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Programs, Policies & Courses

This online academic catalog provides the latest information on all graduate areas of study and degree programs at the University of Massachusetts Lowell and supersedes all previous versions of the catalog.

Gainful Employment Information
(https://www.uml.edu/catalog-AY17/pdf/Graduate.pdf)

Bachelor's to Master's Programs

Earn Two Degrees in as Little as Five Years

- Eligibility
- Course Credits
- How to Apply

In order to encourage outstanding UMass Lowell undergraduate degree students to continue their studies towards an advanced degree, qualified students may apply for the Bachelors to Masters Degree Option (Bachelor’s to Master’s programs include the Fast Track to Teaching and Plus 1 programs.)

This option carries distinct benefits. Graduate Record Examination (GRE) scores are not required (except in the Graduate School of Education), GMAT is waived for applicants for the Masters in Business Administration (MBA) with a 3.2 or higher GPA and the application fee is waived. In addition, many departments offer course credit benefits. (For detailed information regarding specific course credit benefits, please see the Graduate Coordinator in the respective masters degree granting department.)

- Information on the GRE / GMAT / MAT Waivers
(https://www.uml.edu/Grad/gre-mat-waivers.aspx)

Eligibility

Any UMass Lowell undergraduate junior or senior with a grade point average of 3.0 or better may apply to a Masters degree program at UMass Lowell under the Accelerated Bachelors to Masters Degree Option. However, to be accepted into this option the following minimum conditions must be met (individual departments may have more stringent requirements):

1. The student must have a cumulative grade point average of 3.0 or above at the time the baccalaureate degree is conferred in order to maintain eligibility for this option.
2. The student must apply for and receive his/her baccalaureate degree before matriculating into the graduate program.
3. Once accepted a student is expected to begin his/her graduate studies in the semester immediately following conferral of the baccalaureate degree unless the student submits a written request for deferral. A student is allowed to defer for a maximum of one year from the date of acceptance. For example, if accepted for the Spring 2015 semester, an individual can defer to either the Fall 2015 or Spring 2016 semesters. A student defers acceptance by submitting a written request to the Office of Graduate Admissions
(mailto:Graduate_Admissions@uml.edu). All deferral requests must specify which semester the student wishes to enroll. Any applicant accepted to the Bachelors to Masters Degree Option who opts not to enroll in at least one course within the graduate department to which they have been accepted in the semester immediately following conferral of the bachelors degree and who does not submit a deferral request forfeits his/her rights to benefits under this program. Should the student decide to begin his/her studies at a later time he/she will be required to take the GRE, pay an application fee, and have his/her application reassessed.

Course Credits

The graduate degree granting department may allow course credit benefits; however, the following requirements apply:

1. Any graduate courses taken by a baccalaureate degree student that are credited towards the Masters degree must have been obtained with a grade of B or better.
2. Only courses of 5000 level or higher may count toward the Masters degree.
3. As defined by the graduate degree granting department, a maximum of 12 graduate credits (5000 level or above) may be used for the masters degree provided these graduate credits were taken in excess of the university minimum of 120 baccalaureate degree credits, or, for programs requiring fewer than 33 credits, a maximum of
up to six credits of graduate (5000 level or higher) courses may be used by a student in the Accelerated Bachelor’s to Master’s Degree Option for both the graduate and undergraduate degrees; or, for program requiring 33-35 credits, at the discretion of the affected department, a maximum of up to nine credits of graduate (5000 level or higher) courses may be used by a student in the Accelerated Bachelor’s to Master’s Degree Option for both the graduate and undergraduate degrees; or, for programs requiring 36 or more credits, at the discretion of the affected department, a maximum of up to twelve credits of graduate (5000 level or higher) courses may be used by a student in the Accelerated Bachelor’s to Master’s Degree Option for both the graduate and undergraduate degrees.

4. Students must petition to have specific courses (5000 level or above) taken during their undergraduate career apply towards their graduate degree via an Academic Petition.

How to Apply

Applicants are requested to fill out the Online Application (https://sa-webapp-prd.erp.umasscs.net/psc/webapp/EMPLOYEE/HRMS/c/UM_WEBAPP_MENU.UM_ADM_APP_LOGIN.GBL?institution=UMLOW&CareerGRAD&CenterGRAD?&and submit requisite materials to the Office of Graduate Admissions (https://www.uml.edu/Grad/default.aspx) (Cumnock Hall - North Campus), normally in the second semester of their third year as an undergraduate (up until the last day of classes in their final semester before graduation). Application forms and details on applying may also be obtained by contacting the Graduate Admissions Office at 978-934-2390.

