by visiting speakers are intended to broaden the scope of each student's experience and to provide experience in verbal communication. Each MS student must present at least one seminar in the third or fourth semester. Attendance at the weekly seminars is required during all four semesters, for which students receive 1 credit for each of the first two semesters, but no credit for the second two semesters.

Thesis and Non-Thesis Options

MS students may choose either a thesis or non-thesis option. Each student electing the thesis option will be assigned a Thesis Committee, chaired by the student's major

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advisor, which will be responsible for ensuring that the student fulfills all requirements of the IGS as well as other campus requirements, including a minimum of 6 thesis credits, presentation of a thesis defense consisting of a public lecture on the thesis, and a subsequent oral examination by the Thesis Committee. Each student electing the non-thesis option, in addition to an additional 3 credits of course work, must complete a substantial research paper that must be read and approved by the major advisor and at least one other faculty member.

Sequence of Courses by Semester

In the first two semesters, full-time MS students normally complete the core courses (9 credits), register for the seminar series (1 credit each semester), and take electives (9 credits). Additional course work and the thesis or the non-thesis research paper are typically completed in the third and fourth semesters. A minimum total of 30 credits (thesis) or 33 credits (non-thesis) are required for the degree. Example tables summarizing the sequence of courses for each of the four semesters can be found at www.umassmarine.net under "MS Degree Requirements."

Admission Requirements

The Office of Graduate Studies at the University of Massachusetts Dartmouth processes all applications for admission to the graduate programs of the Intercampus Graduate School for Marine Science and Technology. Applications, associated materials, and any inquiries about the application should be addressed to that campus.

A single application form has been prepared for the use of applicants for admission to the Intercampus Graduate School of Marine Sciences and Technology. It is available from the graduate admissions offices of each participating campus. It is also available in PDF format (78Kb). Viewing a PDF requires the free Adobe Acrobat Reader.

Admission decisions will be made as expeditiously as possible once the application file is complete. Applications should be completed and submitted prior to June 1 for fall admission.

Successful applicants will generally have completed an undergraduate or graduate degree with a GPA of 3.00 or better and will have an undergraduate major in one of the basic scientific disciplines or engineering, or will have strong multidisciplinary training with completion of at least six semesters of course work in the natural sciences, generally to include biology, chemistry, and/or physics. Preparation in mathematics at least through integral calculus is strongly encouraged. Students who do not meet these criteria need to identify a faculty advocate who must bring a request for exception before the Admissions Committee. At the discretion of the Admissions Committee, applicants may make up deficiencies in prior course work either before or after admission is granted to the IGS. Consideration will be on a case-by-case basis, and the recommendation of the committee will be forwarded to the Dean for approval.

Candidates may apply for admission at either the master's or doctoral level. Students admitted directly into the doctoral program are expected to have exceptional academic credentials and/or work experience. Students entering with a bachelor's degree may be required to complete the requirements of a master's degree before admission to the doctoral program. Students entering with a master's may be admitted at the doctoral level provided the degree, course work, and research experience warrant such a decision by the Admissions Committee.

The Admissions Committee will evaluate a number of additional criteria in its consideration of applications. They include performance on the Graduate Record Examinations (GREs), TOEFL (if appropriate), letters of recommendation, transcripts, and a statement of interest and intent. Successful applicants will generally have minimum combined verbal and quantitative GRE scores of 1200 and a strong analytical score. International students must take the Test of English as a Foreign Language (TOEFL). A minimum of 600 (or 213 on the computer-based exam) is strongly recommended. GRE subject tests may also be submitted for evaluation but are not required.

Three letters of recommendation from referees familiar with the applicant's academic and/or work experience are required.

Official transcripts of all undergraduate and graduate course work must be submitted.

Statements of interest and intent are also requested.

- The statement of interest should provide reviewers an indication of the motivation of the student for pursuing graduate work.
- The statement of intent should describe how graduate training would address the student's career goals.

The applicant is strongly encouraged to identify one or more faculty members who could serve as the applicant's advisor, at least initially, upon admission. To this end, discussions with individual faculty before completing the application are strongly encouraged.

For assistance with an application
Voice: 508-999-8604
Fax: 508-999-8183
e-mail: graduate@umassd.edu
Mail your application materials to
Office of Graduate Studies
University of Massachusetts Dartmouth
285 Old Westport Road
North Dartmouth, Massachusetts
02747-2300

MATHEMATICS

Faculty

Ethan Bolker, PhD, *Harvard University* • Combinatorics • Geometry • Performance Modeling of Computer Systems • Mathematics for Lay Audiences and Teachers

Hans-Heinrich Herda, PhD, *Wayne State University* • Rock Mechanics • Geometry • Statistics

Steven Glenn Jackson, PhD, *Yale University* • Invariant Theory • Representation Theory

John A Lutts, PhD, *University of Pennsylvania* • Lie Groups and Lie Algebras • History of Mathematics • Functional Analysis

Maura B Mast, PhD, *University of North Carolina* • Geometry of Two-Step Nilmanifolds

Alfred G Noel, PhD, *Northeastern University* • Representation Theory • Computational Lie Theory • Mathematics Education

Karen Ricciardi, PhD, *University of Vermont* • Operations Research • Hydrology • Optimization Design

Dennis Wortman, PhD, *Massachusetts Institute of Technology* • Functional Analysis • Mathematics Education

Catalin Zara, PhD, *Massachusetts Institute of Technology* • Differential Geometry • Symplectic Manifolds • Combinatorial Aspects of Equivariant Cohomology and K-Theory

Graduate courses in Mathematics are available to students matriculated in licensure tracks in the Teacher Education MEd in the Graduate College of Education and to non-matriculated students.

The Track for Professional Licensure in the Teacher Education MEd offers a program of study leading to professional licensure in mathematics. The program consists of courses in mathematics given by the Mathematics Department and courses in pedagogy given by the Department of Curriculum and Instruction. For details, see under "Education: Teacher Education: Track with Professional Licensure" in this publication.

Courses

MATH 540
Geometry I for Secondary Teachers
This course is a rigorous treatment of the foundations and development of geometry: the axiomatic method, Euclid's axioms, the independence of the parallel postulate, and the development of non-Euclidean geometries.
3 Lect Hrs, 3 Credits

MATH 545
Probability and Statistics I for Secondary Teachers
This course presents the mathematical laws of random phenomena, including discrete and continuous random variables, expectation and variance, and common probability distributions such as the binomial, Poisson, and normal distributions. Topics also include basic ideas and techniques of statistical analysis.
3 Lect Hrs, 3 Credits

MATH 550
Analysis I for Secondary Teachers
This course is the first of a two-semester sequence offering a rigorous introduction to real analysis. Focus is on structures and problems relevant to the secondary mathematics curriculum. MATH 550 begins this introductory sequence with study of set theory, logic, proof, the real number system, topology of the real line, limits, and continuity.
3 Lect Hrs, 3 Credits

MATH 551
Analysis II for Secondary Teachers
This course is the second semester of a two-semester sequence offering a rigorous introduction to real analysis. Focus is on structures and problems relevant to the secondary mathematics curriculum. MATH 551 continues this introductory sequence with study of differentiation, properties of the exponential and logarithmic functions, Riemann integration, infinite series, improper integrals, sequences and series of function, and integration in two variables.
3 Lect Hrs, 3 Credits

MATH 560
Abstract Algebra I for Secondary Teachers
This course is a rigorous introduction to abstract algebra focusing on structures and problems relevant to the secondary mathematics curriculum: elementary number theory, rings of polynomials and rational expressions, factorization in Euclidean domains, field extensions, and Euclidean construction.
3 Lect Hrs, 3 Credits

MATH 570
History of Mathematics for Secondary Teachers
This course traces the development of mathematics from ancient times up to and including 17th century developments in the calculus. Emphasis is on the development of mathematical ideas and methods of problem solving. Attention will also be paid to the relevance of history to mathematics teaching, as well as to investigation into the origins of non-Euclidean geometry.
3 Lect Hrs, 3 Credits

MATH 597
Special Topics
This course offers intensive study of a selected topic in mathematics. Course content varies according to the topic, which will be announced prior to the advance preregistration period.
1-6 Credits

NURSING (PhD, MS, POST-MASTER'S GRADUATE CERTIFICATE)

POST-MASTER'S TRACK (PhD), BS-TO-PhD TRACK (PhD), ACUTE CARE/CRITICAL CARE CLINICAL NURSE SPECIALIST TRACK (MS), ADULT/GERONTOLOGICAL NURSE PRACTITIONER TRACK (MS), FAMILY NURSE PRACTITIONER TRACK (MS)

Faculty

Kristine B Alster, EdD, *Boston University* • Nursing Education

Sheila Jones Cannon, PhD, *Hampton University* • Family Nursing • Psychiatric Mental Health

Brenda S Cherry (Emeritus), PhD, *University of Nebraska at Lincoln* • Pediatric Nursing • Nursing Administration

Jane Cloutterbuck, PhD, *Brandeis University* • Gerontology • Community Health Nursing • Health Policy • Minority Research

Susan De Santo-Madeya, DNSc, *Widener University* • Clinical Specialist, Medical-Surgical Nursing

Karen Dick, PhD, *University of Rhode Island* • Gerontological Nurse Practitioner • Home Care • Hospitalized Elderly

Linda Dumas, PhD, *Boston University* • Community Health Nursing

Carol Ellenbecker, PhD, *Brandeis University* • Nursing Research • Community Health Nursing • Health Policy

Jacqueline Fawcett, PhD, *New York University* • Nursing Theory • Maternal and Child Nursing

Joan Garity, EdD, *Boston University* • Nursing Education

Susan Haussler, EdD, *Vanderbilt University* • Family Nursing • Nursing Education

Anne K Kibrick (Emerita), EdD, *Harvard University* • Nursing Administration

Deborah Mahony, ScD, *Harvard University School of Public Health* • Primary Care of Children

Margaret McAllister, PhD, *Northeastern University* • Primary Care Nurse Practitioner Education • Health Policy • Feminist Theory

Kathleen Golden McAndrew, MS, *Simmons College* • Primary Care

Jo Ann Mulready-Shick, MS, *University of Pennsylvania* • Nursing Education • Adult Health and Illness • Chronic Care and Hypertension

Frances L Portnoy (Emeritus), PhD, *Brandeis University* • Gerontological Nursing Health Policy

Laurel Radwin, PhD, *Boston College* • Patient Satisfaction • Outcome Measures • Adult Health

Amy Rex-Smith, DNSc, *University of California, Los Angeles* • Acute Care • Critical Care Nursing

Esther S Seibold, DNSc, *Yale University* • Pediatric Nursing

Eileen M Stuart-Shor, PhD, *University of Massachusetts Boston* • Adult Health Nursing

Marion Winfrey, EdD, *Vanderbilt University* • Acute Care • Critical Care Nursing

The Programs

The College of Nursing at the University of Massachusetts Boston offers programs of graduate study leading to the MS and PhD degrees in nursing. The College also offers a Post-Master's Advanced Certificate Program which prepares nurses who already hold a master's degree in nursing for careers as family or adult/gerontological nurse practitioners. The certificate program is offered through the Division of Corporate, Continuing, and Distance Education at UMass Boston.

Graduate students at the College work with faculty members distinguished for their achievements as educators, scholars, and practitioners. Faculty are dedicated to developing students' professional and intellectual interests and provide a strong background in nursing theory, practice, and research. Master's degree students may pursue their individual professional objectives by participating in selected clinical practica with expert preceptors through prestigious placements in urban and metropolitan Boston-area institutions. Doctoral students study with faculty conducting research in quality-of-life, health policy, and health care issues addressing urban populations. In addition, faculty in the graduate program are involved in service projects at the local, state, regional, national, and international levels.

The PhD Program

The PhD in Nursing Program at the University of Massachusetts Boston focuses on the intersection of nursing and health policy. Graduates are prepared for careers as policy analysts, researchers, and educators who are able to:

1. Analyze the historical, sociological, economic, political, and nursing perspectives of existing and proposed health policies.
2. Evaluate and critique health policies that influence the access, quality, and cost of healthcare services.
3. Conduct theory-guided qualitative and quantitative research that advances knowledge and informs health policies.
4. Influence the development of health policies at local, state, national, and international levels.

Two tracks are available in the PhD program, a post-master's track and an intensive, accelerated BS-to-PhD track.

Degree Requirements

Post-Master's Track

The Post-Master's Track of the PhD in Nursing requires 60 credits beyond the MS degree. For full-time students, the program normally requires two years of course work, including courses in health policy and economics, research methods, and statistics. Courses are offered by the College of Nursing and a number of collaborating departments at UMass Boston and UMass Lowell. After completing core courses, students undertake a 6-credit policy internship, followed by a qualifying examination. Successful performance in the qualifying examination is a prerequisite to admission to candidacy for the doctoral degree. In the third year, students complete electives and research courses related to completion of the doctoral dissertation. Full-time students should complete the program in four years. Part-time students are required to register for 6 credits per semester and should complete the program in 5 or 6 years.

The Major Advisor and the Dissertation Committee: An interim advisor is appointed for each entering PhD student. Sometime before the semester in which they will be taking NURSNG 791, students should select a major advisor, a choice which must then be approved by the graduate program director. This advisor is responsible for monitoring student progress and assists in the choice of the student's dissertation committee chair and members.

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Core Courses

NURSNG 701 (Science as a Way of Knowing), 3 Credits

NURSNG 702 (Models of Health Care Services), 3 Credits

NURSNG 703 (Health Economics), 3 Credits

NURSING 704L/GERON 772L (Seminar in Health Care Financing), 3 Credits

NURSNG 741 (Health Policy I), 3 Credits

NURSNG 742 (Health Policy II), 3 Credits

NURSNG 743 (Internship in Health Policy), 6 Credits

NURSNG 791 (Integrating Theory and Policy in Dissertation Research), 3 Credits

Research and Quantitative and Qualitative Methods Courses

PPOL G 604-605 (Statistics I and II), 6 Credits

GERON 601 (Research Methods and Experimental Design), 3 Credits

Two courses in advanced research methods, 6 Credits

NURSNG 899 (Dissertation Research), 9 Credits

Electives

(Chosen from courses offered on the UMass Boston and UMass Lowell campuses to support dissertation research), 9 Credits

BS-to-PhD Track

The BS-to-PhD Track, which will be implemented in spring 2007, is an 87-credit program designed for outstanding baccalaureate-trained nurses without a master's degree. Students in the BS-to-PhD track are required to study full-time and in an intensive, accelerated program requiring completion of 15 credits in each of the student's first three semesters. The curriculum will incorporate a didactic emphasis and a clinical specialization in oncology.

Requirements for the BS-to-PhD Track include:

NURSNG 613	(Human Diversity in Healthcare)
NURSNG 614	(Advanced Pathophysiology)
NURSNG 615	(Advanced Health Assessment)
NURSNG 667	(Nurse Educators in Clinical Practice) – subject to final University approval
NURSNG 668	(Nurse Educators in Academic Settings) subject to final University approval
NURSNG 701	(Science as a Way of Knowing)
NURSNG 702	(Models of Healthcare Services: Meeting the Needs of the Urban Population)
NURSNG 703	(Health Economics)
NURSNG 704L/ GERON 772L	(Seminar in Health Care Financing)
NURSNG 720	(Secondary Data Analysis)
NURSNG 741	(Health Policy I)
NURSNG 742	(Health Policy II)
NURSNG 743	(Internship in Health Care Policy)
NURSNG 750	(Contemporary Disciplinary Knowledge)
NURSNG 791	(Integrating Theory & Policy in Dissertation Research)
GERON 601	(Research Methods and Experimental Design)
PPOL G 604	(Statistics I)
PPOL G 605	(Statistics II)

Two courses in advanced research methods

One elective

NURSNG 899	(Dissertation Research, 9 cr.)

Four additional 3-credit nursing courses, centering on didactic and clinical work in oncology, that are under development as this publication goes to press.

A qualifying examination, taken in the summer of the third year. Successful performance on the qualifying examination is a prerequisite to admission to candidacy for the doctoral degree.

Completion and successful defense of a doctoral dissertation.

Students may be expected to complete the degree in four years of full-time study.

An en-route MS degree will be awarded after completion of NURSNG 613, 614, 615, 703, 750, and 772, GERON 601, PPOL G 604, and 12 credits of didactic and clinical courses in the specialty area. These courses, along with others, are taken in the first two years of full-time study. Assuming students progress in their course work as planned, they will be awarded the en-route MS at the end of the second year of the program.

Students receiving the en-route MS degree will not be eligible for certification in an APN specialty without further didactic and clinical courses.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication. Prospective graduate students in nursing will also meet these specific criteria for admission to the PhD Program in Nursing:

1. A baccalaureate degree in nursing from an NLNAC (National League for Nursing Accrediting Commission) or CCNE (Commission on Collegiate Nursing Education) accredited program.
2. A current unrestricted Massachusetts RN license, or eligibility for licensure in Massachusetts.
3. A course in multivariate statistics within the past five years.
4. Strong scores on the Graduate Record Examination, taken within the last five years. Looked at together, GRE scores and the grade point average (GPA) should indicate strong verbal, quantitative, and analytical potential.

For the Post-Master's Track only:

5. Master's degree in nursing,* with a minimum GPA of 3.3.

   *Applicants holding non-nursing master's degrees who have established professional records in nursing will be considered for admission on a case-by-case basis.
6. A minimum of 2 years of professional experience.

The MS Program

The MS Program in Nursing prepares its students for advanced practice nursing. Each student chooses one of three tracks: Acute Care/Critical Care Clinical Nurse Specialist, Adult/Gerontological Nurse Practitioner, or Family Nurse Practitioner.

The program's capstone experience is a comprehensive master's paper of publishable quality that synthesizes the student's educational experience. The comprehensive master's paper is submitted at the end of the last semester of study.

The MS program is designed for the baccalaureate-prepared registered nurse with a strong professional clinical background and is tailored to meet the needs of the busy professional. The majority of theory courses meet once per week in the evening. Clinical

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practica are usually conducted during the day on schedules arranged between students and preceptors. The program can be completed in four semesters of full-time study. Part-time enrollment is also possible in the Clinical Nurse Specialist track, and a Three-Year Option is available in both Nurse Practitioner tracks. The program is accredited by the Commission on Collegiate Nursing Education (CCNE). The Clinical Nurse Specialist track was developed in accordance with guidelines established by the National Association of Clinical Nurse Specialists. Graduates of this track are eligible to take credentialing examinations as Acute Care and Critical Care Clinical Nurse Specialists offered by the American Association of Critical Care Nurses or by the American Nurses' Credentialing Center. The Nurse Practitioner tracks were developed in accordance with guidelines established by the National Organization of Nurse Practitioner Faculties (NONPF). Graduates of these two tracks are eligible to take credentialing exams that lead to licensure in advanced practice nursing.

Degree Requirements

A total of 48 credits is required for all tracks, distributed as follows:

Core Courses (24 cr.)

To be taken by students in all three MS tracks:

1. NURSNG 601 (Advanced Nursing Concepts in Theory and Practice)
2. NURSNG 613 (Human Diversity in Healthcare)
3. NURSNG 614 (Advanced Pathophysiology)
4. NURSNG 615 (Advanced Health Assessment)
5. NURSNG 616 (Utilization of Nursing Research for the Advanced Practice Nurse)
6. NURSNG 618 (Health Policy, Finance, Ethics)
7. NURSNG 631 (Role of the Advanced Practice Nurse)
8. NURSNG 634 (Advanced Pharmacology)

Specialty Courses (24 cr.)

One set to be chosen according to each student's specialty area:

Acute/Critical Care Clinical Nurse Specialist Track

NURSNG 690 (Advanced Practice in Acute and Critical Care I)

NURSNG 691 (Advanced Practice in Acute and Critical Care II)

NURSNG 692 (Advanced Practice in Acute and Critical Care III)

NURSNG 693 (Advanced Practice in Acute and Critical Care IV)

NURSNG 664 (Clinical Practicum I)

NURSNG 665 (Clinical Practicum II)

NURSNG 667 (Clinical Practicum III)

NURSNG 668 or 669 (Clinical Practicum IV or V)]

Adult/Gerontological Nurse Practitioner Specialist Track

NURSNG 637 (Mental and Psychosocial Health of the Urban Family)

NURSNG 638 (Advanced Health Promotion: Practicum I)

NURSNG 639 (Primary Care of Adults)

NURSNG 670 (Primary Care of the Adult/Older Adult: Practicum II)

NURSNG 671 (Primary Care of Older Adults)

NURSNG 672 (Primary Care of the Adult/Older Adult: Practicum III)

Family Nurse Practitioner Specialist Track

NURSNG 637 (Mental and Psychosocial Health of the Urban Family)

NURSNG 638 (Advanced Health Promotion: Practicum I)

NURSNG 639 (Primary Care of Adults)

NURSNG 680 (Primary Care of the Family: Practicum II)

NURSNG 681 (Primary Care of the Childbearing Family)

NURSNG 682 (Primary Care of the Family: Practicum III)

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication. Prospective MS in Nursing students must also meet the following criteria for admission:

1. A baccalaureate degree in nursing from an NLNAC- or CCNE-accredited program.
2. Undergraduate GPA of at least 2.75.
3. A current unrestricted Massachusetts license in nursing.
4. Evidence of one or more years of recent professional practice.
5. Completion of a college-level course in introductory statistics.
6. Recent completion of a college-level course in health assessment.
7. Strong scores on the Graduate Record Examination (GRE) aptitude tests. Looked at together, GRE scores and the grade point average (GPA) should indicate strong verbal, quantitative, and analytical potential.