Master’s Programs Offered

Listed by Degree Earned

- Master of Science
- Master of Science in Engineering
- Education Specialist

Master of Arts (MA)

- Community Social Psychology
- Criminal Justice
- Economic & Social Development of Regions - This program is no longer accepting students.
- History
- Peace & Conflict Resolution
- Security Studies

Master of Business Administration (MBA)

- General Business
- Accounting
- Finance
- Information Technology
- Marketing
- International Business

Master of Education (M.Ed.)

- Curriculum & InstructionAutism StudiesCurriculum & Instruction: Initial CertificationCurriculum & Instruction: Math Education, beyond initial
- Educational AdministrationHigher Education
- Reading & Language

Master of Music (MM)

- Music EducationCommunity Music
- Sound Recording Technology

Master of Public Health (MPH)

- Public Health (https://www.uml.edu/catalog-AY17/pdf/Graduate.pdf)
- Epidemiology
- Global Environmental Sustainability &Health
Healthcare Management
Nutrition
Population Health

Master of Science (MS)

- Accounting
- Autism Studies
- Biological Sciences
  - Applied Biotechnology
  - Biosafety (PSM)
  - Environmental Biotechnology (PSM)
- Biomedical Engineering & Biotechnology
- Business Analytics
- Chemistry
  - Chemistry & Polymer Science
  - Pharmaceutical Biochemistry (PSM)
- Clinical Laboratory Sciences
- Computer Science
  - Bio/Chemical Informatics
  - Software Entrepreneurship
- Engineering Management
- Entrepreneurship
- Environmental Studies
  - Atmospheric Sciences
  - Environmental Engineering Sciences
  - Environmental Geoscience (PSM)
- Finance
- Health Informatics & Management
- Information Technology
- Marine Sciences & Technology
  - Coast & Ocean Admin.
  - Science/Technology (PSM)
- Mathematics
  - Applied & Computational Mathematics
- Industrial Mathematics (PSM)
- Mathematics for Teachers
- Probability & Statistics
- Nursing
  - Adult / Gerontological Nursing
  - Adult Psychiatric & Mental Health Nursing
- Family Health Nursing
- Pharmaceutical Science
- Physics
  - Phototonics
- Public Health
- Radiological Science & Protection
  - Radiological Science and Protection (PSM)
- Security Studies
- Work Environment
- Master of Science in Engineering (M.S.E.)
  - Chemical Engineering
- Civil Engineering
  - Leadership
  - Environmental Geotechnical Structural Transportation
- Computer Engineering
- Electrical Engineering
- Energy Engineering
- Mechanical Engineering
- Plastics Engineering
- Education Specialist (EdS)
  - Administration, Planning & Policy
  - Curriculum & Instruction
  - Education of Diverse Populations
  - Reading & Language
About Graduate Certificates

Most graduate certificates are comprised of four courses designed to provide specific knowledge and expertise vital to today’s changing and complex needs in the workplace. In most cases courses may be applied toward a degree program.

Requirements to Complete a Graduate Certificate

The courses to complete the certificate must be completed within a five year period with a minimum 3.0 grade point average, and with no more than 3 credits below B. Courses completed for one certificate may not be used for another certificate.

Certificate Application Process

Individuals must complete a simplified application and provide an official undergraduate transcript indicating that a baccalaureate degree has been awarded. GRE’s are not required. NOTE: If your bachelor’s degree is from outside of the U.S., you may be required to take the TOEFL examination.

Download Graduate Certificate Application (pdf)
(https://www.uml.edu/docs/Graduate%20Certificate%20App%20Only%202016_tcm18-3292.pdf)

Doctoral Programs Offered

Listed by Degree Earned

- Doctor of Education
- Doctor of Engineering
- Doctor of Nursing Practice
- Doctor of Philosophy
- Doctor of Physical Therapy
- Doctor of Science

Doctor of Education

- Leadership in Schooling
- Language Arts & Literacy
- Mathematics & Science Education

Doctor of Engineering (D.Eng./Ph.D)

- Business Management Curriculum
- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Energy Engineering
- Mechanical Engineering
  - Mechanical Engineering/Chemical Engineering
  - Mechanical Engineering/Civil & Environmental Engineering
  - Mechanical Engineering/Energy Engineering
  - Mechanical Engineering/Manufacturing Engineering
- Plastics Engineering

Doctor of Nursing Practice (DNP)

- Nursing

Doctor of Philosophy (Ph.D.)

- Applied Psychology and Preventative Science
  (http://www.uml.edu/Catalog/Graduate/FAHSS/Psychology/DoctoralAppliedPsychology.aspx)
- Biomedical Engineering & Biotechnology
- Business Administration
- Computer Science
- Criminology and Criminal Justice
- Global Studies
- Marine Sciences & Technology
- Nursing
- Pharmaceutical Science
- Physics
- Polymer Science

- Applied Psychology and Preventative Science
- Biomedical Engineering & Biotechnology
- Business Administration
- Computer Science
- Criminology and Criminal Justice
- Global Studies
- Marine Sciences & Technology
- Nursing
- Pharmaceutical Science
- Physics
- Polymer Science
Doctor of Physical Therapy (DPT)

- **Physical Therapy**

Doctor of Science

- **Work Environment**
  - Cleaner Production & Pollution
  - Ergonomics
  - Epidemiology
  - Hygiene
  - Policy

Graduate Certificates Offered

- Additive Manufacturing (AM) in Radio Frequency (RF) & Microwave (MW) Applications
  - [Link](https://www.uml.edu/catalog-AY17/pdf/Graduate.pdf)
- Applied Statistics
  - [Link](https://www.uml.edu/Catalog/Graduate/sciences/Mathematical-Sciences/Graduate-Certificates.aspx)
- Behavioral Intervention in Autism
  - [Link](https://www.uml.edu/Catalog/Graduate/FAHSS/psychology/Certificate-Program.aspx)
- Biomedical Engineering and Biotechnology
  - [Link](https://www.uml.edu/Catalog/Graduate/Engineering/Electrical-Computer-Engineering/Graduate-Certificates.aspx)
- Biotechnology & Bioprocessing
  - [Link](https://www.uml.edu/Catalog/Graduate/sciences/Biology/Graduate-Certificate.aspx)
- Chemistry
  - [Link](https://www.uml.edu/Catalog/Graduate/sciences/Chemistry/Graduate-Certificates-in-Chemistry.aspx)
- Clinical Pathology
  - [Link](https://www.uml.edu/Catalog/Graduate/Health-Environment/Clinical-Lab-Nutritional-Sci/Certificate-Program.aspx)
- Communications Engineering
  - [Link](https://www.uml.edu/Catalog/Graduate/Engineering/Electrical-Computer-Engineering/Graduate-Certificates.aspx)
- Composites and Materials
  - [Link](https://www.uml.edu/Catalog/Graduate/Engineering/Mechanical-Engineering/Graduate-Certificates.aspx)
- Criminal Justice Leadership & Policy Development
  - [Link](https://www.uml.edu/Catalog/Graduate/FAHSS/Criminal-Justice/Certificate-Program.aspx)
- Medical Plastics Design and Manufacturing Engineering
- Design and Manufacturing Engineering
  - [Link](http://www.uml.edu/Catalog/Graduate/Engineering/Mechanical-Engineering/Graduate-Certificates.aspx#1)
- Diversity in the Workplace
  - [Link](https://www.uml.edu/Catalog/Graduate/FAHSS/psychology/Certificate-Program.aspx)
- Domestic Violence Prevention
  - [Link](https://www.uml.edu/Catalog/Graduate/FAHSS/Criminal-Justice/Certificate-Program.aspx)
- Energy Conversion
  - [Link](https://www.uml.edu/Catalog/Graduate/Engineering/Electrical-Computer-Engineering/Graduate-Certificates.aspx)
- Environmental Atmospheric Science
- Environmental Biotechnology
  - [Link](https://www.uml.edu/Catalog/Graduate/sciences/Biology/Graduate-Certificate.aspx)
- Environmental GeoScience
- Family Studies
  - [Link](https://www.uml.edu/Catalog/Graduate/FAHSS/psychology/Certificate-Program.aspx)
- Field Programming Gate Array
- Financial Management
  - [Link](http://www.uml.edu/Catalog/Graduate/Business/Graduate-Certificate.aspx)
- Forensic Criminology
  - [Link](https://www.uml.edu/Catalog/Graduate/FAHSS/Criminal-Justice/Certificate-Program.aspx)
- Foundations of Business
  - [Link](https://www.uml.edu/Catalog/Graduate/Business/Graduate-Certificate.aspx)
- Health Informatics
  - [Link](https://www.uml.edu/catalog-AY17/pdf/Graduate.pdf)
- Health Management
- Integrated Engineering Systems  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Electrical-Computer-Engineering/Graduate-Certificates.aspx) (interdisciplinary)
- Criminal Justice: Leadership & Policy Development
- Materials Sciences & Engineering  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Chemical-Engineering/Graduate-Certificates-in-Chemical-Engineering.aspx)
- Mathematics for Teachers  
  (https://www.uml.edu/Catalog/Graduate/sciences/Mathematical-Sciences/Graduate-Certificates.aspx)
- Medical Imaging and Instrumentations
- Medical Plastics Design & Manufacturing  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Plastics-Engineering/Certificate-Programs.aspx)
- Microelectromechanical Systems/Nanoelectromechanical Systems  
  (interdisciplinary)  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Mechanical-Engineering/Graduate-Certificates.aspx)
- Microwave and Wireless Engineering  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Electrical-Computer-Engineering/Graduate-Certificates.aspx)
- Modeling, Simulation, and Control of Systems and Processes  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Chemical-Engineering/Graduate-Certificates-in-Chemical-Engineering.aspx)
- Molecular & Cellular Biotechnology  
  (https://www.uml.edu/Catalog/Graduate/sciences/Biology/Graduate-Certificate.aspx)
- Network Security  
  (https://www.uml.edu/Catalog/Graduate/sciences/Computer-Science/Graduate-Certificate.aspx)
- New Venture Creation  
  (https://www.uml.edu/Catalog/Graduate/Business/Graduate-Certificate.aspx)
- Nutritional Sciences  
  (https://www.uml.edu/Catalog/Graduate/Health-Environment/Clinical-Lab-Nutritional-Science/Certificate-Program.aspx)
- Peace and Conflict Studies  
  (https://www.uml.edu/Catalog/Graduate/FAHSS/PACS/Graduate-Certificate.aspx)
- Pharmaceutical Science
- Photonics & Opto-Electronic Devices  
  (https://www.uml.edu/Catalog/Graduate/sciences/Physics/Graduate-Certificates-in-Physics.aspx)
- Plastics Design  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Plastics-Engineering/Certificate-Programs.aspx)
- Plastics Engineering Fundamentals  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Plastics-Engineering/Certificate-Programs.aspx)
- Plastics Materials  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Plastics-Engineering/Certificate-Programs.aspx)
- Plastics Processing  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Plastics-Engineering/Certificate-Programs.aspx)
- Professional Leadership  
  (http://www.uml.edu/Catalog/Graduate/Programs/Professional-Leadership.aspx)
- Public Health Laboratory Sciences  
  (https://www.uml.edu/Catalog/Graduate/Health-Environment/Clinical-Lab-Nutritional-Science/Certificate-Program.aspx)
- Public Health Studies  
  (http://www.uml.edu/Catalog/Graduate/Health-Sciences/Public-Health/graduate-certificate-phs.aspx)
- Radiological Health Physics & General Work Environment Protection  
  (https://www.uml.edu/Catalog/Graduate/sciences/Physics/Graduate-Certificates-in-Physics.aspx)
- Renewable Energy Engineering (interdisciplinary)  
  (https://www.uml.edu/Catalog/Graduate/Engineering/Mechanical-Engineering/Graduate-Certificates.aspx)
Professional Science Master’s (PSM)