The Post-Master's Nurse Practitioner Certificate Program

Two post-master's graduate certificate programs are available, one requiring 12 credits of graduate course work, the other requiring 21 credits. Both are designed to enable master's-trained RNs to acquire the knowledge and clinical experience that will prepare them to sit for national certification exams as gerontological, adult, or family nurse practitioners.

Both prerequisite and required certificate courses are offered online. Student clinical experiences are by arrangement and contract with the University of Massachusetts Boston. Upon completion of either program, graduates receive a certificate of post-master's graduate education from the University of Massachusetts Boston.

The 21-credit option is open to RNs with a master's degree in nursing from an NLN- or CCNE-accredited program. The program of study includes 9 credits of didactic study and 12 credits of clinical course work, including 560 hours of clinical practice in either the adult/gerontological or the family specialty area. It may be completed in two semesters full-time or four semesters part-time.

The 12-credit option is open to RNs with strong clinical backgrounds, a master's degree in nursing, and current national certification as a family, adult, pediatric, or gerontological nurse practitioner, who wish to sit for certification exams in a second specialty area. Students complete a minimum of 6 credits of didactic and 6 credits of clinical course work, including 280 hours of clinical practice. Participants concentrate either in family nursing or in adult/gerontological nursing. The program may be completed in one semester full-time or two semesters part-time.

Students are invited to contact the program director to determine which of the two programs will meet their individual needs. With permission of the program director, and

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subject to the general University transfer credit policies outlined in the "General Academic Regulations" section of this publication, students may transfer one equivalent graduate-level course into the certificate program.

Full-time

Semester I

NURSNG 639 3 credits

Adult/Gero also take:

NURSNG 670 6 credits

Family also take:

NURSNG 680 6 credits

Semester II

Adult/Gero take:

NURSNG 671 3 credits

NURSNG 672 6 credits

NURSNG 637 3 credits

Family take:

NURSNG 637 3 credits

NURSNG 681 3 credits

NURSNG 682 6 credits

Part-time

Semester I

NURSNG 639 3 credits

Semester II

Adult/Gero take:

NURSNG 671 3 credits

NURSNG 637 3 credits

Family take:

NURSNG 681 3 credits

NURSNG 637 3 credits

Semester III

Adult/Gero take:

NURSNG 670 6 credits

Family take:

NURSNG 680 6 credits

Semester IV

Adult/Gero take:

NURSNG 672 6 credits

Family take:

NURSNG 682 6 credits

Admission Requirements

In addition to the general admission requirements for all graduate studies programs listed in the "Admissions" section of this publication, prospective students applying to the Post-Master's Nurse Practitioner Certificate Programs must also meet the following requirements:

1. A master's degree in nursing from an NLNAC- or CCNE-approved graduate program in nursing.
2. A cumulative grade point average in undergraduate work of at least 2.75.
3. A cumulative grade point average in graduate work of at least 3.0.
4. Evidence of grades of B or better in graduate-level courses in Advanced Health Assessment, Advanced Pharmacology, and Advanced Physiology within the past 7 years.
5. A current unrestricted Massachusetts license in nursing or a current license in another state in which the student lives or is doing their clinical practicum.
6. Evidence of at least two years of strong professional nursing experience.
7. Evidence of clinical placement commitments (necessary to fulfill the clinical objectives of the certificate) with master's-prepared nurse practitioners.
8. Evidence of national certifications in advanced practice nursing specialty.

Courses

Nursing courses are open only to students matriculating in the graduate nursing programs, except by permission of the Graduate Program Director.

NURSNG 601 (CORE)
Advanced Nursing Concepts in Theory and Practice
This course focuses on the nature and structure of knowledge, with emphasis on the structure of contemporary nursing knowledge. Learners have opportunities to analyze and evaluate various nursing conceptual models and theories, as well as selected models and theories from adjunctive disciplines, and to apply those models and theories to advanced practice nursing.
3 Lect Hrs, 3 Credits

NURSNG 613 (CORE)
Human Diversity in Healthcare
This course examines the challenges associated with providing competent health care to diverse populations and examines its effects on the health of individuals, groups, and populations. Health behavior and health care outcomes are analyzed within the context of social, economic, political, and cultural forces. Implications of an increasingly diverse population for nursing education, research, and practice are determined, and strategies for improving the management of human diversity in nursing and health care are critically analyzed.
3 Lect Hrs, 3 Credits

NURSNG 614 (CORE)
Advanced Pathophysiology
This course focuses on the analysis, interpretation, and evaluation of pathophysiological processes throughout the lifespan. Relevant research is integrated into evidenced-based nursing practice.
Corequisite: NURSNG 615.
3 Lect Hrs, 3 Credits

NURSNG 615 (CORE)
Advanced Health Assessment
This course focuses on the development of advanced practice nursing skills in health assessment for urban populations. Concepts, theories, and research on human development, anticipatory guidance, prevention, and early detection of risk factors and disease are emphasized. Critical thinking, diagnostic reasoning, and communication skills are developed through practice with case guide vignettes and simulated practice experiences specific to the student's area of advanced practice nursing in the college laboratory.
Corequisite: NURSNG 614.
3 Lect Hrs, 3 Credits

NURSNG 616 (CORE)
Utilization of Nursing Research for the Advanced Practice Nurse
This course focuses on theory-guided and evidence-based advanced practice nursing research to prepare students to become proficient in the utilization of research findings. Critical analysis of qualitative and quantitative research methods and design, as well as strategies to improve dissemination and application of nursing research findings in advanced practice settings, will be emphasized. Through an integrative literature review, students will synthesize research in an area of interest and develop skills in the use of electronic databases. Ethical issues in the conduct of research will be explored.
Prerequisite: Permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 618 (CORE)
Health Policy, Finance, Ethics
This course is designed to examine how ethical, financial, and health policy issues and concerns are linked in the health care delivery system. The role of the nurse in developing a professional ethical framework, understanding the economic implica-

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tions of health care, and shaping and formulating health policy will be stressed. Several decision-making models and strategies in health policy, finances, and ethics will be compared. Relevant research in health policy, finances, and ethics will be analyzed.
Prerequisite: Permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 631 (CORE)
The Role of the Advanced Practice Nurse
The historical development, scope, and functional roles of the advanced practice nurse are analyzed. Students examine the dynamic relationships among professional organizations, health care trends, and health care policy as they influence the need for advanced practice nursing. Emphasis is placed on acquiring the knowledge and skills to assume leadership roles in the health care system. Related health profession theories, research, and opportunities for implementing changes are emphasized. Critical thinking, group dynamics, leadership skills, and role of the APN as educator are studied and modeled in classroom experiences and course assignments.
Prerequisite: Permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 634 (CORE)
Advanced Pharmacology
This course focuses on the role of advanced practice nurses in applying pharmacotherapeutics to the management of health and illness in populations at risk for morbidity and mortality. Students acquire advanced knowledge as a foundation for prescribing and monitoring pharmaceutical and alternative therapeutic agents. Emphasis is placed on synthesis of pharmacokinetics and on pharmacodynamics principles for the prevention and treatment of acute and chronic illnesses. Evidence-based outcomes, consensus guidelines, and research studies are critiqued. Ethical, legal, and risk-management issues are discussed.
Prerequisite: Permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 637 (AGNP, FNP)
Mental and Psychosocial Health of the Urban Family
Multicultural individuals and families at risk for mental and psychosocial problems are considered within the context of urban living. Nursing theory and research are applied to developing processes of care for individuals with mental health and psychosocial problems across the lifespan. Students learn evidence-based care, including cognitive-behavioral, psychopharmacological, and non-traditional approaches to psychosocial and related physical problems. Research related to environmental, psychosocial, genetic, economic and family systems, developmental risk factors, drug efficacy, and non-pharmacological approaches for individuals with mental and psychosocial illness is investigated. The impact of contemporary health care policy and legislative proposals on quality, cost, and access to care is also investigated.
Prerequisite: Permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 638 (AGNP, FNP)
Advanced Health Promotion: Practicum I
Students analyze the clinical application of theories and research on nursing, diversity, health promotion, and disease prevention. Family, human development, patient education, and community theories that explain the phenomena of family-focused care are examined. Data grounded in epidemiological sources, health histories, family assessments, physical examinations, and diagnostic tests are examined as the basis for case finding and identification of risk factors. Students begin to institute primary and secondary interventions, demonstrate interdisciplinary communication skills, examine collaborative community partnerships, and analyze the dimensions of nurse practitioners' professional leadership roles in the urban community.
Prerequisites: NURSNG 615 and permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 639 (AGNP, FNP)
Primary Care of Adults
Students examine the nursing and health-related theory and research applied to the primary care management of adults with episodic and chronic illness. Diagnostic, therapeutic, and pharmacological regimens are examined. Legal, ethical, and health policy issues that impact the delivery of primary health services are integrated. Continued emphasis is placed on developing social cultural sensitivity to the variations in health care needs of urban populations.
Prerequisites: NURSNG 638 and permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 664 (AC/CC)
Clinical Practicum I: Focus on the Acutely Ill or Critically Ill Patient
In this course, students apply the knowledge and advanced practice skills on patient care learned in NURSNG 690. Under the guidance of a clinical nurse specialist preceptor, students implement the advanced competencies of direct care, patient/family teaching and coaching, and ethical decision-making, as they assess and treat problems experienced by acutely and critically ill patients. Clinical practice in this course provides an opportunity for students to integrate advanced nursing with knowledge of disease pathophysiology, technical competence, and medical management.
Prerequisites: NURSNG 690 and permission of program director.
Corequisites: NURSNG 691, 692.
3 Lect Hrs, 3 Credits

NURSNG 665 (AC/CC)
Clinical Practicum II: Focus of the Clinical Nurse Specialist Role
This course emphasizes the clinical nurse specialist (CNS) influence on nursing personnel and the organization. Under the guidance of a CNS preceptor, students practice in an acute or critical care setting in their chosen specialty. This course continues to address patient care, but the focus shifts to the nursing personnel and organization/network, giving students the opportunity to implement the CNS role fully. Students acquire skill and confidence in consultation, collaboration, and leadership skills.
Prerequisites: NURSNG 690 and permission of program director.
Corequisites: NURSNG 691, 692.
3 Lect Hrs, 3 Credits

NURSNG 667 (AC/CC)
Clinical Practicum III: Nurse Educators in Clinical Practice Settings
Students acquire advanced teaching skills required to meet the health-related learning needs of patients, families, and groups in clinical and community settings. Students also learn to educate practicing nurses and other clinicians to meet patient needs more effectively. The seminar focuses on the pedagogy supporting the work of nurse educators. Under the guidance of an expert preceptor, students develop educational interventions and programs and use a variety of teaching strategies.
Prerequisites: NURSNG 690 and permission of program director.
3 Lect Hrs, 3 Credits

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NURSNG 668 (AC/CC)
Clinical Practicum IV: Nurse Educators in Academic Settings
This course focuses on the advanced teaching skills that nurse educators need in order to help nursing students acquire the knowledge, skills, and values required for professional nursing practice. Seminars focus on the role of the academic nurse educator, clinical and classroom teaching skills, curriculum development and methods for evaluating student learning. Under the guidance of an expert preceptor, students will develop and evaluate learning experiences for nursing students.
Prerequisites: NURSNG 690 and permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 669 (AC/CC)
Clinical Practicum V: Advanced Clinical Nurse Specialist Competencies in Quality Improvement
This course builds upon the evidence-based measurement and evaluation content introduced in prerequisite courses. Students analyze the need for change in the acute or critical care practice setting. Using the best available evidence, concepts, and skills learned in previous courses, students develop projects to improve the nursing care of acutely or critically ill patients.
Prerequisites: NURSNG 690 and permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 670 (AGNP)
Primary Care of the Adult/Older Adult: Practicum II
Theory and research from multiple health disciplines are further integrated as students develop competencies in the role of adult/gerontological nurse practitioner. Under the supervision of nurse practitioners and faculty, students manage and coordinate primary care for multicultural adults and families experiencing health and illness problems across the continuum of care, including acute, subacute, community, home care, and long-term-care settings. The diagnostic, therapeutic, evaluative, consultative, and teaching functions of the nurse practitioner are emphasized. Seminar discussions include an exploration of the health policy issues that influence the delivery of health care to underserved urban adults and communities.
Prerequisite: Permission of program director.
3 Lect Hrs and 15 Practicum Hrs/Week, 6 Credits

NURSNG 671 (AGNP)
Primary Care of Older Adults
This course focuses on the health care issues and needs of elders across the care continuum of acute, chronic, community, and long-term-care settings. Aspects of physical, emotional, and social aging across the lifespan are explored through use of various theoretical perspectives and models. The assessment, teaching-coaching, and management roles of the advanced practice gerontological nurse in relation to acute and chronic health conditions of the older adult are emphasized. The complex interplay of the political, economic, legal, and ethical factors that influence health care delivery to older adults is examined.
Prerequisites: NURSNG 670 and permission of program director.
Corequisite: NURSNG 672.
3 Lect Hrs, 3 Credits

NURSNG 672 (AGNP)
Primary Care of the Adult/Older Adult: Practicum III
Students further refine skills in critical thinking and clinical reasoning in the application of theory and research to practice. Assessment, diagnostic, therapeutic, and health teaching strategies are applied to a continuum of health promotion/illness problems, with a focus on the primary care of adults and older adults across the continuum of care. Seminars are grounded in learning the application of theory and research to the domains of practice of the adult/gerontological nurse practitioner, including the management of patient health and illness and the teaching-coaching function of the nurse practitioner and ensuring the quality of health care practices. Interdisciplinary collaborative practice skills are developed. Students develop role competencies under the supervision of nurse practitioner preceptors and faculty in urban health care settings.
Prerequisites: NURSNG 670 and permission of program director.
Corequisite: NURSNG 671.
3 Lect Hrs and 15 Practicum Hrs/Week, 6 Credits

NURSNG 680 (FNP)
Primary Care of the Family: Practicum II
Family nursing theory and research are further integrated as students develop competencies in their roles as family nurse practitioners. Under the supervision of nurse practitioners and faculty, students manage and coordinate primary care for multicultural urban families experiencing a continuum of health promotion, episodic, and chronic illness problems. The diagnostic, therapeutic, evaluative, consultative, and teaching functions of the nurse practitioner role are examined within a professional, ethical, and legal framework. Skills in collaborative interdisciplinary practice are emphasized. Seminar discussions include an exploration of the health policy issues that influence the delivery of health care to underserved urban families and communities.
Prerequisite: Permission of program director.
3 Lect Hrs and 15 Practicum Hrs/Week 6 Credits

NURSNG 681 (FNP)
Primary Care of the Childbearing Family
Students integrate research from the pathophysiological, behavioral, social, and nursing sciences. The primary care needs of multicultural families in urban communities are addressed. Problems of women, infants, and children are analyzed within a family nurse practitioner framework for practice. Evidence-based laboratory, diagnostic, therapeutic, and pharmacological plans of care are applied to problem management. Emphasis is placed on developing advanced competence in the management of common health and illness. Health policies, including cost, quality, access to care, and evaluation and management guidelines for reimbursement, are integrated throughout the course.
Prerequisites: NURSNG 680 and permission of program director.
Corequisite: NURSNG 682.
3 Lect Hrs, 3 Credits

NURSNG 682 (FNP)
Primary Care of the Family: Practicum III
Students further refine skills in critical thinking in the application of theory and research to practice. Assessment, diagnostic, therapeutic, and health teaching strategies are applied to a continuum of health promotion/illness problems, with a focus on the primary care of women, infants, and children. Seminars are grounded in learning the application of theory and research to the domains of practice of the family nurse practitioner, including the management of patient health and illness and the teaching-coaching function of the nurse practitioner and ensuring the quality of health care practices. Interdisciplinary collaborative practice skills are developed. Students develop role competencies under the supervision of nurse practitioner preceptors and faculty in urban health care settings.
Prerequisites: NURSNG 680 and permission of program director.
Corequisite: NURSNG 681.
3 Lect Hrs and 15 Practicum Hrs/Week, 6 Credits

Nursing

NURSNG 690 (AC/CC)
Advanced Practice in Acute and Critical Care I
This course introduces the role of the Acute Care/Critical Care Clinical Nurse Specialist, focusing on the patient sphere of influence. The course refines students' clinical judgments and their diagnosis of common patient problems in the autonomous domain, extends assessment skills, and expands knowledge of nursing interventions and expected outcomes. Students acquire and expand the knowledge and skills needed for the advanced practice direct care competency and ethical decision-making. Diversity, health care disparities, and ethical issues will be discussed as they relate to the clinical topics. Students will apply theory and research through comprehensive assessments and the design of appropriate management strategies.
Prerequisites: Permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 691 (AC/CC)
Advanced Practice in Acute and Critical Care II
This course builds on NURSNG 690 and continues to emphasize the patient sphere of influence and the student's competence in providing direct care as a CNS. A focus on high-incidence clinical problems, symptoms, or issues in acute and critical care continues. Students deepen their knowledge of acute and critical care from interdisciplinary empirical and theoretical literature and other sources of evidence. The emphasis is on synthesizing knowledge from a variety of sources to make clinical judgments and to build the practice base needed for implementing other advanced practice competencies—e.g., patient teaching and coaching.
Prerequisites: NURSNG 690 and permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 692 (AC/CC)
Advanced Practice in Acute and Critical Care III
This course builds on the patient population focus introduced in NURSNG 691 and emphasizes the nursing personnel sphere of influence. Knowledge of assessment, diagnosis, and management in the autonomous nursing domain are emphasized. The course has two primary emphases: measurement of relevant, nursing-sensitive patient outcomes and quality improvement approaches to improving care provided by the CNS and other nurses. The Quality Health Outcomes Model (QHOM) is used to frame outcome measurement and analysis. Evidence-based approaches to improving the quality of care, together with concepts from the QHOM, are used to guide students in the selection and design of strategies aimed at improving the practice of groups of nurses.
Prerequisites: NURSNG 691 and permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 693 (AC/CC)
Advanced Practice in Acute and Critical Care IV
This course focuses on the organizational/network sphere of influence and strategies for implementing the CNS role, with emphasis on the CNS as a nursing leader and an essential member of the interdisciplinary team. Theoretical and evidence-based, practical approaches to assessing health care systems as organizations and designing and implementing effective change are discussed. Focus is on the analysis of the organizational issues specific to effective CNS practice in acute and critical care. Analysis of factors such as finances and regulatory requirements are examined. Students develop the skills to assess the impact of organizational factors on clinical practice across the continuum of care and design strategic approaches to implementing change.
Prerequisites: NURSNG 692 and permission of program director.
3 Lect Hrs, 3 Credits

NURSNG 696
Independent Study
Students wishing to enroll in this course should present to the faculty a well-defined problem for investigation. Plans for advanced study should be established at the beginning of the semester during which the student wishes to take the course. The study will be conducted in consultation and collaboration with the student's faculty advisor and documented in a report at the end of the semester.
Prerequisites: 6 graduate credits in nursing and permission of the program director.
Hrs by arrangement, 1-3 Credits

NURSNG 697
Special Topics in Nursing
This advanced course offers intensive study of selected topics in the field of nursing. Course content and credit vary according to the topic and are announced during the advance registration period.
1-3 Lecture Hours, 1-6 Credits

PhD Courses

NURSNG 701
Science as a Way of Knowing
This course investigates "science" in its multiple forms as a set of clues to the nature of knowledge. Specifically, it advances the relationship of philosophy of science and theory to nursing science. The course explores forces and issues in the philosophy of science and theoretical thinking that guide science and knowledge development in nursing methodologies and practice. Theory-research-practice linkages in nursing knowledge development are highlighted. Specific philosophy of science content includes the complex symbolic structures of "scientific" concepts; conceptual frameworks and explanations; the variety of methods used in scientific inquiry; the nature of scientific discovery and creativity; the role of metaphysical and aesthetic factors in the construction and validation of theories; the social matrices and determinants of scientific research; and science's dependence on both value judgments and technology.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

NURSNG 702
Models of Health Care Services: Meeting the Needs of the Urban Population
This course focuses on health care needs and issues of access and quality of services for the urban population. It traces the historical development of health service delivery in the US, compares the US system with that of other countries, and discusses the values and beliefs that influence the delivery of health services. Attention is also given to analyzing the roles of nursing and other health care providers and new models in the delivery of health services.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

NURSNG 703
Health Economics
The primary purpose of this course is to have students learn and apply the basic economic concepts and models used by both economists and health policy analysts to understand and analyze health care markets. The goal of health economics is to provide a better understanding of health care problems and issues so that appropriate health policies can be designed and implemented. The course focuses on the structure and functioning of health care markets and specifically on how prices are determined in different markets for health and health-related services, as well as on how prices, in

Nursing

turn, critically affect the behavior of both consumers and suppliers. It is assumed that the student has no prior background in economics.
Prerequisite: NURSNG 701.
3 Lect Hrs, 3 Credits

NURSNG 704L (GERON 772L)
Seminar in Health Care Financing
This course provides an overview of the structure and operations of various contemporary health care financing and provider reimbursement systems, as well as related policy issues. The course addresses the broad role of financial incentives in health service delivery systems from the perspectives of payers, patients, and providers. It analyzes historical, current, and proposed policy options in health care financing, including private health insurance and government programs and issues of provider reimbursement.