What differentiates the PSM from the core Master’s degree?

The Professional Science Master’s (PSM) is an innovative, non-thesis degree option designed for students to pursue advanced training in science, health or engineering while simultaneously developing professional leadership skills highly valued by employers. PSM programs typically consist of 8 core courses in

- Security Studies
- Structural Dynamics and Acoustic Modeling Techniques
- Supply Chain and Operations Management
- System Models and Management
- Teaching English to Speakers of other Languages
- Telecommunications
- VLSI & Microelectronics
- Victim Studies
- Wind Energy Engineering

science, health or engineering, 3 professional courses in leadership, communication and project management, a paid internship or professional development project and a reflective seminar. PSM programs have been developed in concert with industry in response to employer demands for specific skills and knowledge above and beyond the core science curriculum.

In contrast to typical Masters degrees, which require a thesis as a step toward preparation for an academic career, PSM programs are designed as terminal degrees that prepare candidates to compete in the global market. In essence, PSM programs are the MBAs of the 21st century. The National PSM Association offers networking and professional workshops to promote continued career development for PSM alumni across the country.

What PSM programs are available at UMass Lowell?

UMass Lowell offers 19 PSM programs. Graduates earn a Masters degree in Science with a PSM Option in the fields indicated below.

Biological Sciences

- Applied Biotechnology
- Environmental Biotechnology
- Biosafety
- Project Management in Life Sciences

Biomedical Engineering and Biotechnology

Chemistry

- Chemistry and Polymer Science
- Pharmaceutical Biochemistry

Clinical Laboratory Sciences
Sci/Default.aspx)

Environmental Sciences
(http://www.uml.edu/Catalog/Graduate/Sciences/Environmenta l/Default.aspx)

- Atmospheric Sciences
- Geosciences

Marine Sciences
(http://www.uml.edu/Catalog/Graduate/Sciences/Marine/Defaul t.aspx)

- Costal and Ocean Administration, Science and Technology

Mathematics
(http://www.uml.edu/Catalog/Graduate/Sciences/Mathematical-Sciences/Default.aspx)

- Industrial Mathematics

Physics
(http://www.uml.edu/Catalog/Graduate/Sciences/Physics/Defaul t.aspx)

- Radiological Sciences

Professional Leadership
(http://www.uml.edu/Catalog/Graduate/Programs/Professional-Leadership.aspx)

Work Environment

- Cleaner Production &Pollution Prevention
- Environmental Epidemiology
- Ergonomics and Safety
- Occupational &Environmental Hygiene

For more information regarding PSM programs at UMass Lowell contact William Smith (mailto:william_smith@uml.edu).

Recommended PSM Science Courses:

Students should consult with faculty advisers to determine best course choice for their career advancement needs. All PSM students should include at least 1 course (basic or enhanced) that incorporates communication into their curriculum. Course descriptions can be found on the Recommended Courses (https://www.uml.edu/docs/PSM%20Online%20Course%20Descriptions%202014_tcm18-149327.pdf) (pdf).

Doctoral Degree Requirements

Doctoral Research

Dissertation Committee
Dissertation Credits
Dissertation Preparation
Dissertation Defense
Doctoral Degree Requirements
Procedure for Opting Out with a Master’s Degree

Doctoral Research

In addition to the other requirements of the University, a candidate for a doctoral degree must complete an acceptable dissertation. The dissertation must satisfy the following criteria:

1. It should demonstrate the candidate’s intellectual competence and maturity in the field of concentration;
2. It should make an original and valid contribution to knowledge; and
3. It should be an individual achievement and the product of independent research.

Although doctoral dissertations may result from a project involving collaboration of several scholars, the individual contribution of each doctoral candidate must be substantial, clearly identifiable, and presented separately. The Committee will judge the completed dissertation in terms of the candidate’s ability to review and make critical use of the literature; to formulate a problem, develop appropriate methodology, and work systematically toward a solution; and to summarize the material or data and draw conclusions from them. The writing should be of publishable quality.

Dissertation Committee

After a student has chosen an area of research and a research supervisor, a Dissertation Committee is selected by the student and his or her research advisor in accordance with the policy of the department. The Dissertation Committee shall consist of at least three members, one of whom is the research supervisor and at least two of whom shall be from the student’s major department. An outside expert from industry or another university may be a member of the committee, but that individual must possess academic credentials which would qualify him or her to serve as a member of the University of Massachusetts Lowell faculty. The responsibilities of the Dissertation Committee shall be to:

1. Approve the research topic;
2. Supervise the progress of the dissertation;
3. Read, evaluate, and approve or disapprove of the written
dissertation;
4. Hear, evaluate and approve or disapprove of the oral
defense of the dissertation;
5. Report the completion of all dissertation requirements to
the department and the Registrar’s Office.


Dissertation Credits

If the graduate student requires the use of University resources
to continue his or her dissertation but has completed the
required number of credits for doctoral research, he or she may
sign up for 3, 6, or 9 credits of Continuing Graduate Research
(see General Policies).

Graduate students who have completed all the requirements
except the writing and defense of the dissertation and who do
not need to use University resources must register for
Continued Matriculation (CM.601.201) and pay a fee each
semester until they graduate.

Note: International students on F-1 or J-1 visas must be
registered for a minimum of nine credits each semester. Contact
the International Students and Scholars Office for more
information.

Dissertation Preparation

Every graduate student who completes a dissertation is
required to bear the cost of binding two copies of the
manuscript for the University’s files. Copywriting is optional
and available for an additional fee.

Dissertation Defense

Two weeks prior to the dissertation defense, announcements of
the defense, listing the graduate student’s name, dissertation
title, and place and time of the defense, must be submitted to
the chairperson of the department, the college dean, the
Registrar’s Office and posted and distributed throughout the
university. The defense is open to the public.

Doctoral Degree Requirements

The doctoral degree is conferred upon graduate students who
have met all the requirements listed below:

1. The student must successfully complete the graduate
courses in the major field, including the GPA requirement,
and the number of course and dissertation credits required
by the particular program.
2. If indicated, the language requirement specified by the
major department must be satisfactorily completed.
3. A qualifying examination, oral and/or written, conducted
by the major department, must be passed before any work
is begun on the dissertation. If the student fails the
qualifying examination he or she may, at the discretion of
the department, be permitted a second and final
opportunity. At this point, having completed steps 1
through 3, the student is admitted to candidacy for the
doctorate.
4. A dissertation based upon the results of original research,
and which is satisfactory to the Dissertation Committee
of the major department, must be completed.
5. A final oral dissertation defense conducted by the
Dissertation Committee, based primarily upon, but not
necessarily limited to, the contents of the candidate’s
dissertation must be passed. The examination cannot be
scheduled until all members of the Dissertation
Committee have had seven working days in which to read
the dissertation. The oral examination is to be conducted
by the Dissertation Committee, whose membership may
be augmented by the non-voting faculty. In order to pass
the defense, the candidate may not receive more than one
dissenting vote from the members of the Dissertation
Committee.
6. All financial obligations (tuition, fees, and expenses) must
be satisfied as evidenced by the completion and
submission of a Graduate Degree Clearance form to the
Registrar’s Office.