NURSNG 720
Secondary Data Analysis
This course explores the use and limits of large national databases for the conduct of nursing and health policy research. Students master accessing, downloading, and analyzing data from large data sets, identify a testable research question, and develop an analytic file to be used for analysis. Data used for this class are drawn from the Healthcare Cost and Utilization Project (HCUP), 2000 Nationwide Inpatient Sample (NIS).
3 Lect Hrs, 3 Credits

NURSNG 721
Program Evaluation
This course focuses on models and methods for program evaluation within health services organizations and health care delivery systems at the local, state, national, and global levels. Content areas include history of evaluation research, types of program evaluation, research designs, planning and conducting evaluations with quantitative and qualitative methods, reporting, dissemination and utilization of findings, and the "program evaluator" role, including ethical and political considerations. In addition to content areas, applied program evaluation methods at various health care delivery system levels are presented in "spotlight" segments during the semester. (Not offered every year.)
3 Lect Hrs, 3 Credits

NURSNG 741
Health Policy I
This is the first course in a two-semester health policy sequence. It provides a foundation for health policy analysis, focusing on the history and development of political, economic, and social systems involved in health care and on theories useful in the analysis of past, current, and future health policies. The course examines federal, state, and local governmental structures and the ways in which they and other forces affect health policy.
Prerequisite: NURSNG 701.
3 Lect Hrs, 3 Credits

NURSNG 742
Health Policy II
This course builds on NURSNG 741, applying models of policy analysis and theoretical perspectives to the critical examination of specific health policies. The course studies the historical, political, economic, and social contexts in which the policies emerged, as well as the specific actors involved. Emphasis is given to health policies affecting the aged and urban family population. Case studies are presented, and participants are introduced to a variety of methods for analyzing, formulating, and evaluating health policy. The policies examined in the course may include those confronting students in their own workplace or practice.
Prerequisite: NURSNG 741.
3 Lect Hrs, 3 Credits

NURSNG 743
Internship in Health Care Policy
Through this six-credit experience, students intern with health care agencies, educational institutions, legislatures, professional associations, or health promotion and prevention organizations. Students are expected to write testimonies and research or evaluation papers analyzing the health policy issues raised during the internship. An internship seminar is part of the experience.
Prerequisite: NURSNG 742.
6 Credits

NURSING 750
Contemporary Disciplinary Knowledge
This course is a multidisciplinary exploration of the structure and growth of knowledge. It examines the linkages of empirical, aesthetic, ethical, personal, and sociopolitical patterns of knowing with the conceptual models or paradigms of diverse disciplines. The course constructs a conceptual-theoretical-empirical structure for research into the generating and testing of theory.
3 Lect Hrs, 3 Credits

NURSNG 791
Integrating Theory and Policy in Dissertation Research
This course is designed to synthesize nursing, policy, and other appropriate theoretical constructs into a proposal for innovative inquiry and research. Content from nursing, basic and applied research in health and service delivery, social policy, research methods, and cognate courses is used to build a coherent conceptual framework, determine methods for data collection, and undertake analysis for dissertation research.
3 Lect Hrs, 3 Credits

NURSING 796
Independent Study
Students wishing to enroll in this course must identify a faculty mentor before the semester begins. Students should present to the faculty a well-defined program of study by the first day of the semester. The study is conducted with consultation from the faculty and includes a written report and formal presentation before the end of the semester.
Prerequisite: Permission of Instructor and Program Director.
Hrs by arrangement, 1-3 Credits

NURSNG 797
Special Topics in Nursing
This advanced course offers intensive study of selected topics in the field of health policy. Course content and credit vary according to the topic and are announced during the advance registration period.
1-3 Lecture Hours, 1-6 Credits

NURSNG 899
Dissertation Research
This course provides the opportunity for research in the student's area of interest, conducted under faculty supervision and resulting in the presentation of a doctoral dissertation.
3-9 Credits

APPLIED PHYSICS (MS)

Faculty

Marvin M Antonoff (Emeritus), PhD, *Cornell University* • Theoretical Solid State Physics

Stephen B Arnason, PhD, *Stanford University* • Materials Physics

Edward S Ginsberg, PhD, *Stanford University* • Theoretical Elementary Particle Physics • Physics Education Research

Kurt Jacobs, PhD, *Imperial London University* • Quantum Noise and Feedback Control • Stochastic Processes

Roderick V Jensen, PhD, *Princeton University* • Nonlinear Dynamics • Biophysics • Bioinformatics • Functional Genomics

Tomas Materdey, PhD, *Cornell University* • Quantum Statistical Mechanics • Signal Processing • Scientific Computation • Science and Engineering Education

Benjamin R Mollow, PhD, *Harvard University* • Theoretical Quantum Optics

Maxim Olshanii, PhD, *Institute of Spectroscopy* • Quantum Integrable Systems • Inertial Sensors • Cold Atomic Gases

D V G L N Rao, DSc, *Andhra University of India* • Experimental Laser Research • Nano- and Biophotonics • Medical Imaging and Image Processing.

Gregory Sun, PhD, *Johns Hopkins University* • Semiconductor Opto-Electronic Devices and Materials

Bala Sundaram, PhD, *University of Pittsburgh* • Nonlinear Dynamics • Mesoscopic Systems • Mathematical Biology

The Program and Facilities

The Applied Physics Program is intended primarily to prepare students for rewarding careers in industry, corporate, and government research laboratories, hospitals, and other high-technology enterprises. In addition, it provides preparation to allow graduates to proceed to a doctoral program if they so choose. The program also offers courses meeting the professional licensure requirements for the Master's of Education Program.

Program emphasis is on the development of practical laboratory skills through broad experience in experimental course work, while fostering quantitative analytical techniques in theoretical physics at the level appropriate to the master's degree. Auxiliary skills in computer and information technology will also be developed.

During or following the initial year of course work, students may choose to begin a thesis project, working in a departmental research laboratory, or on a computational or theoretical problem, under the direction of a faculty member. Alternatively, qualified students who are employed in technically related jobs may opt to complete a supervised internship project, equivalent to a thesis, at their place of employment. Through such internships, the program has established relationships with corporations, hospitals, and laboratories in the Boston area that offer students a unique opportunity to complete the requirements for a master's degree.

The Physics Department is located in the Science Building at the Harbor Campus. Facilities include ample teaching and research laboratories, computing facilities, electronics, and machine shops.

Research laboratories include facilities and equipment for:

- Low-temperature studies
- Non-linear optics, optical information processing
- Nuclear spectroscopy
- Millimeter-wave magnetic resonance
- Soft condensed matter physics
- Bio-physics and computational physics

Degree Requirements

The MS in Applied Physics is a 34-credit program. Each student must complete 1) seven courses, as follows: three one-semester laboratory courses, three one-semester theoretical courses, and one elective course, also in applied physics, to be chosen in consultation with the student's faculty advisor, totaling, at 4 credits each, 28 credits; and 2) either an internship at an off-campus research laboratory or an on-campus thesis project, either of which, when successfully completed, will earn 6 credits. In exceptional cases, with prior approval of the program, a student may graduate with nine courses (substituting two additional courses for the internship or thesis requirement). These courses must be chosen as a coherent subject of specialization in an applied area of special interest to the student.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

An applicant for admission to the Graduate Program in Applied Physics should present adequate evidence of his/her preparation and ability to do graduate work. Normally a bachelor's degree with a major in physics is required, though in certain instances other equivalent preparation may be acceptable. For applicants currently or recently in college, the three letters of recommendation should come from professors in the field of physics or in closely related fields. For an applicant who has been working in an industrial or scientific research laboratory for several years, it may be more valuable to seek one or more of the letters from senior scientists who are familiar with the applicant's work. It is also recommended, but not required, that an applicant plan a visit to the department for informal contacts with the faculty and to become acquainted with the research facilities. GRE scores are not required, but applicants, particularly international applicants, are encouraged to submit scores.

Courses

500-level courses will not count toward degree requirements in Applied Physics. They are graduate courses developed for high school teachers and count for MEd requirements.

PHYSIC 570
Instrumentation Laboratory for Science Teachers
This is a laboratory in modern scientific instrumentation. Participants a) learn basic electronic, thermal, optical, and computer instrumentation techniques; b) study the way modern measuring instruments utilize them in the natural and applied sciences; and c) apply these techniques to carry out an instrumentation project in science. The course is both hands-on and laboratory-based, and includes interdisciplinary applications.
3 Hrs, 3 Credits

PHYSIC 571
Integrated Mathematics and Physical Science for Teachers
This course is designed for secondary school mathematics and science teachers. It develops interdisciplinary material from mathematics and the physical sciences to illustrate basic mathematical concepts as they apply to physical problems and phenomena. Participants learn modern techniques of instrumentation and analysis—including calculator- and computer-based systems, e.g., CBL and MBL data acquisition and analysis systems—and utilize them in hands-on data taking and analysis. The course uses inquiry-

Applied Physics

based methods to develop scientific and quantitative reasoning skills. Special emphasis is given to the development of effective pedagogies for teachers of middle and high school.
3 Hrs, 3 Credits

PHYSIC 600
Electronic Instrumentation I: Analog
This is a lecture and laboratory course in analog electronics. Emphasis is placed on pragmatic and intuitive approaches to analog electronic circuit designs. A supervised independent project using Multisim and LabView software illustrating an aspect of basic analog electronics is required of each student.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

PHYSIC 601
Electronic Instrumentation II: Digital
This is a lecture and laboratory course designed to provide understanding of digital electronics and microprocessors. Emphasis is placed on digital logic components, digital circuit design, and techniques for incorporating microprocessors and microcomputers into laboratory experiments.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

PHYSIC 602
Laser Optics Laboratory
This lecture and laboratory course provides a working understanding of modern optics, lasers, and applications. Topics include optical resonators; solid state, gas and semiconductor lasers; tunable dye lasers; non-linear optics; and spectroscopy applications. Selected topics, which may vary from year to year according to the interests of the faculty and recent developments in technology, will stress practical instrumentation as well as relevant theory.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Lab Hrs, 4 Credits

PHYSIC 603
Nuclear Radiation Physics and Biophysics Laboratory
This is a laboratory-based course designed to illustrate the theory and experimental techniques utilized in nuclear radiation physics and biophysics. Topics include modes of production of nuclear radiation (charged particles, electromagnetism, neutrons), interaction of radiation with matter (including biological tissue), instruments and techniques for radiation detection and spectroscopy, radiation protection and safety, and the use of radioisotopes in physical, chemical, and biomedical research. Additional topics may include neutron activation analysis, X-ray fluorescence, the Mossbauer effect, radio immunoassay techniques utilizing radioisotopes, computer assisted tomography (CAT), and experiments on the interaction of radiation with tumor cells.
Prerequisite: Permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

PHYSIC 604
Cryogenics and Vacuum Technology
This lecture and laboratory course provides a working understanding of modern practice in cryogenics and vacuum technology. Topics include low temperature properties of materials, gas purification, separation and liquefaction systems, instrumentation for measurement of temperatures and pressure, and vacuum technology. Selected topics, which may vary from year to year according to the interests of the faculty and recent developments in technology, will stress practical instrumentation and applications.
Prerequisite: Permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

PHYSIC 608L (BIOL 608L)
Biophysical Instrumentation
This lecture and laboratory course focuses on the application of microcomputers and microprocessor-based electronics to laboratory experiments in the biological and physical sciences. Emphasis is placed on techniques for interfacing the microcomputer with laboratory experiments for automated data acquisition, data reduction and analysis, information display, and real-time control of experiments.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

PHYSIC 609
Physics of Medical Imaging
This course provides a general introduction to the physical principles involved in various medical imaging modalities, including X-ray imaging, X-ray tomography, radio-nuclide imaging, ultrasonic imaging, nuclear magnetic resonance imaging.
4 Lect Hrs, 4 Credits

PHYSIC 610
Topics in Medical Imaging
This course focuses on an in-depth study of specific topics in the various medical imaging modalities.
Prerequisite: PHYSIC 609.
4 Lect Hrs, 4 Credits

PHYSIC 611
Theory of Classical Mechanics and Fluid Mechanics
This course focuses on principles of classical mechanics: generalized coordinates, Lagrangian and Hamiltonian formulations, variational principles, multiple periodic systems, continuous media, fluid mechanics.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

PHYSIC 612
Electromagnetic Theory
This lecture course examines electromagnetic theory and its various applications. Topics include Maxwell's equations in vacuum and in material media, electromagnetic theory of continuous media, reflection, refraction, diffraction and radiation of electromagnetic waves. Applications are selected from such topics as wave guides and resonant cavities, and magneto hydrodynamics and plasma physics.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

PHYSIC 613
Quantum Mechanics, Atomic, and Molecular Physics
This lecture course focuses on the fundamental principles and applications of the quantum theory of matter. Topics include bound systems (potential well harmonic oscillator, hydrogen atom), angular momentum, spin, identical particles, the periodic table, exchange forces, chemical bonding, linear vector spaces, perturbation theory. Such other topics as magnetic resonance, symmetry groups, and elementary particles are selected for study according to student and faculty interests.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

PHYSIC 614
Thermodynamics and Statistical Mechanics
This lecture course focuses on the principles of thermodynamics and statistical mechanics. Topics include fundamentals of thermodynamics, first and second laws, thermodynamic potentials, phase transitions, classical kinetic theory, classical statistical mechanics, and quantum statistical mechanics. Applications of the principles are made to physical, chemical, and biological systems of special or current interest.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

PHYSIC 615
Solid State Physics
This course centers on the application of quantum mechanics to the theory of the

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solid state. Topics include periodic structures, lattice waves, band theory of solids, dynamics of electrons in solids and magnetic resonance. Some applications of the theory to semi-conductor devices are made.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

PHYSIC 616
Mathematical Methods for Physicists
This is a course in intermediate mathematics with applications to analytical and quantum mechanics and electromagnetic theory. Selected topics include vector analysis, tensor algebra, linear algebra and group theory, functions of a complex variable, second-order differential equations, Fourier series and transforms, calculus of variations.
4 Lect Hrs, 4 Credits

PHYSIC 621
Physics of Semiconductor Materials
This is a lecture course focused on the physics of semiconductor materials. An understanding of the properties of semiconductor devices is related to the underlying physical principles of quantum mechanics and solid state physics. Topics include electrical, optical, and thermal properties of semiconductor materials; theory of transport, scattering, and recombination of free carriers; theory of p-n junctions.
Prerequisites: Physic 613 and 615.
4 Lect Hrs, 4 Credits

PHYSIC 622
Solid State Electronic Devices
This lecture and laboratory course focuses on the physical principles and technology of semiconductor electronic devices and materials. The laboratory involves such techniques as the Hall effect, resistivity, and optical measurement, used to characterize the properties of semiconductor materials and devices—silicon and gallium arsenide substrates, bipolar and metal semiconductor junctions, VLSI and MOSFET devices. Topics may vary according to faculty interests and recent developments in the technology.
Prerequisite: PHYSIC 621.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

PHYSIC 632
Advanced Laser Optics (with Lab)
This is a lecture and lab course offered as a follow-up to PHYSIC 602. Topics include wave propagation in isotropic and anisotropic media, birefringence, the physical origin of nonlinear polarization, wave propagation in nonlinear media, optical second harmonic generation, parametric oscillation and amplification, electro-optic effects in crystals, third order non-linearities, third harmonic generation, the interaction of light and phase conjugate optics, four-wave mixing, intensity-dependent transmission, and selected other topics as time permits.
Prerequisite: PHYSIC 602.
3 Lect Hrs, 3 Lab Hrs, 4 credits

PHYSIC 680
Readings in Physics
This course provides an opportunity for qualified graduate students to pursue advanced independent readings in specialized topics in applied physics, with the guidance of a faculty member. This course may be taken more than once for credit.
Prerequisite: Permission of the department.
Hrs by arrangement, 4 Credits

PHYSIC 690
Projects in Physics
Qualified graduate students may pursue advanced independent projects in applied physics, with the guidance of a faculty supervisor. This course may be taken more than once for credit.
Prerequisite: Permission of the department.
Hrs by arrangement, 4 Credits

PHYSIC 697
Special Topics in Applied Physics
This course allows study of a particular topic of current interest in applied physics, such as photonics, nuclear reactor physics, semiconductor device physics, superconductivity, magnetic resonance. Topics will be announced during the advance registration period.
Prerequisite: Permission of instructor.
4 Lect Hrs, 1-6 Credits

PHYSIC 698
Master's Internship
This course provides students with internship opportunities in collaboration with industry in the greater Boston area. Each internship is overseen by a faculty supervisor in the Physics Department.
Prerequisite: Permission of the department.
Hrs by arrangement, 3-6 Credits

PHYSIC 699
Master's Thesis Research
This is a research course culminating in the completion of a master's thesis.
Prerequisite: Permission of the department.
Hrs by arrangement, 3-6 Credits

PUBLIC AFFAIRS (MS, CERTIFICATE)

PUBLIC AFFAIRS TRACK, INTERNATIONAL RELATIONS TRACK, WOMEN IN POLITICS AND PUBLIC POLICY CERTIFICATE

Faculty

Public Affairs, Women in Politics and Public Policy

Randy Albelda (Economics Department), PhD, *University of Massachusetts Amherst* • State and Local Finance

Edmund Beard (Political Science Department), PhD, *Columbia University* • Public Policy

Donna Haig Friedman (Center for Social Policy), PhD, *Brandeis University* • Public Policy

Carol Hardy-Fanta (Center for Women Politics and Public Policy), PhD, *Brandeis University* • Gender, Race, Ethnicity, and Politics • Policy Analysis

Pascale Jossart (Economics Department), PhD, *University of Southern California* • Political Economy & Public Policy • Economics • Housing & Urban Development

Erika Kates (Center for Women in Politics and Public Policy), PhD, *Brandeis University* • Women in Politics and Public Policy

Christa Kelleher, PhD, *Brandeis University* • Women in Politics and Public Policy • Medical Sociology • Gender Studies • Qualitative Methods • Social Theory (Part-time)

Tatjana Meschede (Center for Social Policy), PhD, *University of Massachusetts Boston* • Public Policy Research • Research Methods

James Ward (Political Science Department), PhD, *Harvard University* • Policy Theory • Health Policy

Elaine Werby (Center for Social Policy), MSW, *Boston College* • Housing, Welfare, and Elderly Issues

International Relations

Jalal Alamgir (Political Science Department), PhD, *Brown University* • International Relations • International Political Economy

Brian Baltimore, MA, *Fletcher School of Law and Diplomacy* • International Finance and Banking • Emerging Markets (Part-time)

Charles Cnudde (Political Science Department), PhD, *University of North Carolina* • International Relations • American and Comparative Politics • Public Policy and Administration

Leila Farsakh (Political Science Department), PhD, *University of London* • International Relations • Oriental and African Studies • Political Economy

Winston Langley (Political Science Department), PhD, *Howard University*, JD, *Suffolk University* • International Law, Human Rights • International Political Economy

Adugna Lemi (Economics Department), PhD, *Western Michigan University* • International Trade and Finance • Development Economics • Poverty and Income Dynamics

Hormoz Shadadi (Political Science Department), PhD, *Massachusetts Institute of Technology* • Middle East Politics • American Foreign Policy • Political Theory

Ursula Tafe (Political Science Department), PhD, *Catholic University* • International Organization • Democratic Peace Theory

Primo Vannicelli (Political Science Department), PhD, *Harvard University* • International Development • European Union • International Institutions

Robert Weiner (Political Science Department), PhD, *New York University* • Eastern Europe • Theories of International Relations • International Organizations

The Programs

Based in the John W McCormack Graduate School of Policy Studies and drawing on faculty from throughout the university, the MS in Public Affairs program offers a choice of two tracks: Public Affairs and International Relations.

Public Affairs

The Master of Science in Public Affairs focuses on three broad goals: to provide students with a detailed, accurate picture of the political and economic environments on the national, state, and local levels; to give them needed historical and cultural perspectives on public life in the region; and to ensure that they have the kind of technical, professional, analytical, and managerial skills needed to function effectively in the public realm. The curriculum also includes intensive analyses of current policy issues and concentrates on topics relating to metropolitan Boston, Massachusetts, and New England. Students are sought who are currently employed and who have had several years' experience in the public, private, and not-for-profit sectors, although students who have just completed an undergraduate degree are also considered. Those coming from the private sector usually hold or aspire to positions of authority in their organization's community relations, governmental affairs, or long-range strategic planning divisions. As most students are employed full-time, the program operates on an evening and weekend schedule.

In addition to the faculty members listed above, the program also draws on other faculty from throughout the University. Faculty members holding part-time status in this program are career professionals—strongly committed to sharing their knowledge and skills with those entering the field.

Courses in the Public Affairs track are grouped into the following five areas:

1. The New England political and economic environments.
2. History, culture, and policy in New England.
3. Public management, organizational behavior, public budgeting and financial management, and program evaluation.
4. Analytical skills for policy makers.
5. Issue and policy analysis.

Degree Requirements

Thirty-six graduate credits are required to complete the Public Affairs curriculum. These credits are earned by completing eight three-credit courses distributed among the areas noted above, six one-credit weekend intensive modules (two per semester for three semesters), and a final capstone and case study seminar which carries six credits.

The curriculum leading to the MS in Public Affairs is highly structured. Students are expected to proceed through the program as a cohort, taking all courses in the determined sequence. In order to accommodate students who have already had graduate training in one or more of these areas, the program allows students to transfer up to two equivalent courses into the program, in accordance with University transfer policy.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication and, at the back of this publication, the sections on "Graduate Admissions Application Instructions" and "Special Instructions for Applicants to Individual Programs."