Procedure for Opting Out with a Master's Degree

Students accepted into a doctoral program who elect to instead
obtain the master’s degree and leave the university must follow
the following procedure:

1. The student must file an Academic Petition requesting to
be changed from the doctorate to the master’s degree
program.
2. The student must complete all required courses for the
master’s degree, compile a minimum 3.0 grade point average, successfully defend his/her thesis, and complete the clearance process at the Registrar’s Office.

3. All graduate courses (and undergraduate course work used for graduate credit), whether taken for the original doctoral program or for the master’s degree, will be included in the grade point average and listed on the student’s graduate transcript.

Financial Information

University-related costs include tuition and mandatory fees. Please contact The Solution Center for more tuition and fee information (https://www.uml.edu/thesolutioncenter/bill/tuition-fees/Graduate/in-state.aspx).

- New England Regional Program
- Health Insurance
- Veterans
- Residency Classification
- Overdue Accounts
- Payment Plans
- University Charges

New England Regional Student Program

Massachusetts and the university participate in a reciprocal program in which qualified and legal residents of other New England states may attend graduate school in an approved program at the University of Massachusetts Lowell and pay 150 percent of the Massachusetts in-state tuition charges. (All other applicable fees apply.) Applicants are considered for unique and distinctive graduate level studies not available in their home state university system. Full details regarding eligible programs are available from the New England Board of Higher Education, 45 Temple Place, Boston, Massachusetts 02111 (617-357-9620), or at the University Graduate Admissions (https://www.uml.edu/Grad/default.aspx) office (www.uml.edu/grad (https://www.uml.edu/Grad/default.aspx)). See the tuition costs for the New England Regional Program (https://www.uml.edu/thesolutioncenter/bill/tuition-fees/Graduate/NE-Regional.aspx).

*UMass Lowell also participates in the Proximity Allowance of the New England Regional Program. This program allows New Hampshire residents from selected towns within a 20 mile radius of UMass Lowell to be eligible for a tuition discount for most majors. Please visit www.uml.edu/admissions/proximity (http://www.uml.edu/Grad/Costs/default.aspx) for details.

Health Insurance

Mandatory on-campus (accident) insurance is charged to all graduate students. All graduate students enrolled in 9 or more credit hours will be charged for health insurance as required by state law. Graduate students may waive student health insurance charges if they maintain comparable insurance coverage and complete an insurance waiver form by the required deadline. Forms are available in the Office of Graduate Admissions and Accounts Receivable Office, Dugan Hall, UMass Lowell South. Family health insurance plans are also available with options for coverage of spouses and/or spouses and dependent children.

International Students: As authorized under the insurance laws for higher education students in Massachusetts (section 275 of Chapter 151 of the Acts of 1996), the University of Massachusetts Lowell requires that all international students must enroll in the University’s Student Health Insurance Plan.

Veterans

The Veterans Administration has approved the University of Massachusetts Lowell for undergraduate study. Visit the Office of Veterans Services (https://www.uml.edu/student-services/Veterans/default.aspx) for more information.

RESIDENCY CLASSIFICATION

Rules for Determination of Domicile

University tuition rates are established on the basis of official state residency as determined by a student’s true "domicile." "Domicile" is defined as a person’s true, fixed and permanent home and place of habitation where he or she intends to remain permanently or for an indefinite time. Massachusetts residency for tuition purposes is not acquired by mere physical presence in Massachusetts while a person is carrying on a course of study at the University. A student’s residency status is based on a determination of one’s domicile at the time of entry or re-entry to the University. A student may apply to be reclassified at any time and must provide detailed documentation to support the claim that he or she met the requirements for Massachusetts residency for tuition purposes at the time of his or her entry as a student. One notable exception is made for students who marry Massachusetts residents while enrolled in a course of studies. The complete set of rules are attached to the application for reclassification (https://www.uml.edu/Enrollment/Residency/Classification-Reclassification.aspx).

Payment of Bills

Graduate students will be permitted to attend classes and to
utilize university facilities only after they have cleared all their financial obligations to the university. Financial obligations include indebtedness for library and parking fines, rental payments and repayment of emergency loans. All bills are payable in advance by check or money order and are due as specified on the student invoice. Major credit cards are also accepted. All payments of fees and tuition should be made payable directly to the University of Massachusetts Lowell. A student in debt to the university at the end of any semester or summer session is not permitted to register again at the university until his or her indebtedness has been discharged. In addition, student transcripts and diplomas will not be released unless all indebtedness has been discharged.