Each student must submit a completed application form, three letters of recom-

Public Affairs

mendation, a résumé, Graduate Record Exam (GRE) or Miller Analogies Test (MAT) scores, essays, and all undergraduate and graduate transcripts.

International Relations Track

The International Relations track focuses on five broad goals for its graduates:

(1) Achieving a solid understanding of classic international relations theory in historical and contemporary contexts and of the concepts, structures, and institutions, both governmental and non-governmental, that define the global system;

(2) Achieving firm knowledge of the current international system and the political, economic, and cultural factors that influence policy formulation;

(3) Developing a critical understanding of international political economy, the effects of globalization, problems and prospects in the developing world, the role of regionalism and of regional integration, the dynamics of international conflict and conflict resolution;

(4) Developing the capacity to utilize and apply a range of research methodologies to the study of relevant topics in international affairs;

(5) Achieving competence in an individualized area of specialization, either functional (for example: international conflict resolution) or geographic (for example: European Union, Middle East).

In addition to the seminars offered specifically for the International Relations track, students may, with permission of the program director, also enroll in courses in anthropology, dispute resolution, economics, geography, history, languages, and political science. Through the Boston Library Consortium, students have access to a wide range of resources at other universities in the Boston area. Specific opportunities for involvement in development projects overseas may be available through the McCormack Graduate School's Policy Studies Center for Democracy and Development.

Degree Requirements

Thirty-six graduate credits over a two-year period are required to complete the International Relations track curriculum.

The curriculum includes core seminars, electives, and a capstone or master's thesis:

- *Core Seminars* (21 credits): Seven core courses of distinct focus, aimed at providing a solid foundation in major aspects of international relations:
  - PAF G 631 (Theories and Concepts of International Relations)
  - PAF G 632 (Contemporary Issues in World Politics)
  - PAF G 633 (Research Methods and Analysis in International Relations)
  - PAF G 634 (International Political Economy)
  - PAF G 635 (Globalization and International Development)
  - PAF G 636 (Political Economy of Regional Systems)
  - PAF G 681 (Advanced Studies in International Relations)
- *Elective Courses* (9 credits): Three 3-credit electives are required. For a list of electives, please contact the program office. Electives are available in a variety of fields and are meant to encourage study in an area of special interest. By also focusing the master's thesis in the same area, students have an opportunity to pursue a distinct specialization in depth.
- *Capstone or Master's Thesis* (6 credits): Focused research on a distinct topic through which the student synthesizes work done in the various courses and also acquires expertise in a specific area of study.

As capstone, students may choose between completing a policy-related capstone paper or a master's thesis. The thesis is a substantial and original paper approximately sixty pages long, indicating mastery of pertinent concepts and critical analysis. The thesis is defended before a faculty committee and provides the base for a comprehensive discussion of the broader context.

There is also a foreign language/international experience requirement to be satisfied, either by demonstrating proficiency in a foreign language or by submitting a record of extensive international experience (work and/or study overseas).

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Applicants will normally be expected to have a solid background in the social sciences (especially political science and economics), world history, and a foreign language (and/or substantial experience working or studying overseas). In certain cases, applicants may be admitted provisionally, with commitment to a study plan to be completed during the summer preceding the start of the program. Potential applicants are encouraged to meet with the program director for an individualized review of their background preparation. Current and prospective secondary-school teachers of social studies will find this track of particular interest in preparing them for teaching a variety of courses with an international and global focus.

Women in Politics and Public Policy Certificate (WPPP)

The Women in Politics and Public Policy graduate certificate program is a two-semester course of study designed to prepare women to take on leadership roles in government and non-profit organizations, hold political office, and pursue advanced degrees, most frequently in law and public policy. The program offers a unique combination of academic work in policy studies and analytical and research skills, carefully supervised public policy internships, advising, and professional development activities. The role of gender in politics and policymaking is central to the program's design, goals, and curriculum.

The program is located within the Department of Public Policy and Public Affairs at the John W. McCormack Graduate School of Policy Studies and is administered by UMass Boston's Division of Corporate, Distance, and Continuing Education. Students take all courses as a cohort over two semesters, beginning in September. Upon enrollment, students commit to the full-year program; any who leave the program between semesters remain responsible for spring tuition.

Certificate Requirements

The program's academic focus is on the careful study of governmental structures and political processes, the effects of public policies on women, and the roles women have played in politics, policy formulation, and implementation. The role of gender in politics and policymaking is central to the program's design, goals, and curriculum. The six required courses (see below for full descriptions) include core seminars, public policy research methods, and the internship:

Core Seminars: These two courses (PAF G 619, 623) teach students advanced policy analysis and practical skills for politics and public policy formulation and implementation, by focusing on contemporary American public policy issues and women in American politics and policymaking.

Research Methods (PAF G 626, 627): These two courses provide training in case study

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methodology for policy analysis. The sequence culminates in a case study that serves as the student's capstone project.

Policy Internships: These two internship courses (PAF G 622, 624) provide learning environments leading to a deeper understanding of the political and policymaking process. Students spend 250 hours over two semesters as interns in the offices of members of the U.S. Congress or state senators and representatives; in state or local agencies or non-profit or advocacy organizations; or at prestigious research institutes. Throughout the program, faculty guide students in the process of integrating theoretical knowledge and practical skills learned in their internships.

Students are required to complete eighteen credits to receive the certificate: twelve credits in course work (including the capstone project completed during the Case Study Seminar) and six credits in the internship.

Courses take place two evenings per week.

Admissions Requirements

Please see the general statement of admission requirements for all graduate programs in the "Admissions" section of this publication. Minimum requirements include a BA/BS degree, two letters of recommendation, and a personal interview. The program is full-time over two semesters. Students are admitted in September only for the full program.

For more information about the program or to schedule an interview, please write or call:

Women in Politics and Public Policy Program
Division of Corporate, Continuing, and Distance Education
University of Massachusetts Boston
100 Morrissey Boulevard
Boston MA 02125-3393
Phone: (617) 287-6785
Email: j.ruvidich-higgins@umb.edu

Public Affairs and WPPP Courses

PAF G 601
The New England Political Environment
This course provides an introduction to the key contemporary systems that constitute the environment in which legislative and executive policy-making and implementing processes work. This course is designed to provide a thorough understanding (in theory and practice) of: where, how, and by whom policy is made and implemented; how the process is/can be influenced; who pays and who benefits; and how to evaluate results (intended and actual).
3 Lect Hrs, 3 Credits

PAF G 602
The New England Economic Environment
This course introduces the student to the theory and tools of regional economies as a framework for analyzing policy issues. The economic and fiscal structure of Massachusetts is studied to identify the inner and outer workings of the Massachusetts economy vis-a-vis New England and the nation. The latter part of the course focuses on the economics of major issues facing policy makers. Such issues include public and private housing, health care costs, public pensions, fiscal and economic competitiveness, and the economics of the capital city, Boston.
3 Lect Hrs, 3 Credits

PAF G 603
Foundations of American Culture
This module begins with discussion of the culture concept and then concentrates on three traditions within our culture that have decisively shaped American values, behavior, and institutions ever since the first settlements: Puritanism, a "liberal consensus" (belief in constitutional self-government and private property), and individualism.
Hrs by arrangement, 1 Credit

PAF G 604
A Changing American Culture
This module requires students to consider the changes taking place in the American family and lifestyle, in the workplace, and in political behavior. How did policy-making at the national and local levels contribute to the American record of spectacular growth? What were the human and environmental costs? To what extent can policy makers today expect to have to cope with cultural discontinuity? How will post-industrial society affect the management of public and private institutions?
Hrs by arrangement, 1 Credit

PAF G 605
The Public Interest
This module is devoted to the philosophical assumptions underlying ideologies on the right (e.g., the negative state, free market, unlimited personal choice) and the left (e.g., the importance of community, the need for public power to promote the common good). The course discusses competing definitions of "the public interest" and tries to resolve them.
Hrs by arrangement, 1 Credit

PAF G 610
Public Management: Theories and Principles
This course explores the complex environment in which today's public managers must function. It introduces students to the various theories of complex organizations, with a particular emphasis on those developments most relevant to public organizations. As part of the effort to relate theory to practice, students' own work experiences become a legitimate and important aspect of the subject matter.
3 Lect Hrs, 3 Credits

PAF G 612
Organizational Behavior
This course examines the nature of human behavior in public sector organizations as a function of the individual, the groups within which he/she interacts, and the organizational setting. Topics include motivation, leadership, adaptation, socialization, conflict, and communication.
3 Lect Hrs, 3 Credits

PAF G 614
Human Resources Management
This course is designed to familiarize students with the major elements of human resources management in the public sector: personnel management practices and the practice of labor-management relations. The first half of the course examines the basic concepts of human resources management and the principles of planning and forecasting human resources needs. This part of the course examines career planning and management, job design, pay systems, selection, training, and equal opportunity. The second half of the course explores the nature and history of labor-management relations, focusing on the tactics and strategies of management and union representatives and the legal constraints on their behavior in: (1) the organization of public employee unions; (2) contract negotiation; and (3) contract administration and interpretation.
3 Lect Hrs, 3 Credits

PAF G 615
Public Leadership
This course is a graduate research seminar with emphasis on how major leaders are identified, recruited, and selected for key positions of institutional power within the United States and on the impact these choices have had on the functioning of those institutions. While most discussions focus on political leaders, a number of non-political leaders—business and academic—are also assessed. One major unifying theme of the course is the central role of personal ambition in driving people to achieve.
3 Lect Hrs, 3 Credits

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PAF G 619
WPPP: Contemporary American Public Policy Issues
This fall seminar in the Program for Women in Politics and Public Policy provides an overview of the policy-making process and of electoral politics, then examines several central public policy issues of contemporary concern, including homelessness and poverty, health, and environmental issues. Readings from the disciplines of sociology and political science analyze how public policy is shaped both by internal processes of government and by interest-group dynamics.
3 Lect Hrs, 3 Credits

PAF G 620
Analytic Skills I: Skills for Policy Analysis
This course introduces a variety of policy analysis tools for policymakers and public managers/administrators; provides an overview of how public policy is shaped by research and numerical data; encourages students to generate research questions and match research methods to the questions; teaches how to interpret numerical data in tables, charts, research reports, and articles; introduces basic statistical analysis tools and the interpretation of statistical results as they inform public policy decision-making.
3 Lect Hrs, 3 Credits

PAF G 621
Analytic Skills II: Research Methods
This course provides a more in-depth focus on the Case Study Method and its related skills, including interviewing, analysis of documents/archives, analysis of prior research findings, qualitative research skills and analysis, and determination of policy implication. Students cover both theoretical aspects and applications of these topics as they prepare their capstone proposals.
3 Lect Hrs, 3 Credits

PAF G 622
WPPP Fall Internship
In close consultation with the instructor, students in the WPPP Certificate Program develop and begin to work at an internship placement in a city, state, or federal government agency, in a lobbying or research organization, or in a non-profit organization whose work is directly related to public policy. Interns spend 16-20 hours per week in the placement, keeping a record of work activities, skills development, and relationship between course curriculum and learning at the internship. Students also meet regularly with the instructor to discuss the progress of their internship placements.
3 Lect Hrs, 3 Credits

PAF G 623
WPPP: Women in American Politics and Policy Making
This spring seminar in the Program for Women in Politics and Public Policy explores how politics and government affect American women's lives today and examines the ways that women participate in the political process in order to influence the course of public policy. Readings bridge the disciplinary perspectives of sociology and political science; newer feminist theoretical perspectives on public policy issues are included.
Prerequisites: PAF G 619, 622, 626.
3 Lect Hrs, 3 Credits

PAF G 624
WPPP: Spring Internship
The internship placement begun in the fall is completed and evaluated. Students in the WPPP Certificate Program prepare and present a paper integrating the theoretical knowledge and practical skills gained from their internships.
Prerequisites: PAF G 619, 622, 626.
3 Lect Hrs, 3 Credits

PAF G 625
Public Budgeting and Financial Management
This course focuses on the public budgeting process in theory and practice. Students are introduced to contemporary approaches to public budgeting, as well as to the difficulty of planning in the public sector, the dilemmas of choice and of priority setting, the results of incrementalism, and the nature of budgetary "rationality." In addition, the course examines the nature and scope of public financial management at the state and local level. It familiarizes students with state and local government financial reporting and accounting, current operating expenditures, techniques for evaluating capital expenditures and products. It explores borrowing and debt management, evaluation of municipal credit quality, management of cash assets and liquid securities, simulations and financial forecasting, and evaluation and control of financial management practices.
3 Lect Hrs, 3 Credits

PAF G 626
WPPP: Case Study Methodology for Policy Analysis
The first part of this course focuses on the political and economic context in which policy disputes are raised and resolved through various political processes. Subsequent course work examines policy conflicts, with emphasis on relative strengths and weaknesses of contending political forces. Students complete a case-study exercise based on readings, library research, and interviews that concentrate on a contemporary public policy controversy.
3 Lect Hrs, 3 Credits

PAF G 627
WPPP: Case Study Seminar
Case study provides an opportunity for students in to design and complete a substantial research paper, analyzing in detail one example of public sector decision-making and integrating theoretical perspectives gained through course work. In close consultation with the instructor, student teams choose a controversial policy decision/area in which they wish to develop expertise; topics are often related to the student's internship placement. Students will make oral presentations based on the case studies.
Prerequisites: PAF G 619, 622, 626.
3 Lect Hrs, 3 Credits

PAF G 645
Program Evaluation
This course explores the issues involved in and techniques applicable to evaluation of programs in the public sector. The course focuses on how to define programmatic objectives and output measures and how to develop evaluation methods and instruments. It further addresses how to implement such studies and demonstrate their worth.
3 Lect Hrs, 3 Credits

PAF G 651, 652, 653, 654, 655
Policy Workshops
This is a series of weekend workshops addressing public policy issues of concern to the Commonwealth.
1 Credit Each

PAF G 691
Capstone/Case Study Seminar
Students in the MS in Public Affairs Program have the opportunity to complete a final project under the supervision of a faculty advisor. The project may be a case study of a public policy or significant piece of legislation, involving tracing its history, analyzing the political, economic, and social context in which it developed, identifying and examining the roles played by those who were instrumental in its development, and assessing its intended and actual impact. Alternately, it may be a critical examination of a policy issue confronting a student at his or her place of employment. While completing their case study projects, students participate in a weekly seminar that focuses

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both on the substantive issues under examination and on case study methodology.
Hrs by arrangement, 6 Credits

PAF G 695, 696
Independent Study
These are advanced courses of independent readings under the guidance and subject to the examination of the instructor. Areas and topics are chosen according to student need.
Hrs by arrangement, 1-3 Credits

PAF G 697
Special Topics in Public Affairs
This is an advanced course offering intensive study of selected topics in public affairs. Course content varies according to the topic and will be announced prior to the advance registration period.
3-6 Lect Hrs, 1-6 Credits

International Relations Courses

PAF G 631
Theories and Concepts of International Relations
This course provides students with a critical assessment of the major theories and concepts defining international relations as a field of study. It has two primary goals: (1) in-depth analysis of explanatory theories (e.g., realism, idealism, structuralism, neoliberalism, interdependence, functionalism) and of core concepts (e.g., sovereignty, national interest, collective security, balance of power); and (2) examination of the historical evolution of international systems, with focus on the modern state system and the Cold War period. Special attention is given to the processes and institutions (e.g., international law, United Nations, NGOs, international civil society) that contribute to conflict resolution and international cooperation. Ultimately, this course provides the foundations (conceptual, historical, theoretical) that graduate students in International Relations need as a preparation for the curriculum's more specialized and advanced courses.
3 Lect Hrs, 3 Credits

PAF G 632
Contemporary Issues in World Politics
This seminar focuses on current, major issues with an international dimension and/or global impact and with salience for the emerging patterns of world politics. While engaging in critical analysis of current issues, it examines the broader conceptual context and analytic framework which explain interactions among nations. Through weekly reports based on assigned readings, as well as a major research paper, students improve their skills in the critical utilization of concepts, the refinement of analytic tools, the examination of different perspectives (national, international, global community), and policy analysis.
3 Lect Hrs, 3 Credits

PAF G 633
Research Methods and Analysis in International Relations
This course introduces students to basic concepts and skills for research, both academic and practice-based, in international relations areas. It explores the stages of research, from identifying appropriate questions and assessing existing literature, through framing questions in researchable fashion, identifying the best research approaches for those questions, identifying existing data resources, creating research agenda for gathering new quantitative and qualitative data, analyzing and weighing different forms of data, and drawing defensible conclusions while identifying further areas for research. Specific international relations concepts and major geographic regions are used as foci for readings and major international data sets.
3 Lect Hrs, 3 Credits

PAF G 634
International Political Economy
This course engages students in a study of the relationship between economics and politics in the public affairs of humankind as influenced by global institutions such as the World Bank, the International Monetary Fund, the World Trade Organization; non-governmental organizations such as multinational corporations, local business partnerships, workers unions, and political entities such as national, regional, and global governance systems. The course also includes an interdisciplinary focus on the role of theory; the structures of knowledge, technology, and security; the behavior of consumers; and the mobilization of values, as well as opinions expressive of those values.
3 Lect Hrs, 3 Credits

PAF G 635
Globalization and International Development
This course provides a comprehensive study of the major concepts and theories necessary for a critical understanding of the socio-political-economic problems and possibilities facing Third World countries in their quest for development. While examining the domestic determinants of development, the course focuses on the role of international institutions and the dominant countries (United States, European Union, Japan) in shaping policy options in developing countries, with particular attention to the process of globalization as a recent contributor to the problem of underdevelopment.
3 Lect Hrs, 3 Credits

PAF G 636
Political Economy of Regional Systems
The general goal of this course is to examine the distinct patterns of regional groupings (Western Europe, Middle East, Southeast Asia, Latin America, North Africa and Mediterranean, Sub-Sahara Africa); the inter-state relations which define the region, with primary focus on political-economic issues; the interplay between regional issues and the broader context of international relations; and the impact of globalization on the political, economic, and cultural aspects of each region. For any one semester, however, within the broader analysis of regional systems, the focus will be on one single region—e.g., the European Union.
3 Lect Hrs, 3 Credits

PAF G 681
Advanced Studies in International Relations
This course provides students with a critical, in-depth assessment of a distinct and specialized area of international affairs—for example, the impact of multinational corporations, or approaches to international conflict resolution. It is designed for students in the International Relations track who have already completed the required six core courses in the track, and it builds on the body of knowledge so acquired. Structured as an intensive seminar, the course includes: study of the relevant literature on the topic, including a critical review of journals; review of the theoretical debates; participation in coordinated team-research projects designed to analyze all the major aspects of the topic and share the results through systematic presentations.
3 Lect Hrs, 3 Credits

PAF G 691
Capstone in Public Affairs
Under the supervision of an appointed capstone advisor, students complete a policy-related capstone paper.
Hrs by arrangement, 6 Credits

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PAF G 692
Capstone in International Relations
Under the supervision of an appointed capstone advisor, students complete a policy-related capstone paper.
Hrs by arrangement, 6 Credits

PAF G 694
Independent Study in International Relations
This is an advanced course of independent readings under the guidance and subject to the examination of the instructor. Areas and topics are chosen according to student needs, as determined by review of the student's completed coursework and academic goals. The director of the International Relations Track will determine the suitability of the independent study proposal and will guide the student to the appropriate faculty supervisor. The proposed project should provide the student with a critical, in-depth assessment of a distinct area of study within international relations that is not covered by available courses.
3 Lect Hrs, 3 Credits

PAF G 699
Master's Thesis in International Relations
Under the supervision of the appointed thesis advisor, students complete a major research project that makes a substantive contribution to critical understanding about a salient issue in contemporary international affairs. Students are also expected to explore in depth the broader context of the thesis topic. The final product is a substantial paper of approximately 60 pages, indicating mastery of pertinent concepts and critical analysis. The thesis is defended before a faculty committee, and also provides the basis for a comprehensive discussion of the broader context.
Hrs by arrangement, 6 Credits

PUBLIC POLICY (PhD)

Faculty

Randy Albelda (Department of Economics), PhD, *University of Massachusetts Amherst* • Political Economy • Women's Economic Status • Family Policies • Poverty

Ramon Borges-Mendez, PhD, *Massachusetts Institute of Technology* • Labor Economics • Economic Development • Political Economy • Latino Studies • Governance and Institutional Development • Evaluation and Methodology

Elizabeth Bussiere (Department of Political Science), PhD, *Brandeis University* • Welfare Policy • Issues of Equality • US Jury System

Alan Clayton-Matthews, PhD, *Boston College* • Regional Economic Development • Labor Market Mobility • Income Distribution • Educational Attainment • Econometrics • Public Finance

Thomas Ferguson (Department of Political Science), PhD, *Princeton University* • Public Policy • Government Studies

Donna Haig Friedman, PhD, *Brandeis University* • Social Welfare • Homelessness and Homelessness Prevention • Role of Non-Profits and Organizational Learning • Outcome Measurement • Qualitative Research Design

Janis Kapler (Department of Economics), PhD, *American University* • International Trade and Finance • Open Economy Macroeconomics • Transnational Corporations

Winston Langley (Department of Political Science), PhD, *Howard University*, JD, *Suffolk University* • Human Rights • Alternative Models of World Order • Religion and Politics

David Levy (Department of Management), DBA, *Harvard University* • Organizational Theory • International Business • International Political Economy

Catherine Lynde (Department of Economics), PhD, *University of California, Davis* • Macroeconomic Policy • Productivity Growth • Quantitative Methods • Health Economics

Enrico Marcelli (Department of Economics), PhD, *University of Southern California* • Demographic and Labor Economics • Economic Development • Immigration • Urban Economics • Health Policy

David Matz (Dispute Resolution Program), JD, *Harvard University* • Conflict Resolution • Negotiation • US Policy on the Israeli-Palestinian Conflict

Janet Farrell Smith (Department of Philosophy), PhD, *Columbia University* • Theories of Justice • Racial and Ethnic Policies

Mary Stevenson (Department of Economics), PhD, *University of Michigan* • Urban Economics • Labor Economics • Economics of Gender

Michael Stone (College of Public and Community Service), PhD, *Princeton University* • Participatory Community Planning • Housing • Poverty and Living Standards

Peter Taylor (Critical and Creative Thinking Program), PhD, *Harvard University* • Science, Technology, and Society • Social Analysis of Environmental and Health Research • Reflective Practice

David Terkla (Department of Economics), PhD, *University of California, Berkeley* • Environmental and Marine Resource Economics • Regional Economic Development • Public Finance

Miren Uriarte (College of Public and Community Service), PhD, *Boston University* • Applied Sociology • Race and Ethnicity

James Ward (Department of Political Science), PhD, *Harvard University* • Political Theory • Health Policy

Paul Watanabe (Department of Political Science, Institute for Asian American Studies), PhD, *Harvard University* • Foreign Policy-Making Process • American Political Behavior • Ethnic Politics

Eben Weitzman (Dispute Resolution Program), PhD, *Columbia University* • Conflict Resolution in the Labor Movement • Computer-Aided Data Analysis in Qualitative Research

William Kiernan (Institute for Community Inclusion), PhD, *Boston College* • Special Education and Disability Policy • Integrated Employment

Ann Withorn (College of Public and Community Service), PhD, *Brandeis University* • Social Welfare History and Policy • Feminist Theory

The Program

The PhD Program in Public Policy, located within the John W McCormack School of Policy Studies, is designed to educate students in methods and approaches to public policy analysis in a variety of policy areas. The program provides interdisciplinary study at both the theoretical and applied levels, drawing on a broad variety of academic disciplines. The program's curriculum offers students a solid grounding in a wide range of political and economic philosophies and theories of public policy and emphasizes a commitment to urban issues and multicultural perspectives, with a focus on state and local policy. In addition, students acquire intensive experience in a range of research methods and in techniques of both quantitative and qualitative analysis.

UMass Boston's Public Policy graduates will play important roles in 21st century public policy-making in the following research areas:

- Children, Youth, and Family
- Community Development
- Disability Rights and Policy
- Dispute Resolution
- Economic Development
- Education Reform
- Environmental Policy
- Health Care Policy
- Homelessness
- Housing
- Human Rights
- Labor Policy
- Law and Public Policy
- Mental Health Policy
- Minority Issues
- Poverty Reduction
- Regional Development
- Science and Technology Policy
- Special Education and Disability Policy
- Welfare Policy
- Women's Issues

Full-time study is normally required during the first two years of enrollment, and full-time students are generally expected to complete the degree in five years.

Financial support, including tuition waivers and graduate assistantships, is typically available for full-time students for the first two years of study; partial support may be available in years three and four.

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Students may petition for award of an en-route Master of Science degree in Public Policy upon successful completion of the core courses and a two-part comprehensive exam.

Part-Time Study for Commonwealth of Massachusetts Employees

The program also offers a part-time study option for Commonwealth of Massachusetts managers and policy makers who are eligible for flexible work schedules. These employees will acquire a strong foundation in theory and analytical skills and will be able to use their job responsibilities to contribute to class discussions, assignments, and research papers, obtain faculty input on important policy considerations, and contribute to the field of state policymaking through their dissertation research.

The sequence of the part-time curriculum requires completion of three courses in one and one half days on campus each week during the first semester. After the first semester, the normal part-time load is two courses (typically two half-days on campus) per semester. All classes are held during the day.

The part-time schedule allows students to complete all core courses in three years. Elective courses and dissertation research typically begin in the fourth year.

Commonwealth of Massachusetts employees use their state benefits for tuition coverage but must pay fees and are not eligible for assistantship awards.

The Concentration in Regional Development

The concentration in regional development enriches the program's core curriculum, bolsters the campus's urban mission, and promotes both intra- and inter-campus collaboration. In particular, the program is partnered with the master's program in Public Affairs on the Boston campus and the master's program in Regional Economic Development on the Lowell campus. (NB: Some courses, including one core requirement, are offered in Lowell—approximately thirty miles north of Boston.)

Students complete three courses (nine credits) to fulfill the concentration. Foundations of Comparative Regional Development (UMass Lowell, 57.513) is required. For the other two, students may choose among recommended courses on either campus which address topics including community mapping, the New England economic environment, public budgeting and finance, municipal management, comparative environmental studies, principles of economic development, and organizational dynamics in regional development; Community Mapping (UMass Lowell, 57.514) is strongly recommended as one of these two. The three courses taken to fulfill the concentration count as electives toward the PhD program.

The Concentration in Leadership in Special Education and Disability Policy

Students enrolled in the Public Policy Program may choose to focus their elective courses toward completion of this concentration, which is collaboratively administered by the Public Policy Program and the Leadership in Urban Schools track of the EdD Program.

The curriculum provides students with the opportunities to develop skills in design, implementation, management, and analysis of programs and systems that support children, youth, and adults with disabilities. Internships will require 300 to 500 hours and focus on special education or disability policy issues. Requirements include:

EDLDRS 710
The Culture of Urban Schools

EDLDRS 742
Team Research Project

PPOL G 755L / EDLRS 755L
Research in Special Education and Disability Policy

PPOL G 756L / EDLDRS 756L
Disability Policy and Practice Frameworks

PPOL G 898 Internship
(minimum three credits)

The concentration targets the very serious issues that plague urban school systems as they struggle with education reform, accountability systems, and the worsening shortage of special education leaders.

Graduates are qualified to assume top-level positions as policy analysts, state and federal agency personnel, special education and school administrators, university faculty, or researchers.

The Concentration in Dispute Resolution

The "art" of public policy is mediated among interested and key players. Increasingly, state and local governments and non-profit organizations have recognized the role and importance of conflict resolution. This nine-credit concentration in dispute resolution has been developed in conjunction with the UMass Boston MA program in Dispute Resolution and allows public policy students to focus on the role of conflict and conflict resolution in international relations or the administrative and public policies of state and local governments and non-profit community organizations. Students must complete three courses in Dispute Resolution, including two required courses (DISRES 621: Negotiation and DISRES 622: Ethical, Professional, and Policy Issues in Dispute Resolution). The third DISRES course is chosen in consultation with the student's advisor. DISRES 690 (Internship), if taken as part of the concentration, may substitute for PPOL G 898 (Internship).

Facilities and Professional Collaborations

The PhD Program in Public Policy resides in the John W McCormack Graduate School of Policy Studies. The program has its own classrooms, computer laboratory, and student lounge and works closely with the University's most prominent research centers and public policy institutes: the Center for Social Development and Education, the Center for Social Policy, the Center for Survey Research, the Center for Women in Politics and Public Policy, the Mauricio Gastón Institute for Latino Community Development and Public Policy, the Gerontology Institute, the Institute for Asian American Studies, the Joiner Center for the Study of War and Social Consequences, the New England Resource Center for Higher Education, the William Monroe Trotter Institute for the Study of Black Culture, and the Urban Harbors Institute. These nationally and internationally known research centers provide students with opportunities for jobs, internships, and other types of assistance.

Degree Requirements

The program involves two years of full-time course work followed by a course of study consisting of electives (third year) and dissertation research and writing (fourth year and beyond), for a total of 76 credits.

Requirements include:

- Completion of nine interdisciplinary core courses and five required research and quantitative methods laboratory courses (42 credits).
- Successful performance in a two-part comprehensive examination to be taken between the second and third years of full-time study.

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- Completion of an additional 24 credit hours (6-8 courses) in a combination of electives and/or internship work.
- Completion of doctoral research, culminating in a doctoral dissertation (10 credits).

Students who enter the program already holding an appropriate master's degree may petition the Graduate Program Director and Dean of Graduate Studies to waive up to 12 credit hours of elective credits.

Required Courses

Required course work includes core courses, research and quantitative methods courses, including the dissertation seminar, and dissertation research. The core courses, taken during the first two years of the program, acquaint students with the basics of political economic thought and public policy analysis; they also introduce students to applied economic reasoning and political institutions at the federal and local government levels. Core courses include:

PPOL G 601-602 (Political Economy I and II)

PPOL G 611-612 (Foundations of Public Policy Analysis I and II)

PPOL G 621-622 (Economics for Policy Analysis I and II)

PPOL G 740 (Political Institutions)

PPOL G 780-781 (Policy Planning and Program Development I and II)

Required research, quantitative, and dissertation courses include:

PPOL G 604-605 (Statistics I and II)

PPOL G 630 and 704 (Research Methods I and II)

PPOL G 891 (Dissertation Seminar)

PPOL G 899 (Dissertation Research)

Electives

During the first three years of the program, students are expected to enroll in six to eight elective courses (24 credits) which focus on public policy in particular subject areas. Up to nine credit hours may be completed as an internship. Not all courses are available every semester. Courses offered as electives, beyond those listed for particular concentrations above, include:

PPOL G 609L (Qualitative Research)

PPOL G 743 (Social Welfare Policy)

PPOL G 744 (Community Political and Economic Development)

PPOL G 745 (Advanced Quantitative Methods)

PPOL G 747L / HIST 647L (Law and Public Policy)

PPOL G 748 (Topics in Health Policy)

PPOL G 749 (Science, Technology, and Public Policy)

PPOL G 750 (Human Rights and Public Policy)

PPOL G 755L / EDLDRS 755L (Research in Special Education and Disability Policy)

PPOL G 756L / EDLDRS 756L (Disability Policy and Practice Frameworks)

PPOL G 796 Independent Study

PPOL G 797 Special Topics

PPOL G 898 Internship (3-9 cr.)

Comprehensive Examinations

Two comprehensive examinations are given between the second and third years of full-time program enrollment, or between the third and fourth year of study for part-time students. One exam consists of a quantitative analysis project where students are provided with quantitative data and prepare an analysis of these data using appropriate statistical methods. The second exam is an extensive policy analysis essay. After being provided with case material, students work for a specified period to prepare an analysis and a policy recommendation on a current issue in public policy. The work on these exams demonstrates a grasp of economic and political theory, the fundamentals of public policy analysis, and the fundamentals of research methods and quantitative analysis.

Internship

Through the internship option, students work on an individual policy project and apply relevant theory and technical skills to a public policy issue. This option is especially appropriate for students who do not have substantial prior public policy work experience. The internship is normally completed in the third year of the program.

Dissertation

The culminating requirement of the program is the completion of a dissertation, an original project that makes a substantive contribution to knowledge about public policy. The student's dissertation work is supervised by a primary advisor and a doctoral committee. The committee is responsible for approving the dissertation proposal, overseeing the student's data collection and data analysis, and reviewing written drafts of the dissertation. The completed dissertation must be approved by the program's doctoral committee, and an oral presentation and defense must be successfully undergone.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication and, at the back of this publication, the sections on "Graduate Admissions Application Instructions" and "Special Instructions for Applicants to Individual Programs."

Students are admitted to the Public Policy Program to work toward the PhD degree only. There are no spring-semester admissions. Applications are due in the UMass Boston Graduate Admissions Office by January 15, for enrollment in the following September. Applicants must submit the following:

- A completed UMass Boston graduate admissions application form.
- An autobiographical sketch.
- A personal statement about the applicant's interests and reasons for applying to the program.
- Three letters of recommendation, at least two of which should come from individuals who can assess the applicant's academic preparation for advanced graduate work.
- Official transcripts of all prior academic work, including evidence of a bachelor's degree from an accredited institution.
- An official report of scores on the general aptitude (verbal, quantitative, and analytic) sections of the Graduate Record Examination (GRE).

The admissions committee of the program will schedule interviews for all finalists once applications have been reviewed. Interviews are considered an important part of the application process and whenever possible are held on campus.

Courses

PPOL G 601
Political Economy I
This is the first term of a two-semester, multi-disciplinary core sequence exploring the basic philosophical, social, political, and economic underpinnings of public policy development, through a series of discrete units. It is taught primarily from a historical and theoretical perspective. Major units include the theory of scientific inquiry; views of human nature; the history of ide-

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ologies and institutions; theories of freedom and justice; the conservative, liberal, and radical paradigms in social science; and, finally, a synthesis of paradigms regarding the role of the state, race, ethnicity, gender, and class. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits
Ms Albelda, Ms Uriarte, and Ms Smith

PPOL G 602
Political Economy II
This core course is a continuation of PPOL G 601. (Course offered in the spring only.)
3 Lect Hrs, 3 Credits

PPOL G 604
Statistics I
This required course is one of five required quantitative and research methods courses. It begins with a basic review of graphical analysis and descriptive statistics. Subsequent topics include the fundamentals of probability theory, basic statistics, and the logic of hypothesis testing and conclude with an introduction to the basic linear model. The course makes frequent use of case studies, examples, and computer programs. (Course offered in the fall only.)
2 Lect Hrs, 2 Lab Hrs, 3 Credits
Mr Clayton-Matthews

PPOL G 605
Statistics II
This required statistics lab course is the second term of the statistics sequence. It is devoted almost exclusively to a study of multiple regression and time series analysis methods, focusing on regression diagnostics and remedies. Topics include weighted least squares and non-linear transformations, the special nature of dummy variables, and the particular problems associated with serially correlated errors in time series models. (Course offered in the spring only.)
2 Lect Hrs, 2 Lab Hrs, 3 Credits
Mr Clayton-Matthews

PPOL G 609L (GERON 609L)
Qualitative Methods
This course is designed to introduce students to qualitative research methods; its specific focus is on policy research and aging. Students practice the skills needed to observe the world around them, by attending to social phenomena, descriptively and analytically. The course functions as both a seminar and a research workshop, and students learn by doing, engaging in a field work project.
3 Lect Hrs, 3 Credits
Ms Friedman

PPOL G 611
Foundations of Public Policy Analysis I
This is the first term of a two-semester core sequence that makes use of both theory and case study to examine various approaches to public policy analysis, evaluation, and implementation. The course seeks to introduce students to the general methods used in formulating and analyzing policy. Major units in this course cover the history of policy analysis; theories of the policy process; the role of social construction, institutions, interests, and values in policy; organizational theory and leadership; the determination of policy goals and objectives; and various analytical and empirical frameworks for analyzing policy and its implementation. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits
Mr Levy, Mr Stone, Mr Ward

PPOL G 612
Foundations of Public Policy Analysis II
This core course is the continuation of PPOL G 611. (Course offered in the spring only.)
3 Lect Hrs, 3 Credits
Ms Withorn

PPOL G 621
Economics for Policy Analysis I
This is the first term of a two-semester core sequence devoted to exploring the basic economics of policy analysis from both a microeconomic and macroeconomic perspective. The course is taught from both a theoretical and case study perspective. As with traditional graduate economics offerings, the micro/macro sequence begins with the foundations of household and firm behavior. Units in this course include production decisions; the theory of consumer choice; market structures; discrimination; the simple analytics of welfare maximization; public sector economics, including expenditure analysis, taxation, and regulation; theories of externalities and public goods; tax incidence; and the principles of cost-benefit analysis. The macroeconomic units include theories of income determination and income distribution and the problem of unemployment; the workings of financial markets and interest rate structures; the impact of macroeconomic policy on state and local government; and the constraints placed on domestic policy as a result of the internationalization of the economy. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits
Ms Stevenson

PPOL G 622
Economics for Policy Analysis II
This core course is the continuation of PPOL G 621. (Course offered in the spring only.)
3 Lect Hrs, 3 Credits
Mr Clayton-Matthews, Ms Kapler, Ms Stevenson

PPOL G 630
Research Methods I
This required course provides the conceptual and practical foundation for policy research and program evaluation. Students develop an understanding of the fundamental concepts and problems involved in designing research. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits
Mr Stone, Mr Borges-Mendez

PPOL G 704
Research Methods II
This required course assists students to become critical consumers of policy research and to apply specific quantitative and qualitative techniques in policy analysis. Both generic and policy-specific aspects of various techniques are discussed and demonstrated through background readings and examination of concrete policy reports. Students are required to apply and present analyses in their field of interest. (Course offered in the spring only.)
3 Lect Hrs, 3 Credits
Mr Clayton-Matthews, Mr Borges-Mendez, Mr Marcelli

PPOL G 740
Political Institutions
This core course is designed to introduce students to a number of issues in the study of the American political system at the national, state, regional, and local levels. The readings bring together research and analysis concerning specific topics and theoretical reflection concerning conceptual and analytic approaches. The course's objectives are to show how a variety of theoretical, methodological, substantive, and political presuppositions condition research and analysis; and to encourage students to acquire both substantive knowledge of the American political system and a critical attitude toward ways in which social scientists produce this knowledge. Both the subject matter and the ways in which it is analyzed are characterized by multiple conditions and contexts. Awareness of these relations is crucial for policy analysts. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits
Mr Ward, Mr Borges-Mendez

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PPOL G 743
Social Welfare Policy
This course is a study of social welfare policy narrowly defined as the alternative plans, decisions, choices, and actions of the public sector that have a direct impact on the material welfare of socially and economically disadvantaged citizens by providing them with services and/or income. The central core of programs discussed under this definition include social insurance, public assistance, health, and housing services.
3 Lect Hrs, 3 Credits
Ms Albelda, Ms Withorn

PPOL G 744
Community Political and Economic Development
This course explores the complex relationship between economic development policy and sociocultural and political processes at the community level. The readings are presented in three parts. The first examines global trends and local economic conditions. The second utilizes a selection of short case studies to survey a range of local policy responses to the pressures of economic decline. These studies will provide an empirical basis for evaluating the explanatory adequacy and policy implications of the theories presented in part one. The third introduces additional case studies and readings analyzing the role of grassroots organizations, leadership, and populist movements in shaping alternative approaches to economic development. Finally, the course explores emerging issues in the field.
3 Lect Hrs, 3 Credits
Staff

PPOL G 745
Advanced Quantitative Methods
The goal of this course is to extend the student's knowledge of statistical techniques for use with social science data beyond that acquired in PPOL G 604 and 605. The course deepens the student's understanding of multiple regression estimation by further examination of problems associated with choosing a proper model and estimating its parameters. As with other methods labs, the course has a strong practical bias, with attention to statistical and econometric theory kept to a minimum.
3 Lect Hrs, 3 Credits
Mr Clayton-Matthews

PPOL G 747L (HIST 747L)
Law and Public Policy
This course exposes students to differing theoretical perspectives in the academic literature, as well as to important areas of law. The course focuses on judicial policy-making and on the nature of the litigious US society. In addition to examining why the courts are such central actors in US policy-making, participants also explore the consequences of the distinctive role the courts play in various policy areas—for example, abortion, civil rights, desegregation, the environment, health care, labor policy, social legislation, special education, and welfare.
3 Lect Hrs, 3 Credits
Ms Bussiere

PPOL G 748
Topics in Health Policy
This course is concerned with the determinants of health policy in the US, including the decisions and non-decisions made by institutional and political actors at all levels of government, and by private sector actors. The course covers the failure of health care reform in the US; the marketizing, corporatization, and commodification of health care; comparisons with Western European nations; and topics in the assessment of health care quality.
3 Lect Hrs, 3 Credits
Mr Ward, Ms Lynde, Mr Marcelli

PPOL G 749L / CRCRTH 649L
Science, Technology, and Public Policy
Although relatively few Americans have backgrounds in science or engineering, they are increasingly confronted with issues that are technically complex. This course explores the resulting tensions and asks how the needs for scientific expertise and democratic control of science and technology are reconciled. The first half of the course traces the historical development of American science policy and situates this development comparatively. The second half focuses on contemporary controversies, including those over the nature of university/industry relations, patent policy, and the causes of expert/lay disagreements over risk.
3 Lect Hrs, 3 Credits
Mr Taylor

PPOL G 750
Human Rights and Public Policy
This course focuses on the relationship between public policy and human rights. Its concerns encompass the following questions: How does one define and understand human rights? What are the grounds for human rights emphases on the part of public policy specialists or professionals? What is the nature, scope, and depth of issues that are pertinent to public policy specialists? And most importantly, how do the development, promotion, and protection of human rights change the character and content of public policy, as well as the nature of our individual and collective possibilities?
3 Lect Hrs, 3 Credits
Mr Langley

PPOL G 755L (EDLDRS 755L)
Research in Special Education and Disability Policy
Students use current research to explore key topics that shape the policy and practice landscape for individuals with disabilities in schools, service agencies, and communities, while applying skills to read and interpret the research critically. Topics include notions of disability; self-determination and person-centered service delivery; access, participation, and progress in general curriculum; standards and educational accountability; and opportunities for community inclusion and improved quality of life. Students also critique and interpret the research in order to make policy and practice recommendations applicable to urban schools and to leaders of service systems working with diverse groups of students and adults with disabilities.
3 Lect Hrs, 3 Credits