Pay My Bill
(https://www.uml.edu/thesolutioncenter/bill/default.aspx)

Overdue Accounts

Should it be necessary to utilize the services of a collection agency or attorney for an overdue student account, the student will be liable for any and all legal fees, commissions, and associated service charges.

Payment Plans

The University of Massachusetts Lowell offers a low-cost, interest-free payment option. This plan allows students to budget the annual cost of tuition and fees over a ten month period. Visit the Solution Center (https://www.uml.edu/thesolutioncenter/bill/eBill/payment-options.aspx) for more information on payment options.

University Charges

University-related costs include tuition and mandatory fees. Please contact the Solution Center (https://www.uml.edu/thesolutioncenter/bill/tuition-fees/Graduate/default.aspx) for more information on tuition and fees.

Doctoral Degree Credit Requirements

College of Sciences

<table>
<thead>
<tr>
<th>Program</th>
<th>Course/semia r credits</th>
<th>Dissertation credits</th>
<th>Total credit requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry (Ph.D.) all options</td>
<td>27-30</td>
<td>18</td>
<td>45-48</td>
</tr>
<tr>
<td>Computer science (Ph.D.) all options</td>
<td>18</td>
<td>24</td>
<td>42 (beyond M.S)</td>
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<tr>
<td>Physics (Ph.D.) all options</td>
<td>36-45</td>
<td>15-24</td>
<td>60</td>
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<tr>
<td>Polymer science (Ph.D.)</td>
<td>27</td>
<td>18</td>
<td>45</td>
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Graduate School of Education

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<tr>
<td>Education (Ed.D.)</td>
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<td>12</td>
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<tr>
<td>Mathematics &amp; science education</td>
<td>36</td>
<td>12</td>
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<tr>
<td>Leadership in schooling</td>
<td>36</td>
<td>12</td>
<td>48 (beyond M.Ed.)</td>
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<tr>
<td>Language arts &amp; literacy</td>
<td>36</td>
<td>12</td>
<td>48 (beyond M.Ed.)</td>
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</table>

Francis College of Engineering

<table>
<thead>
<tr>
<th>Program</th>
<th>Course/Seminar credits</th>
<th>Dissertation credits</th>
<th>Total credit requirement</th>
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</thead>
<tbody>
<tr>
<td>Electrical (Ph.D.&amp;D.Eng.)</td>
<td>42</td>
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<tr>
<td>Mechanical (Ph.D.&amp;D.Eng.)</td>
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<tr>
<td>Chemical (Ph.D. &amp;D.Eng.)</td>
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<td>63</td>
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<tr>
<td>Civil &amp;environmental (Ph.D.&amp;D.Eng.)</td>
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<tr>
<td>Energy (Ph.D. &amp;D.Eng.)</td>
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<tr>
<td>Plastics (Ph.D.&amp;D.Eng.)</td>
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<td>21</td>
<td>63</td>
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</table>

College of Health Sciences

<table>
<thead>
<tr>
<th>Program</th>
<th>Course/Seminar credits</th>
<th>Dissertation credits</th>
<th>Total credit requirement</th>
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</thead>
<tbody>
<tr>
<td>Nursing (Ph.D.)</td>
<td>48</td>
<td>12</td>
<td>60 (beyond M.S)</td>
</tr>
<tr>
<td>Nursing (post master's doctorate in nursing practice)</td>
<td>41</td>
<td>0</td>
<td>41 (beyond M.S)</td>
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<tr>
<td>Physical therapy (D.PT.)</td>
<td>82</td>
<td>13[clinical experience]</td>
<td>95 (beyond bachelor's)</td>
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</table>
Financial Assistance & Assistantships

FINANCIAL ASSISTANCE

- Applying for Financial Aid
- Other Types of Assistance

The Solution Center
(https://www.uml.edu/thesolutioncenter/financial-aid/default.aspx)
University Crossing Lobby
220 Pawtucket Street, Suite 131
Lowell, MA 01854
Telephone: 978-934-2000
Office Hours: Monday - Friday: 8:30 a.m. to 5 p.m.

Applying for Financial Aid:

The University requires students to file a Free Application for Federal Student Aid (FAFSA). Students may apply for the FAFSA online at www.FAFSA.ed.gov (http://www.FAFSA.ed.gov). It is recommended that students save time by requesting personal identification numbers called Federal Student Aid PINs before the student applies for aid. The PIN can be used to electronically sign the FAFSA, electronically sign certain loan contracts, and access online information about federal student aid the student has received. The PIN must be requested online at www.pin.ed.gov (http://www.pin.ed.gov).