PPOL G 756L (EDLDRS 756L)
Disability Policy and Practice Frameworks
Focusing on the Americans with Disabilities Act, the Individual with Disabilities Education Act, and the Elementary and Secondary Education Act, this course introduces students to the process by which these laws have been articulated, framed as regulations, put into practice, and interpreted through the appeals process. Students will learn to identify: the values and principles of stakeholders who bring the mandate to the point of legislation, the role of written and oral testimony in the policy cycle, and the ways in which policy is interpreted in practice at the state and local level, as well as through appeals processes.
3 Lect Hrs, 3 Credits

PPOL G 780
Policy Planning and Program Development I
This course is the first semester of a required two-semester practicum. Students work in teams, providing professional services to public and non-profit agencies. The course focuses on the acquisition and application of techniques (qualitative and quantitative, technical and political) for policy planning and evaluation and for program development.. The course begins with an examination of various models of planning:

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comprehensive rationality, its limits and counterpoints; synthetic methods; and strategic planning. The course then covers—through participation in carefully selected consulting projects—techniques of problem definition; goal setting; developing, evaluating, and selecting programmatic options; predicting social, economic, and fiscal impacts; designing and testing pilot programs; implementation planning; and developing models and methods for public participation and constituency development. Ethical issues arising from policy planning and implementation are also considered. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits
Mr Borges-Mendez, Mr Stone, Ms Uriarte, Ms Withorn

PPOL G 781
Policy Planning and Program Development II
This required course is the continuation of PPOL G 780. (Course offered in the spring only.)
3 Lect Hrs, 3 Credits
Mr Stone, Ms Uriarte, Ms Withorn, Mr Borges-Mendez

PPOL G 796
Independent Study
Students may choose to work independently with a faculty member on a topic not available in the regular instructional program. Students must make individual arrangements with faculty members regarding the amount of individual supervision to be provided and the outcome expected from the independent study.
Hrs by arrangement, 3 Credits

PPOL G 797
Special Topics
This is an advanced course offering intensive study of selected topics in public policy. Course content varies according to the topic, which will be announced prior to the advance registration period.
3 Lect Hrs, 1-6 Credits
Staff

PPOL G 891
Dissertation Seminar
This course is the fifth in the required five-semester "laboratory sequence" in quantitative and research methods. The course is divided into the two broad areas of research and writing, a distinction that is only conceptual; in reality, it is very difficult to divorce one from the other: good research is the product of both solid reasoning and clear communication. The research aspect of the course covers defining a proposal and a thesis, selecting a topic, literature search and data collection, alternative methodologies, and selecting an advisor and a thesis committee. The writing aspect covers organizing research materials and developing an outline, avoiding writer's block, and professional and impact writing.
3 Lect Hrs, 3 Credits
Mr Borges-Mendez, Mr Stone, Ms Uriarte

PPOL G 898
Internship in Public Policy
Students carry out supervised internships in such settings as state and local governments, quasi-public and non-profit organizations, and some areas of the private sector. Students are given credit for their internships on the basis of a detailed research or evaluation paper written about their experience.
Hrs to be arranged, 3-9 Credits
Mr Moran

PPOL G 899
Dissertation Research
Research conducted under faculty supervision that leads to the presentation of a doctoral dissertation.
Hrs by arrangement, 1-12 Credits

SCHOOL PSYCHOLOGY (MEd/CAGS; CAGS)

Faculty

Gonzalo Bacigalupe, EdD, *University of Massachusetts Amherst* • Immigrant Health Care • Family Violence and Trauma • Intercultural Family Therapy • Collaborative Consultation • Qualitative Data Analysis Software

Alisa Beaver, PhD, *University of Massachusetts Amherst* • Multicultural and Narrative Therapies • Autobiographical Memory • Trauma and Coping within a Social Context • Bilingual Processing and Assessment • Sexuality and Gender

Terry Bontrager, PhD, *Texas A&M University* • Cross-Cultural Issues • Assessment of English Language Learners • Curriculum-Based Measurement

Robin Codding, PhD, *Syracuse University* • Assessment and Intervention in Schools

Lisa Cosgrove, PhD, *Duquesne University* • Public Policy Implications of Family Homelessness • PTSD • Bias in Psychiatric Diagnosis • Conflict of Interest in Biopsychiatric Research • Women's Health Issues

MaryAnna D Ham, EdD, Emeritus (NA), *University of Rochester* • Multicultural Family and Couples Therapy • Training and Ethical Issues in Counseling and Family Therapy • Qualitative Research Methods

Virginia Smith Harvey, PhD, *Indiana University* • Professional Development and Supervision • Resiliency Development • Study Skills and Self-Regulation

Rick Houser, PhD, *University of Pittsburgh* • Social Comparison • Social Identity • Ethical Decision-Making

Varda Konstam, PhD, *Fordham University* • Psychological Adaptation to Chronic Illness • Forgiveness • Health Psychology • Emerging Adulthood

Esmaeil Mahdavi, EdD, *Indiana University* • Mental Health Counseling • Group Dynamics • Substance Abuse

Melissa Pearrow, PhD, *Northeastern University* • Mental Health in Schools • Group Interventions • Practice of School Psychology

Rebecca Schumacher, EdD, *University of Maine* • Relationships Between Administration and Instructional Staff in School Counseling Programs • Group Work in Schools • Preparation of School Counselors

Maxine Weinreb, EdD, *Boston University* (part time) • Counseling Children and Adolescents • Child Abuse and Trauma

Felicia Wilczenski, EdD, *University of Massachusetts Amherst* • Professional Ethics • Service Learning • Assessment for Effective Intervention

The Program

The School Psychology Program at the University of Massachusetts Boston is designed to prepare professionals whose primary interests involve children, families, and the educational process. Training goals are founded on a respect for the dignity and worth of all people, with a commitment to appreciating and responding to human diversity. Course work integrates theory and research in child and adolescent development. Empirically-based intervention approaches for psychological services in schools are emphasized. An important mission of the School Psychology Program is the development of attitudes essential for professional problem-solving and lifelong learning. The program is committed to a philosophy of social justice and inclusion compatible with the mission of the Graduate College of Education at UMass Boston. The program's conceptual framework emphasizes thoughtfulness and responsivity in preparing highly qualified school psychologists to practice in public schools. School psychologists are also employed in private schools, colleges and universities, mental health clinics, state and federal agencies, child guidance centers, penal institutions, or private practice.

The primary goal of the School Psychology Program at the University of Massachusetts Boston is to prepare practitioners who are able to provide psychological and educational services to students and their families as part of a school-based, multidisciplinary team. The role of a school psychologist is complex. School psychologists are called upon to perform a variety of tasks and assume many responsibilities, including those of assessment specialist, consultant, counselor, administrator, researcher, educational programmer, trainer of school staff personnel, preventive mental health agent, and liaison to community organizations. The University of Massachusetts Boston School Psychology Program is competence-based, using a problem-solving, consultative model to train students to be effective in these multiple roles. Emphasis is placed on a holistic approach, requiring the consideration of multiple factors, including biological and neuropsychological bases, individual strengths and needs, as well as family, teacher, classroom, school, neighborhood, community, social, and cultural considerations. Students are trained to support the development of children and adolescents by assessment and intervention at the system levels (relational, family, school, and community), as well as at the individual level. The interdisciplinary nature of the program fosters collaboration with other professionals and the integration of multiple perspectives.

In order to accommodate students with full-time jobs, program courses meet once a week and are offered in the late afternoon and evening. Full-time students can complete the MEd/CAGS program in six semesters and two summer sessions. The usual length of time required to complete the CAGS alone is two years, although the requirements and hence the time required vary according to the educational background of the student. Part-time students may progress through the MEd/CAGS program at their own pace and are given seven years to complete the full program. Licensure and accreditation: The School Psychology MEd/CAGS and CAGS programs have full accreditation approval from both the National Association of School Psychologists (NASP) and the National Council for Accreditation of Teacher Education (NCATE). The School Psychology Program's learning outcomes are organized to meet the training standards of these accrediting agencies. Students are expected to demonstrate competence in the various domains of school psychology training and practice approved by NASP in July 2000.

Graduates of the program satisfy NASP requirements for national certification in school psychology (NCSP). They are also eligible for licensure as school psychologists by the Massachusetts State Department of Education and for licensure as educational psychologists by the Massachusetts Allied Mental Health Professions with additional work experience.

Degree Requirements

Combined Master's and Certificate in Advanced Graduate Study (MEd/CAGS)

Candidates for the combined MEd/CAGS in School Psychology are required to complete all course work and other academic requirements for Massachusetts State Department of Education certification and national certification as school psychologists. Certification standards in both categories are mandatory, with no exceptions permitted.

School Psychology

The MEd/CAGS program requires 66 credits of course work and field experiences, as well as three capstone experiences. Upon completion of forty-eight credits of approved course work in the program and the passing of the written comprehensive examination, the matriculated student will be awarded the MEd degree. Before beginning the internship, the candidate must pass the literacy portion of the Massachusetts Test of Educator Licensure and complete an additional six credits of course work. Completion of the CAGS further requires completion of the year-long internship, presentation of passing scores for the praxis exam in School Psychology, and submission of an acceptable professional portfolio. Students who fail the praxis exam twice may petition the Program Director to be allowed to substitute an alternate comprehensive exam for this requirement. Upon completion of the MEd/CAGS degrees and 1200 hours of internship, the candidate will qualify for initial licensure as a school psychologist in Massachusetts and other states.

Course Requirements (51 cr.):

Graduate courses in research in psychology, ethical standards and professional issues in school psychology, cognitive and educational assessment and intervention (6 credits), social and emotional assessment and intervention, remedial and preventive interventions, behavior and classroom management, abnormal psychology, neuropsychology, counseling theories and practice, individual counseling, group counseling, lifespan human development, consultation, multicultural counseling, school curriculum, and the teaching of reading. In individual cases, substitutions may be approved by the Program Coordinator.

SPY G 601 (Issues and Ethics in School Psychology)

SPY G 602 (Cognitive and Educational Assessment and Intervention I)

SPY G 603 (Cognitive and Educational Assessment and Intervention II)

SPY G 604 (Social, Emotional, and Behavioral Assessment and Intervention)

SPY G 607 (Remedial and Preventive Individual and Systems Intervention)

SPY G 610 (Neuropsychological Theory and Practice in Education)

COUNSL 601 (Research and Evaluation in Psychology)

COUNSL 608 (Abnormal Psychology)

COUNSL 614 (Counseling Theory and Practice I)

COUNSL 617 (Child and Adolescent Counseling)

COUNSL 620 (Clinical Application of Human Development)

COUNSL 650 (Group Counseling for Children and Adolescents)

COUNSL 653 (Perspectives in Cross-Cultural Counseling)

SPE G 607 (Behavioral and Classroom Management)

SPE G 629 (Consultation and Interpersonal Skills)

EDU G 642 (Organization of School Curriculum)

EDU G 646 (Understanding Reading: Principles and Practices)

For descriptions of Counseling, Special Education, and Education courses, please see those sections in this Bulletin.

Required field experiences (1300 hr., 15 cr.):

SPY 685: Practicum (100 hr, 3 cr) and

Two semesters of SPY 688: Internship in School Psychology, taken concurrently with two semesters of SPY 691: Seminar in School Psychology (600 field work hours per semester, 6 credits per semester, a total of 1200 hours and 12 credits).

Required capstones:

Master's degree: Written comprehensive exam

CAGS: Portfolio, praxis exam in school psychology

Online offerings: Currently several courses are available online, including, COUNSL 601, COUNSL 608, COUNSL 620, COUNSL 653, and SPE G 629.

The Certificate of Advanced Graduate Study (CAGS) Program

The program of study leading to the CAGS in School Psychology may be undertaken separately from the master's degree, as post-master's professional graduate study in school psychology. The program is designed to enable individuals with advanced degrees to enhance their professional competence and/or satisfy state and national certification requirements. The program is suited to those with a master's or doctorate in a related field, such as counseling, special education, teacher education, or clinical psychology, as well as to those who have completed a master's-level program in school psychology.

A minimum of thirty credits of course work, a passing score on the literacy portion of the Massachusetts Test of Educator Licensure, completion of a 1200-clock-hour internship, presentation of an acceptable professional portfolio, presentation of passing scores for the praxis exam in school psychology, and satisfaction of state and national certification standards are required for completion of the CAGS in School Psychology. Students who fail the praxis exam twice may petition the Program Director to be allowed to substitute an alternate comprehensive exam for this requirement.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication. Also refer to the description of admission requirements listed under "Professional Preparation Programs for Education" in the "Regulations, Procedures, and Degree Requirements" section of this publication.

For the MEd/CAGS program, the School Psychology Admissions Committee reviews all applications and recommends admission for those applicants who present evidence of their ability to perform graduate work with distinction. Such evidence typically includes:

1. An undergraduate transcript with an overall grade point average of at least 3.0 and at least a 3.0 average in all psychology courses.
2. A minimum of five undergraduate courses in psychology or other social sciences.
3. Three letters of recommendation addressing the candidate's ability to succeed in advanced graduate training in school psychology and develop into a thoughtful and responsive practitioner. At least two of the letters, if possible, should be from instructors in the applicant's most recent academic program. At least one letter should address the candidate's demonstrated skills as an employee working with children and adolescents.
4. Strong scores on the Miller Analogies Test (MAT) or the Graduate Record Examination (GRE) Combined Aptitude Test.
5. Presentation of scores on the literacy portion of the Massachusetts Test of Educator Licensure (students who are provisionally admitted without this score must take this test within a semester of matriculation).
6. A letter of intent, stating the applicant's professional objectives.

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7. If invited, an interview with faculty.

For the CAGS, the School Psychology Admissions Committee reviews all applications and recommends admission for those applicants who present evidence of their ability both to perform advanced graduate-level work with distinction and to develop into thoughtful and responsive practitioners. Such evidence typically includes:

1. A distinguished graduate transcript, indicating completion of at least a master's degree in school psychology or a related field of study, and an overall average of at least 3.0 in all graduate courses.
2. Official transcripts of all previous college work, undergraduate and graduate, from regionally accredited colleges and universities.
3. Three letters of recommendation addressing the candidate's ability to succeed in advanced graduate training in school psychology and develop into a thoughtful and responsive practitioner. At least two of the letters, if possible, should be from instructors in the applicant's most recent master's degree or doctoral program. At least one letter should address the candidate's demonstrated skills as an employee working with children and adolescents.
4. Submission of strong scores on the Miller Analogies Test or the Graduate Record Examination, if the most recent master's or doctoral degree was earned longer than five years before the date of the receipt of the application form by the Admissions Office. (No entrance test or examination is necessary if the most recent degree was earned less than five years before the Admissions Office's receipt of the application form.)
5. Presentation of scores on the literacy portion of the Massachusetts Test of Educator Licensure (students who are provisionally admitted without this score must take this test within a semester of matriculation).
6. A letter of intent, stating the applicant's professional objectives.
7. If invited, an interview with faculty.

Courses

SPY G 601
Issues and Ethics in School Psychology
This course addresses the professional identity and function of the psychologist in the public school setting. An intensive analysis of philosophical, technical, and administrative issues is conducted. The organization and operation of schools, federal and state educational laws, ethical issues and dilemmas, NASP and APA standards, and nondiscriminatory assessments are explored in depth. The course also examines contemporary educational issues that go beyond the role of the individual psychologist. The most current issues in the field are discussed. A 25-hour pre-practicum field component is required.
3 Lect Hrs, 3 Credits

SPY G 602
Cognitive and Educational Assessment and Intervention I
This course focuses on skills in the administration and interpretation of individual cognitive measures. Students master the correct administration of the Wechsler scales and the Woodcock-Johnson III Tests of Cognitive Ability. Topics include ethical, professional, and legal aspects of psychoeducational assessment, as well as issues in cross-cultural assessment and cultural bias in testing.
3 Lect Hrs, 3 Credits

SPY G 603
Cognitive and Educational Assessment and Intervention II
Building on the background provided in SPY 602 in administration of the cognitive batteries of standardized tests, this course shifts focus to educational assessment and curriculum-based measurement procedures. Emphasis is also given to interpretation and reporting of assessment results, with additional work on assessment selection to address referral questions and the gathering of evidence to support test findings. Students are expected to demonstrate proficiency in the administration and interpretation of tests, in the integration of cognitive and educational data, and in reporting findings both orally and in writing.
Prerequisites: SPY G 602.
3 Lect Hrs, 3 Credits

SPY G 604
Social, Emotional, and Behavioral Assessment and Intervention
This course develops competence in administering and scoring selected personality, behavioral, social/emotional, and adaptive behavior measures, as well as in preparing meaningful interpretations of those test results. Topics include psychological theory and practical issues involved in clinical assessment. Close attention is paid to the psychometric adequacy of various assessment methods, ethical aspects of assessment, and issues of clinical judgment. Emphasis is placed on multi-method, multi-source strategies, using approaches such as direct observation, interviewing techniques, rating scales, and self-report measures. The projective hypothesis and projective methods are reviewed, including storytelling and drawing techniques. Special issues in cross-cultural assessment and in assessing minority students and students with disabilities are considered. Links between assessment results and intervention recommendations are stressed.
3 Lect Hrs, 3 Credits

SPY G 607
Remedial and Preventive Individual and Systems Intervention
This course focuses on the academic, social, emotional, behavioral, and physical needs of children, with an emphasis on direct and indirect, evidence-based interventions (EBI) applied in the context of educational reform initiatives. The focus is consistent with shifts in current school psychology service delivery and best practices addressed in the National Association of School Psychology standards for leadership and functioning. School psychologists are considered problem-solvers—professionals with expertise in psychology and education—who can apply their knowledge to issues of child development and systems change. From a problem-solving perspective, assessment is linked to interventions, preferably interventions that integrate special and general education, as well as home and community services. Evidence-based remedial and preventive individual and system-level interventions are considered. Case studies are used to develop problem-solving skills.
Prerequisites: SPY G 602, SPY G 604, COUNSL 614.
3 Lect Hrs, 3 Credits

SPY G 610
Neuropsychological Theory and Practice in Education
This course examines neuropsychology, the study of the brain and of nervous-system functions, in relation to adaptive behavior and learning, from a developmental viewpoint. The course looks at organismic versus specific-localization theories about normal and dysfunctional conditions that affect moving, sensing, perceiving, assimilating, recalling, and expressing through diagnostic-prescriptive studies. Participants study learning abilities and disabilities from a neuropsychological perspective, allowing them to apply the analysis of learning styles to the implementation of individual instruction methods and education plans.
Prerequisites: COUNSL 608 and SPY G 602.
3 Lect Hrs, 3 Credits

School Psychology

SPY 680
Effective Supervision in School Psychology
This advanced course reviews the state of the art in the supervision of school psychologists. It is designed for individuals who currently supervise school psychologists or school psychology interns. The course explores the context, philosophy, relationship, and pragmatics of supervision. Major topics are leadership, administrative supervision, supervision of professional practice, and evaluation. Issues of race, class, gender, school change, and technology in supervision are addressed.
3 Lect Hrs, 3 Credits

SPY G 685
Practicum in School Psychology
The Practicum in School Psychology provides students with supervised school psychology training in a school setting. It includes the opportunity to apply a range of assessment, consultation, and intervention techniques. A seminar complements the 100-clock-hour field experience, completed under the supervision of a certified school psychologist. Practicum students are matched to placements by the program coordinator. The University of Massachusetts Boston has partnerships with several school districts that provide sites for the practicum. Students who are employed in other schools may petition the program coordinator to use activities in their place of employment to fulfill some practicum requirements.
Prerequisites: SPY 601, SPY 602, COUNSL 614, and permission of program coordinator.

SPY G 688
Internship in School Psychology
This full-time practicum/internship placement consists of at least 600 clock hours of full-time field work experience at both the elementary and secondary school levels, under the supervision of a practicing certified school psychologist. The two required repetitions of this course provide the 1200 clock hours of supervised field work required for state and national certification. The first internship must be in an approved school setting. The second may be in a school setting or a clinical setting (under the supervision of a licensed or certified psychologist). University supervision and the approval of the program coordinator are required. (To be taken twice for credit.)
3 Lect Hrs, 3 Credits

SPY G 691
Seminar in School Psychology
This seminar is taken in conjunction with the Internship in School Psychology (SPY G 688). It includes lectures and discussions about state and national certification requirements, case studies, assessments and multidisciplinary evaluations, legal and ethical concerns, cultural diversity factors, and general topics related to the internship experience. A capstone portfolio and daily log are required. (To be taken twice for credit.)
Prerequisite: Permission of the program coordinator.
3 Lect Hrs, 3 Credits

SPY G 696
Independent Study in School Psychology
This advanced course provides the opportunity for research and reading in an area of school psychology chosen by the student and approved by the instructor. It is open only to matriculants in the School Psychology program. A detailed proposal must be submitted to and approved by the program coordinator before registration for this course.
Prerequisite: Permission of the program coordinator.
3 Credits each semester

SPY G 697
Special Topics in School Psychology
This course focuses on research and reading in a particular topic in school psychology. Course content varies according to the topic and will be announced prior to the advance pre-registration period.
Prerequisites: Permission of the program curriculum committee and approval of the program coordinator.

APPLIED SOCIOLOGY (MA)

SEE ALSO FORENSIC SERVICES (GRADUATE CERTIFICATE)

Faculty

Paul Benson, PhD, *University of North Carolina Chapel Hill* • Social Psychiatry • Sociology of Mental Health • Medical Sociology • Public Policy

Milton L Butts, Jr., PhD, *University of Pennsylvania* • Criminology • Juvenile Delinquency • Race & Ethnic Relations

Jorge Capetillo-Ponce, PhD, *New School for Social Research* • Social Theory • Race and Ethnic Relations • Media Studies • Latino Studies

Xiaogang Deng, PhD, *State University of New York Buffalo* • Deviance • Criminological Theory • Comparative Criminology • Research Methodology

Robert A Dentler (Emeritus, NA), PhD, *University of Chicago* • Evaluation Research • Social Policy • Social Problems • Sociology of Education

Estelle Disch, PhD, *Tufts University* • Gender • Human Services • Multicultural Studies • Clinical Sociology

Gerald R Garrett (Emeritus, NA), PhD, *Washington State University* • Alcohol Addiction • Criminology • Social Deviance and Control

Susan L Gore, PhD, *University of Pennsylvania* • Medical Sociology • Research Methodology • Sociology and Social Psychology of Public Health

Laura L Hansen, PhD, *University of California, Riverside* • Social Network Analysis • White Collar Crime • Youth Gangs • Corrections • Organizations

Stephanie W Hartwell, PhD, *Yale University* • Criminal Justice • Drugs and Society • Forensic Services • Mental Health

Glenn Jacobs, PhD, *Temple University* • Race and Ethnic Relations • Social Problems • Sociological Theory • Urban Sociology • Sociology of Music and Art • Field Methods

Philip A Kretsedemas, PhD**,** *University of Minnesota* • Immigration • Social Welfare • Critical Race Theory • Political Sociology/Social Movements • Democracy and Development • Media Studies • Caribbean Studies

Richard Kronish, PhD, *University of Wisconsin, Madison* • Social Policy • Social Stratification • Sociology of Work

Calvin J Larson (Emeritus, NA), PhD, *University of Oregon* • Criminology • Sociological Theory

Andrea Leverenz, PhD, *University of Chicago* • Criminal Justice • Corrections • Social Control and Deviance

Siamak Movahedi, PhD, *Washington State University* • Social Psychiatry • Social Psychology • Research Methodology • Social Statistics

Russell K Schutt, PhD, *University of Illinois, Chicago* • Sociology of Law • Homelessness • Sociology of Organization • Research Methodology

Mohammed A Tamdgidi, PhD, *State University of New York Binghamton* • Social Theory • Sociology of Knowledge • World-Historical Sociology • Utopias • Social Movements

Reef Youngreen, PhD, *University of Iowa* • Social Psychology • Status Processes • Social Deviance

The Program

The Master of Arts Program in Applied Sociology, through courses and internships, provides students with skills and knowledge directly applicable to a host of professional settings, including criminal justice agencies, human service organizations, health care institutions, alcohol and substance abuse treatment programs, and applied research firms, as well as laying a foundation for doctoral study. Course work in core areas such as social theory, social policy analysis, complex organizations, and research methods provides students a broad understanding of the relevance of sociology in examining and treating complex social problems, as well as specific job skills useful in applied settings and in advanced studies. The program offers concentrations in criminology, health and mental health, forensic services, gerontology, dispute resolution, and counseling. This range of possibilities enables students to pursue specialized study according to their interests and career objectives. An important feature of the program is its field work option—an internship that reflects the academic and professional interests of the student. Internship placements are generally in public and private agencies and may be either service- or research-oriented.

The program seeks applicants whose career and academic interests are oriented toward either applied areas or future doctoral study. Graduate seminars are scheduled in the late afternoon and evening hours to accommodate those with employment and other obligations. Full-time students can complete requirements for the MA in two years. Part-time students will be admitted to the program if they meet graduate admissions criteria. All students admitted into the program must complete degree requirements within five years. Non-matriculated students who hold a BA degree may enroll in selected program courses provided they demonstrate suitable qualifications for graduate study to the program director and instructor; upon admission and matriculation, a maximum of two of these may be transferred into the MA program.

Facilities

A range of computational and research resources is available to students in the program. Major statistical packages and other software are available in computer labs and graduate student offices. The Healey Library offers an extensive online journal collection, as well as books, journals, and government documents on-site.

These resources are complemented by extensive social science data archives and ongoing social science research projects. Through the Interuniversity Consortium for Political and Social Research (ICPSR), students have access to data obtained from major national and international surveys, Gallup polls, surveys of prison inmates, observations of plea bargaining, records of Massachusetts court cases, and hundreds of other studies of national and local populations. Through the Center for Survey Research at UMass Boston, the program maintains close ties to survey research projects. Ongoing faculty research provides additional opportunities for student projects.

University membership in the Boston Library Consortium permits students and faculty access to periodicals, books, and a variety of technical material not available in the University's Healey Library.

Degree Requirements

Courses

Candidates for the MA degree in Applied Sociology must earn a minimum of 36 semester credits, at least 30 of which must be in courses offered in the program. To graduate, students must have an overall grade point average of 3.0.

Each student's course work includes the following:

1. Foundations of Applied Sociology (SOC 600).
2. Research Methods I & II (SOC 650, 651).
3. Two of the following: Complex

Applied Sociology

Organizations (SOC 601), Applied Social Theory (SOC 605), Social Problems (SOC 620), Social Policy I (SOC 641).

4. At least two courses related to an area of concentration such as criminology, medical sociology, social policy, dispute resolution, counseling or gerontology.
5. A field work course (SOCIOL 698, 3-6 credits). The required field work/internship component may be waived if the student has had substantial experience in an appropriate field work setting—for example, a social or human service agency. If a waiver is approved, students must do additional course work to reach the minimum 36 credits required.

Thesis, Master's Paper, or Comprehensive Examination

As the program's capstone requirement, each student chooses to complete a master's thesis, write a master's paper, or take a comprehensive examination. Students choosing the thesis option earn nine of their required 36 credits through writing the thesis (SOCIOL 699), a project supervised by a thesis committee. The master's thesis, submitted at the conclusion of degree work, must show evidence of analytical thinking, methodological skill, and competence in the substantive area under investigation. Students choosing to write a master's paper register for a six-credit Master's Research Seminar (SOCIOL 695), during which they write a research paper. To enroll in this seminar, students should have already completed the required research methods sequence. The master's paper is evaluated by the supervising professor and one other member of the faculty. The master's paper must show the student's general competence in sociological theory, methodology, and one substantive area.

Students are eligible to take the comprehensive examination after completing a minimum of 30 credits. Independent study (SOCIOL 696) may be taken in preparation for the examination.

Transfer Credits

Please see the general statement of transfer credit requirements for all graduate studies programs in the "Regulations, Procedures, and Degree Requirements" section of this publication.

Before enrollment in the program, students should consult with the graduate program director regarding transfer credits or UMass Boston undergraduate credits if these are intended to satisfy degree requirements.

Students may apply credits taken in selected other graduate programs toward their degree. In particular, full-time students in the MA Program in Applied Sociology may pursue a course of study leading to a certificate in gerontology, dispute resolution, or forensic services. Please note: Enrollment in these areas is contingent on admission by the respective program directors.

Admission Requirements

Please see the general statement of admission requirements for all graduate studies programs in the "Admissions" section of this publication.

Candidates for admission to the MA program in Applied Sociology must provide evidence of ability to perform successfully at the graduate level. Such evidence includes:

1. A strong undergraduate record in sociology and related subjects, with at least a 3.0 GPA in sociology and related course work and, normally, an overall GPA of at least 3.0. Applicants who do not hold a BA in sociology should have at least 18 semester credits or the equivalent in undergraduate sociology or another behavioral or social science field related to program objectives.
2. Successful completion of one or more undergraduate courses in sociological theory, research methodology, and statistics. Candidates admitted to the program who are deficient in any of these areas may be admitted provisionally and required to complete additional undergraduate courses, no later than the end of the second semester of residence, to gain full admission to the program.
3. A statement of 1,200 words by the applicant on his or her academic and career interests in applied sociology. The statement should indicate the candidate's current specialization interests (see "Additional Instructions for All Applicants" in the Graduate Admissions Application Instructions at the back of this publication).
4. A strong score on the Graduate Record Examination (GRE).
5. Three letters of recommendation from individuals acquainted with the applicant's interests who are qualified to evaluate his or her potential for sustained graduate study in applied sociology. When possible, at least one of the letters should be from a faculty member with whom the applicant is studying or has studied.

Candidates for admission interested in applying for a graduate assistantship should write to the director of the MA Program in Applied Sociology. Awards are made by the graduate program committee to qualified students who will be enrolling in six or more credits each semester. For complete information, see the "Assistantships and Financial Aid" section of this publication.

Five-Year Accelerated Combined BA/MA Program

An accelerated five-year BA/MA program is also available for eligible UMass Boston undergraduate students interested in applied sociology. By entering this program students can earn both a bachelor's degree in their field of interest and a master's degree in applied sociology in less time than earning these degrees separately would require. Students are accepted into the full-time master's degree program in their junior year, begin taking graduate courses in their senior year, and complete the requirements in the fifth year. On completion of all requirements, students will be awarded both bachelor's and master's degrees. Students who do not complete the entire program, or do not have the required GPA to be awarded an MA degree, may choose to apply appropriate earned credits toward the bachelor's degree. This program consists of 140 credits (104 undergraduate and 36 graduate-level credits or their equivalents) which can be completed in five years. Students, however, may carry less than a full course load and complete the program at a slower rate.

Admission Requirements

Students should apply to this program when they have taken at least three courses in sociology but no later than the second semester of their junior year. Applicants must have a minimum 3.00 overall grade point average. However, conditional admission may be granted to students with a lower GPA upon the recommendation of the graduate program director. Conditional status will be reassessed no later than the completion of twelve credit hours. A grade point average of 3.00 or better in courses completed is required for removal of conditional status. Applicants must meet the same admission requirements as bachelor's-trained applicants to the MA program, with the one exception that the GRE is not required (though it may be submitted to strengthen an application).

Applied Sociology

Graduate Certificate in Forensic Services

The Graduate Program in Applied Sociology, in cooperation with the University's Division of Continuing, Corporate and Distance Education, is
partner to a 16-credit Graduate Certificate Program in Forensic Services, designed for criminal justice and mental health professionals. See the Forensic Services Certificate on page 165 of this publication.

Courses

SOCIOL 598
Field Experience Project
This course includes site visits and observation time spent in the field at state or social service agencies.
Prerequisite: Permission of Forensic Services Graduate Certificate Program Director.
1 Credit

SOCIOL 600
Foundations of Applied Sociology
This course is required for all formally accepted first-year students. The purpose of the course is a) to engage students in the field and substance of applied sociology, in order to strengthen their understanding of how theories, concepts, and sociological research are central to social problem-solving, policymaking, and the skills required in a variety of occupational settings; b) to involve students at the beginning of their graduate education in designing their studies to meet their educational, career, and personal objectives; and c) to maximize and facilitate student utilization of the curriculum, faculty, and departmental/university resources.
3 Lect Hrs, 3 credits

SOCIOL 601
Complex Organizations
This course acquaints students with studies of complex organizations that throw light on decision-making and conflict in the setting of formal organizations. Students study how policies emerge and how they are translated into action. They study research illuminating the nature and functions of rules, the initiation and consequences of political processes, the role and problems of street-level bureaucrats, and the impact of social, political, and economic conditions on organizational behavior. Theories and concepts are applied to human service organizations, and their distinctive features are discussed.
3 Lect Hrs, 3 Credits

SOCIOL 605
Applied Sociological Theory
This course examines the nature and aims of applied sociological theory. Of special interest is the bearing of pure or basic sociological theory on applied research and problem solving, the differences between pure and applied sociological theory, and the relevance of applied theory for basic sociological theory. Other topics include the theoretical implications of moral and ethical concerns and restrictions in applied social research and employment and the nature of the values and assumptions involved in efforts to devise and implement policy intended to treat social problems.
3 Lect Hrs, 3 Credits

SOCIOL 609L (GERON 609L, PPOL 609L)
Qualitative Methods and Field Research
This course is designed to introduce students to qualitative research methods; its specific focus is on policy research and aging. Students practice the skills needed to observe the world around them by attending to social phenomena, descriptively and analytically. The course functions as both a seminar and a research workshop, and students learn by engaging in a field work project.
Prerequisites: GERON 601, 602, or 603.
3 Lect Hrs, 3 Credits

SOCIOL 610
College Teaching
This seminar is designed for graduate students who are interested in teaching careers at the college and university level and/or in the scholarship about teaching and learning. Teaching assistants who are involved in classroom practice are also welcome. The course will address both the theory and practice of teaching, with a focus on the kinds of backgrounds, experiences, and learning styles that UMass Boston students bring to the classroom. (Open to students in other graduate programs.)
3 Lect Hrs, 3 Credits

SOCIOL 618
Psychiatric Epidemiology and Forensic Services
This course provides necessary professional skills and helps students understand forensic evidence and its use in courts. Topics include research in psychiatric epidemiology, sources of violence, recidivism, and risk assessment.
3 Lect Hrs, 3 Credits

SOCIOL 620
Social Problems
This course provides an analysis of theories to explain the historical development of social problems. Theories include Marxian and non-Marxian analyses, micro- and macro-theoretical approaches such as functionalism, conflict, interactionism, and deviance perspectives. Special attention is given to the application of theories for the understanding of such contemporary social problems as unemployment and poverty, problems of urban communities, intergroup conflict/relations, and individual deviance.
3 Lect Hrs, 3 Credits

SOCIOL 621
Social Psychiatry
This course focuses on sociological analysis of psychiatric theories and practices, and examines the effect of social structure on the construction, diagnosis, and treatment of mental disorders.
3 Lect Hrs, 3 Credits
prostitution, alcoholism, and other types of deviance is drawn from Western Europe, the former Soviet Union, Asia, Africa, the Middle East, and Latin America.
3 Lect Hrs, 3 Credits

SOCIOL 623
Alcohol, Drugs, and Crime
This course focuses on the multifaceted associations among alcohol, drug use, and crime in America. It distinguishes legal and policy issues from competing paradigms and contrasts criminal justice and public health models. State-of-the-art etiology, epidemiology, prevention, and treatment studies correlating criminality and substance misuse are assessed and evaluated in historical and sociocultural contexts. The course highlights social service systems in relation to current practices and institutionalized definitions of health and illness, crime and criminals.
3 Lect Hrs, 3 Credits

SOCIOL 641
Social Policy I
This course provides an in-depth examination of major factors shaping social policy, including historical antecedents; public and private sectors; the interaction of social policy, economy, and politics; and how issues become defined as social problems.
3 Lect Hrs, 3 Credits

SOCIOL 642
Social Policy II
This course is a continuation of SOCIOL 641, with special emphasis on problems and issues in implementing social policy, its

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impact on both recipients and non-recipients of services, and principles of social policy analysis and research. Special attention is given to selected problem areas, such as income-maintenance programs, manpower policy, race and ethnic relations, crime and delinquency, and health-care programs.
3 Lect Hrs, 3 Credits

SOCIOL 650
Methods of Research I
This course focuses on methods of collecting information about social beliefs and social process, including the operation of social services and other programs. The course requires students to conduct exercises that will give them firsthand experience in various approaches to data collection and management. Emphasis is given to techniques of survey, field, and experimental research. Students are introduced to the use of computers. (Course offered in the fall only.)
3 Lect Hrs, 3 Credits

SOCIOL 651
Methods of Research II
This course is a continuation of SOCIOL 650, focusing on the interpretation, analysis, and presentation of quantitative data. Course exercises use descriptive statistics, cross-tabulation, and regression analysis, as well as related inferential statistics, to analyze social data. Procedures for computer-based statistical analyses are introduced and used throughout the course. No prior experience with computers or knowledge of statistical formulae is required. (Course offered in the spring only.)
Prerequisite: SOCIOL 650 or permission of instructor.
3 Lect Hrs, 3 Credits

SOCIOL 655
Evaluation Research
This is an advanced course in the theory and practice of evaluation of public policy and social service programs for social science students and practitioners. Basic knowledge of research methods is assumed, but relevant issues in research design and implementation are reviewed. The course provides a general overview of evaluation theory and landmark evaluation studies, as well as analysis of commonly used evaluation models and of practical and political issues involved in design and implementation of evaluations. Design of an evaluation of a social agency program is required.
3 Lect Hrs, 3 Credits

SOCIOL 667
Sociology of Law
This course provides a general analysis of the social origins, operations, and consequences of law and legal process. Alternative theories of the relation between law and society are considered. Special attention is given to criminal law, the operation of juvenile courts, discretion in the legal system, and methods of legal research. Alternative methods of dispute resolution are considered.
3 Lect Hrs, 3 Credits

SOCIOL 681
Health Care Policy
This course focuses on recent changes in health care policy and in the organization of medicine, with special attention to the impact of these changes on the delivery, distribution, and quality of health services. Additional emphasis is given to the history of medicine; the political economy of health care; inequality in utilization of and access to health services; rising costs and cost-containment programs; attempts at regulation; and government health programs and private health service organizations.
3 Lect Hrs, 3 Credits

SOCIOL 682
Social Psychological Context of Health Care
This course highlights the role of the social sciences in dealing with problems of health care practice, focusing on research contributions to health maintenance, prevention, treatment, and quality of care. Topics include the nature and goals of client-practitioner relationships, health education, behavioral and psychosomatic medicine, and the linkages between social problems and medical problems.
3 Lect Hrs, 3 Credits

SOCIOL 683
Socio-Medical Aspects of Aging
This course focuses on several issues: the epidemiology of health problems associated with aging; social support systems for the elderly; stress and health; medical and psychiatric treatment of the aged; comparative analysis of health care settings; characteristics of the dying process; cross-societal comparison of the medical problems and the medical care of the elderly.
3 Lect Hrs, 3 Credits

SOCIOL 690
Classic and Contemporary Views of the Nature of Crime
This course examines the social nature of crime. It explores a variety of theoretical perspectives, including anomie/strain theory, social disorganization theory, social control theory, social learning theories, opportunity theory, deterrence theory, and conflict theory. The various theories are examined through an extensive review of recent empirical studies. Special attention is given to methodological problems in specifying theories for empirical study. Discussion topics also include the adaptability of these theories to social policy and their varying political and social acceptability during particular historical periods.
3 Lect Hrs, 3 Credits

SOCIOL 691
Contemporary Issues in Responding to Crime
This seminar focuses on responses to crime. Individual citizens and communities respond to crime in a variety of ways. The issues covered in this course include informal responses—such as fear of crime, the reporting of crime to the police, and the organizing of neighborhood watch groups and crime stopper programs—and formal responses, including police decisions to arrest or handle informally, bail decisions, issues of sentencing, the use of imprisonment, community corrections, parole and probation, and the death penalty. The course emphasizes the social nature of responses to crime and generally focuses on one or a few of these topics each semester.
3 Lect Hrs, 3 Credits

SOCIOL 695
Master's Research Seminar
This course guides students in their design and completion of the master's paper. It operates as an intellectual workshop where throughout the semester students share with the group the process as well as the results of their research. Special attention is given to the formation of research questions, research methodology, and the writing of appropriate literature reviews.
Prerequisite: Permission of the graduate program director.
Hrs by arrangement, 6 Credits

SOCIOL 696
Independent Study
This course provides the opportunity for in-depth study of a particular topic according to the student's interests. Independent study projects are expected to make an important contribution to a student's training in applied sociology. All projects are completed under the supervision of a faculty advisor, who is responsible for guiding

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and evaluating the student's work. An application and detailed proposal must be submitted to the graduate program director no later than two weeks before the end of the semester previous to that in which SOCIOL 696 is to be taken.
Prerequisites: Permission of the graduate committee.
Hrs by arrangement, 3-4 Credits

SOCIOL 697
Special Topics in Applied Sociology
This is an advanced seminar on selected topics in applied sociology. The course content and credit vary according to topic. Details on special topics courses will be announced during the advance registration period.
3 Lect Hrs, 1-6 Credits

SOCIOL 698
Field Work
This course provides the opportunity for intensive field work and/or internship in a public or private research or practice setting jointly supervised by faculty and agency-based staff. Placements are made according to student interest and internship availability.
Prerequisite: Permission of the graduate program director.
Hrs by arrangement, 3-6 Credits

SOCIOL 699
Thesis Research in Applied Sociology
This is a supervised thesis research course open to students who elect the thesis option. The research is conducted under the supervision of a thesis committee consisting of a primary faculty advisor and two additional faculty members; this committee is responsible for advising the student in preparing and carrying out the thesis project and for evaluating and judging its acceptability.
Prerequisite: Permission of the graduate program director and committee.
Hrs by arrangement, 9 Credits

SPANISH AND HISPANIC STUDIES (GRADUATE CERTIFICATE)

Faculty

Luis Alonso-Ovalle, PhD, *University of Massachusetts Amherst* • Semantics • Spanish Semantics • Pragmatics • Theory of Language

María Cistenna, PhD, *New York University* • Argentine Literature • Contemporary Latin American Literature and Culture • Literary Theory

Reyes Coll Tellechea, PhD, *University of Minnesota* • Picaresque Narrative • Golden Age Literature • Don Quixote • Historical Fiction

Clara Estow, PhD, *Brandeis University* • Medieval Spain • Spanish Civilization • Spanish-American Civilization • Teacher Education

Susan Mraz, MA, *University of West Virginia* • Spanish Language Pedagogy • Instructional Assessment and Design • Technology in the Classroom • First and Second Language Acquisition

Wanda Rivera-Rivera, PhD, *Harvard University* • Caribbean Literature • Latin American Literature • Comparative Literature

Esther Torrego, PhD, *Universidad de Madrid* • Syntactic Theory • Spanish Syntax • Comparative Syntax • First and Second Language Acquisition

The Program

Graduate courses in Spanish and Hispanic Studies are available to students matriculated in the Graduate Certificate Program in the Teaching of Spanish, to students matriculated in licensure tracks in the Teacher Education MEd in the Graduate College of Education, and to non-matriculated students.

The Graduate Certificate in the Teaching of Spanish

This 18-credit graduate certificate program has been designed to address the needs of pre-service and in-service teachers of Spanish to enhance their skills in the fields of Spanish language, literature, and culture.

While the certificate itself does not lead to teacher licensure, course work from it may be counted toward professional licensure in the Commonwealth of Massachusetts and specifically toward the Track for Professional Licensure in Spanish in the Teacher Education MEd Program.

Certificate Requirements

Completion of 18 credits, as follows:

EDU G 689 (Teacher Research)

Four 3-credit Spanish courses at the 500 level

One 3-credit elective in Spanish or Education, to be approved in advance by the program director.

The Track for Professional Licensure

The Track for Professional Licensure in the Teacher Education MEd offers a program of study leading to professional licensure in Spanish. The program consists of courses in Spanish language, literature, culture, linguistics, and methods given by the Hispanic Studies Department and courses in pedagogy given by the Department of Curriculum and Instruction. For degree requirements, see under "Education: Teacher Education: Track with Professional Licensure" in this publication.

Admission Requirements

BA in Spanish or related field (such as Latin American Studies) and/or master's degree in Education

Advanced written and oral competence in Spanish

Two years of teaching experience preferred

Courses

SPAN 501
Theories, Methods, and Practices in the Teaching of Spanish as a Foreign Language
This course is specifically designed for pre-service and in-service teachers. It will provide an overview of second-language acquisition theory as well as an in-depth study of current foreign language methodology as it applies to the teaching of Spanish in middle school and high school environments. The philosophy of this methodology centers on the use of language in meaningful contexts for real-world communicative purposes. It is firmly grounded in the National Standards for Foreign Language Learning and the Massachusetts Curriculum Frameworks for Foreign Languages. Students will gain practice in evaluating textbooks, writing lesson plans, and designing instructional units, as well as in classroom management procedures. This course is taught in Spanish.
3 Lect Hrs, 3 Credits

SPAN 502
Technology for the Spanish-Language Classroom
This course is specifically designed for pre-service and in-service teachers of Spanish as a foreign language. The primary goal of the course is to explore the pedagogical implications of using a wide array of technological resources in the Spanish language and culture classroom. This class will also explore how Internet technology can be used as a springboard for cultural analysis and comparison. Students will examine current pedagogical theories related to language teaching and learning and will design a curricular unit that includes samples of all technologies examined. All coursework will be based on the Massachusetts Curriculum Frameworks for Foreign Languages and the National Educational Technology Standards for Students. This course is taught in Spanish; some readings will be in English.
3 Lect Hrs, 3 Credits

SPAN 503
Perspectives on the Spanish-Speaking Worlds
This course, taught entirely in Spanish with occasional reading in English, is specifically designed for pre-service and in-service teachers of Spanish. It will examine the various geographic and cultural traditions that make up today's Spanish-speaking worlds. In so doing, the course will prepare teachers to develop connections between course content and the Massachusetts Curriculum Frameworks for Foreign Languages and the National Standards for Foreign Language Teaching. The course is interdisciplinary. Topics to be studied in depth include issues of national and cultural identity, social life, and cultural production.
3 Lect Hrs, 3 Credits

SPAN 512
Assessing Foreign-Language Learners (Spanish)
Designed for pre-service and in-service teachers, this course will provide an in-depth study of different types of assessment, emphasizing performance assessment and the achievement of standards. Explicit connections to the Massachusetts Curriculum Frameworks for Foreign Languages and the National Standards for Foreign Language Learning will be made. The format of the course will be interactive discussion sessions with topics drawn from reading assignments. Students will gain

practice in designing assessments and accompanying rubrics, projects, and portfolios, as well as self-assessment tools. This course is taught in Spanish; some readings will be in English.
3 Lect Hrs, 3 Credits

SPAN 515
Latin American Film for the Spanish-Language Classroom
This course is specifically designed for pre-service and in-service teachers of Spanish. By using film and readings in the literatures of Spanish America, it will develop historical, social, and cultural context for language instruction. Explicit connections to the Massachusetts Curriculum Frameworks for Foreign Languages and the National Standards for Foreign Language Learning will be made. The course is organized as a series of film-viewing and discussion sessions based on the films and the reading assignments. Students will gain experience researching film background, drawing critical connections to history, society, and culture, and designing units integrating film into language curriculum. This course is taught in Spanish.
3 Lect Hrs, 3 Credits

SPAN 516
Cities of Lights and Shadows: Urban Experiences in Latin America
This course, taught entirely in Spanish with occasional readings in English, is specifically designed for pre-service and in-service teachers of Spanish. It will examine various representations of the city in Spanish-American literature. In so doing, the course will prepare teachers to develop connections between course content and the Massachusetts Curriculum Frameworks for Foreign Languages and the National Standards for Foreign Language Learning. This class will provoke a comparison between urban experiences in Latin America and similar experiences in the United States. It will also include an overview of the main moments in Spanish American Literature when cities came to represent social, economic, and demographic tensions that redefined national and regional identities. The class also includes a unit on the literature of Hispanic people in the US, since the urban experience is a central theme to this literature.
3 Lect Hrs, 3 Credits

SPAN 520
A Linguistic Perspective on Variation in the Spanish Language
This course, taught in Spanish with occasional readings in English, is specifically designed for pre-service and in-service teachers of Spanish. It will examine the main Spanish-language variants of today's Spanish-speaking worlds and the grammatical traditions of Spanish. The course presents accessible research on fundamental problems of Spanish grammar that teachers deal with on a daily basis. Topics include the origin of differences among variants of Spanish, what is good and what is bad in spoken Spanish, and how various historical times answered this question, with far-reaching implications for language-teaching and specifically for the teaching of Spanish.
3 Lect Hrs, 3 Credits

SPAN 530
Cervantes and His World
This course, designed for pre-service and in-service teachers, provides an in-depth analysis of Cervantes' Don Quixote (original Spanish version). The course will examine the cultural production as well as the social conditions of 16th- and 17th-century Spain, as expressed in the life and work of Miguel de Cervantes. This course is taught in Spanish.
3 Lect Hrs, 3 Credits

SPAN 532
Latin American Popular Culture
This course introduces students to concepts, contexts, and case studies of Latin American popular culture and prepares them to develop connections between course content and the Massachusetts Foreign Languages Curriculum Framework and National Standards for Foreign Language Learning. Classes are conducted in English, but assignments require advanced mastery of Spanish.
3 Lect Hrs, 3 Credits

SPAN 540
Caribbean Borders: Literature and Identity in the Hispanic Caribbean
This course is designed for pre-service and in-service teachers of Spanish. It examines the cultural production and social development of the Spanish Caribbean and surveys the major consequences of colonization. The course prepares teachers to develop connections between course content and the Massachusetts Frameworks for Foreign Languages and the National Standards for Foreign Language Learning. This course is taught in Spanish.
3 Lect Hrs, 3 Credits

SPAN 550
Spain: Between Past and Future
This interdisciplinary course introduces students to contemporary Spain. Topics include: literature, art, architecture, music, film, history, politics, and society. The course explores Spain's most salient 19th-, 20th-, and 21st-century social and cultural transformations. This course is taught in Spanish.
3 Lect Hrs, 3 Credits

SPAN 597
Special Topics
This course offers intensive study of a selected topic in Spanish language, literature, and/or culture. Course content varies according to the topic, which will be announced prior to the advance pre-registration period.
1-6 Credits

GRADUATE CONSORTIUM IN WOMEN'S STUDIES

UMass Boston is a member of the Graduate Consortium in Women's Studies (GCWS), an association dedicated to advancing teaching and research in interdisciplinary Women's Studies at the graduate level. The GCWS brings together feminist scholars, teachers, and students at eight Boston-area institutions of higher education (Boston College, Brandeis University, Harvard University, Massachusetts Institute of Technology, Northeastern University, Simmons College, Tufts University, and the University of Massachusetts Boston). Students currently enrolled in graduate programs at participating institutions are eligible to apply for admission to GCWS courses.

All GCWS courses are multidisciplinary, team-taught, and designed to break new intellectual ground and advance the field. One to three courses are offered each semester, with each course designed and team-taught by two or three professors from at least two different member institutions. Courses meet once a week on the campus of MIT. Designed primarily for doctoral students, GCWS courses are also open to master's degree students or seniors writing honors theses in Women's Studies, with the consent of the admissions committee and instructors.

Future course listings are available from the campus representative to GCWS, through the UMass Boston Women's Studies Program. Any UMass Boston graduate student who would like to apply for admission to a particular GCWS course should first contact her/his own UMass Boston graduate program director to determine whether the proposed course may count toward elective credit in that program. Application is then made to the Consortium's Admissions Committee at http://mit.edu/gcws/. Once the student is admitted to a course, the UMass Boston Office of Graduate Studies will facilitate the process of registering the student for UMass Boston course credit.

For further information, contact:

Prof. Chris Bobel, GCWS Campus Representative
Women's Studies Program
Wheatley-5-03
617-287-6781
chris.bobel@umb.edu

Road Map and Directions to Campus

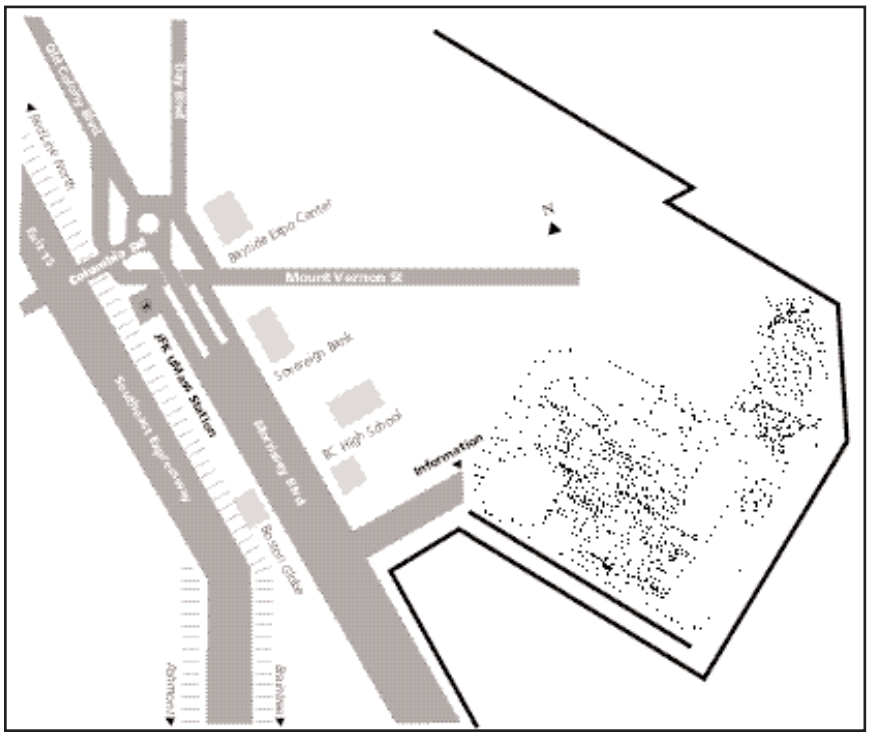
UMass Boston is only three miles from downtown Boston and is easily accessible by public or private transportation.

By car from the north or west: Take I-93 to Exit 15 and follow the UMass signs to Morrissey Boulevard and the campus.

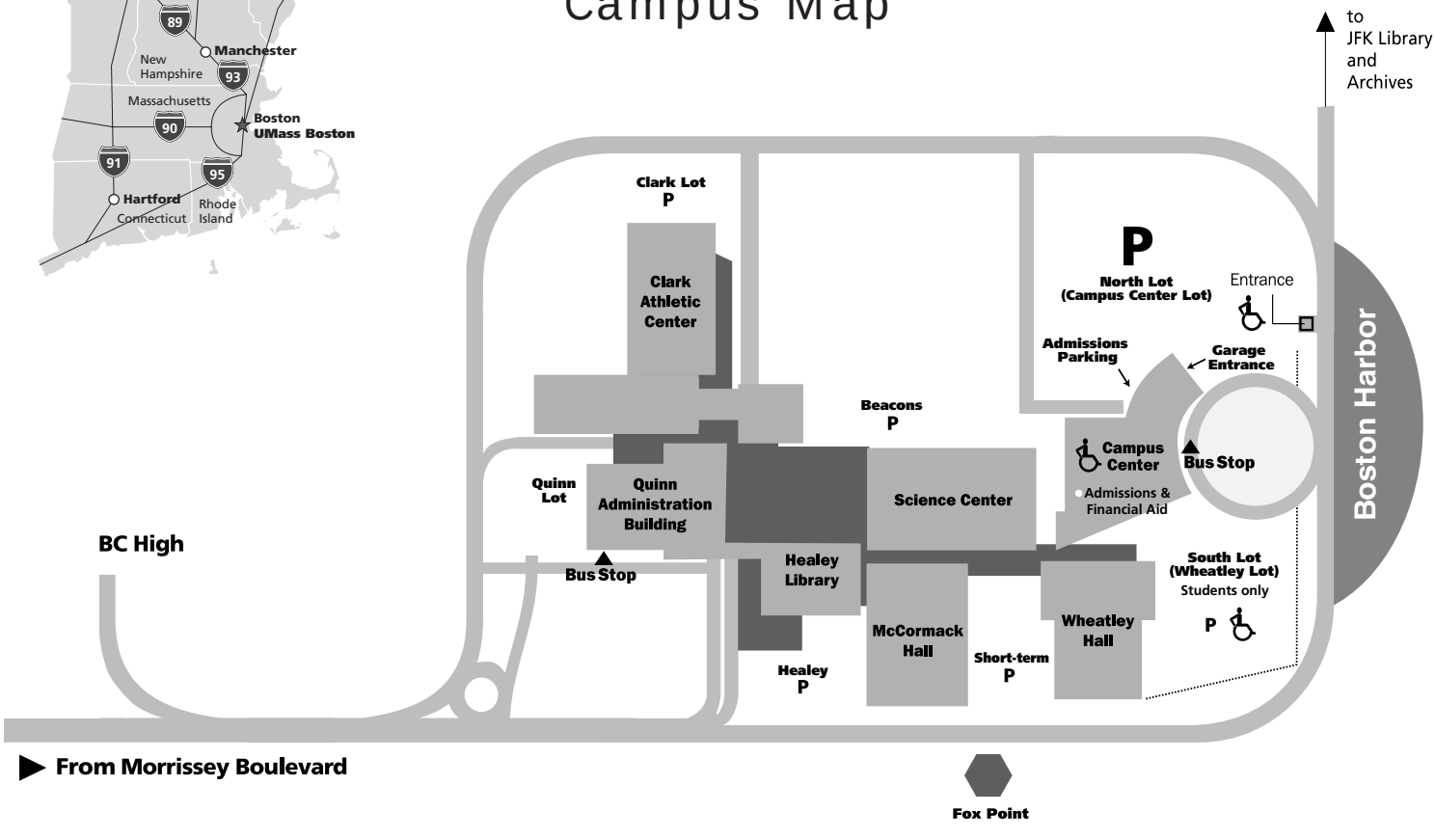
By car from the south: Take I-93 to exit 14 and follow Morrissey Boulevard north to the campus.

On the MBTA: Take the Red Line to JFK/UMass Station and ride the free shuttlebus to the campus.

By plane: We're only about six miles from Boston's Logan Airport. Call 617.287.6000 during working hours for directions.



Campus Map



Telephone Directory

Please note: This directory is for the use of graduate students and prospective students and therefore includes only a partial listing of University departments and offices. The complete University directory of departments, offices, faculty, and staff is issued by the University's Office of Telecommunications.

Information, Services, and Administrative Offices

Adaptive Computer Lab	617.287.5227
Admissions, Graduate	617.287.6400
Admissions, Undergraduate	617.287.6100
Affirmative Action and Multicultural Relations	617.287.5180
Alumni Affairs	617.287.5330
Art Gallery	617.287.7988
Athletics	617.287.7800
Bookstore	617.287.5090
Bursar	617.287.5350
Cafeterias	
Campus Center	617.287.5082
Quinn Administration	617.287.5033/5037
Campus Ministry (Student Affairs)	617.287.5800
Campus Police (Public Safety Office)	617.287.7799
Career Services (University Advising Center)	617.287.5519
Chancellor's Office	617.287.6800
College of Liberal Arts	617.287.6500
College of Management	617.287.7700
College of Nursing and Health Sciences	617.287.7500
College of Public and Community Service	617.287.7100
College of Science and Mathematics	617.287.6500
Computing Services	617.287.5200
Corporate, Continuing, and Distance Education	617.287.7900
Copy Centers	
Quinn Administration	617.287.5020
Wheatley	617.287.5056
Copy Store	617.287.5075
Counseling Center	617.287.5690
Disability Services:	
Ross Center	617.287.7430
Early Learning Center	617.287.6195
Enrollment Information Services	617.287.6000
Financial Aid	617.287.6300
Graduate Admissions	617.287.6400
Graduate College of Education	617.287.7606
Graduate Student Assembly	617.287.7975
Graduate Studies:	
Office of the Dean	617.287.5700
Harbor Gallery	617.287.7988
Health Promotion Program	617.287.5685
Health Services	617.287.5660
Help, Emergency	911
Human Resources	617.287.5150
ID Office	617.287.7957
Joiner Center	617.287.5850
Language Lab	617.287.5970
Library Information	617.287.5902
Mass Media	617.287.7990
McCormack Graduate School of Policy Studies	617.287.5550
Mental Health Counseling	617.287.5690
Parking and Transportation	617.287.5040/5055
Personnel (Human Resources)	617.287.5150
Police, Emergency	911
Police, Non-Emergency	617.287.7799
Provost's Office	617.287.5600
Public Safety Office (Campus Police)	617.287.7799
Registrar, University	617.287.6200
Student Affairs	617.287.5800
Student Life Office	617.287.7950
Student Senate	617.287.7970
Teacher Education Program	617.287.7610
Veterans Affairs	617.287.5875
Watermark Literary Magazine	617.287.7960
Wits' End Cafe	617.287.7987
WUMB Radio	617.287.6900

Graduate Programs

Accounting	617 287.7720
American Studies	617.287.6770
Applied Linguistics, Physics, Sociology: See under Linguistics, Physics, Sociology	
Biology	617.287.6600
Biomedical Engineering and Biotechnology	617.287.6600
Biotechnology and Biomedical Science	617.287.6600
Business Administration (MBA)	617.287.7720
Chemistry/Green Chemistry PhD	617.287.6130
Clinical Psychology	617.287.6340
Computer Science	617.287.6440
Counseling	617.287.7602
Creative Writing (MFA)	617.287.6714
Critical and Creative Thinking	617.287.7690
Database Technology	617.287.6440
Dispute Resolution	617.287.7421
Education: Adapting Curriculum Frameworks for All Learners	617.287.7250
Education: Applied Behavioral Analysis	617.287.7250
Education (EdD) Higher Education Administration/Leadership in Urban Schools	617.287.7601
Education: Educational Administration	617.287.7601
Education: Instructional Technology for Educators	617.287.7629
Education: Special Education	617.287.7639
Education: Teacher Education (Elementary, Middle/ Secondary)	617.287.7625
English	617.287.6700
Environmental Sciences/ Environmental, Earth, and Ocean Sciences	617.287.7440
Family Therapy	617.287.7617
Forensic Services	617.287.6250
Geographic Information Science	617.287.7440
Gerontology	617.287.7300
Historical Archaeology	617.287.6860
History	617.287.6860
History/Teaching History	617.287.6860
Human Services	617.287.7225
Information Technology	617.287.7720
Instructional Design	617.287.5980
Instructional Technology Design	617.287.5980
Instructional Technology for Educators	617.287.7625
International Relations	617.287.6941
Latin and Classical Humanities	617.287.6120

Linguistics, Applied	617.287.5760
Linguistics, Applied/Latin and Classical Humanities	617.287.6120
Management of Aging Services	617.287.7330
Marine Science and Technology, Intercampus Graduate School of	508.999.8193
Mathematics	617.287.6440
MBA	617.287.7720
Mental Health Counseling	617.287.7668
Molecular, Cellular, and Organismal Biology PhD	617.287.6600
Nursing	617.287.7500
Orientation and Mobility	617.287.4385
Physics, Applied	617.287.6050
Public Affairs	617.287.5550
Public Policy	617.287.6938
Rehabilitation Counseling	617.287.7668
School Counseling	617.287.7641
School Psychology	617.287.7602
Sociology, Applied	617.287.6250
Spanish, Teaching of	617.287.7550
Special Education	617.287.7639
Teacher Licensure Programs	617.287.7625
Teaching of Spanish	617.287.7551
Teaching of the Visually Impaired	617.287.4385
Teaching of Writing in Schools	617.287.7665
Women in Politics and Public Policy	617.287.6785
Women's Studies, Graduate Consortium in	617.287.6781
Writing in Schools, Teaching of	617.287.7665

Index

Index entries in **boldface type** designate graduate programs and tracks.

NOTES