Copies of students and spouses federal income tax, W2 forms and other forms may be requested by the Financial Aid Office to verify information provided on the FAFSA. Many forms requested are available on The Solution Center website (https://www.uml.edu/thesolutioncenter/financial-aid/Forms.aspx). All information requested by the Financial Aid Office is required to complete the application process and is held in strictest confidence.

Eligibility Requirements

To receive financial aid from the various student aid programs, a student must:

- Have demonstrated financial need to qualify for need-based aid programs. Need is defined as the cost of attendance minus the expected family contribution derived from filing the FAFSA. Students may also be eligible for non-need based aid programs, such as the Federal Direct Unsubsidized Loan program and merit-based awards.
- Be a U.S. citizen or eligible non-citizen.
- Have a valid Social Security Number.
- Make satisfactory academic progress.
- Have a high school diploma or a General Education Development (GED) certificate, pass a test approved by the U.S. Department of Education, meet other standards the state of Massachusetts establishes that are approved by the U.S. Department of Education, or complete a high school education in a home school setting that is treated as a home school or private school under state law.
- Be a matriculated student enrolled in a degree granting or approved certificate program. Students enrolled in non-degree programs are not eligible for financial aid.
- Be enrolled at least half-time each semester. (Minimum of six credits for graduate students).
- Cannot be in default or in over payment on a federal student loan.
- Register with the Selective Service, if required (www.sss.gov (http://www.sss.gov))

Determining Financial Need:

Demonstrated financial need is the difference between the cost of attendance and the expected family contribution. The cost of attendance (COA) includes direct expenses such as tuition and fees, and also includes indirect such as room, board, books and transportation. The expected family contribution (EFC) is determined by the federal needs analysis formula and is calculated by completing a Free Application for Federal Student Aid (FAFSA).
Types of Financial Aid:

**William D. Ford Federal Direct Subsidized/Unsubsidized Loan Program:** The primary source of financial aid recommended for graduate students is the William D. Ford Federal Direct Student Loan Program. This program allows the student to borrow up to $20,500 per year at a low interest rate in subsidized and/or unsubsidized loans. Eligibility for a subsidized? or unsubsidized? direct loan is determined from the information provided on the FAFSA. A student may receive a subsidized loan and an unsubsidized loan for the same enrollment period. A subsidized loan is awarded on the basis of financial need. A student will not be charged any interest before repayment begins or during authorized periods of deferment. An unsubsidized loan is not awarded on the basis of need. A student will be charged interest from the time the loan is disbursed until it is paid in full. If a student allows the interest to accumulate, it will be capitalized; that is, the interest will be added to the principal amount of the loan and additional interest will be based upon the higher amount. For more information about graduate student aid contact visit the Solution Center at www.uml.edu/thesolutioncenter/financial-aid/Receiving-Aid/Types-Aid/graduate/loans.aspx).

**William D. Ford Federal Direct PLUS Loan Program:**
A non-need based federal loan offers up to the cost of attendance minus financial aid per academic year to qualified graduate students and parents/stepparents of undergraduate dependent students. Interest rate is fixed and repayment begins 45-60 days after the second disbursement. Refer to the Direct Loan web site (http://www.ed.gov/offices/OSFAP/DirectLoan/index.html) for current interest rates. A FAFSA is not required to apply for the PLUS loan; however, students are encouraged to file a FAFSA so that they can receive the maximum aid available. Parents may download an application online from The Solution Center (https://www.uml.edu/thesolutioncenter/financial-aid/forms.aspx). Applications should be returned to the financial aid for processing. This is a loan that needs to be repaid by the parent/stepparent.

Other Types of Assistance:

**Federal Professional Nurse Traineeship Grant Program:**
Federally funded grant available to graduate nursing students. Award amounts vary and are dependent upon funding. Please contact the School of Nursing for more information.

**Federal Teach Grant:** Federally funded grant available to qualifying graduate education majors enrolled in coursework or plan to complete coursework toward a career in teaching in a high need subject area. Contact the Graduate School of Education for more information.

**Deans Fellowships:** $2,000 awards granted to eligible, newly admitted full-time, in-state Masters candidates not receiving a teaching or research assistantship.

**Provosts Fellowships:** $4,000 awards granted to eligible, newly admitted full-time, out-of-state and international Masters candidates not receiving a teaching or research assistantship.

ASSISTANTSHIPS

**Teaching and Research Assistantships**
A limited number of teaching and research assistantships are available for matriculated, full-time (minimum of 9 credits/semester) graduate students. All assistantships are subject to the agreement between UMass Lowell and UAW/Graduate Employees Organization. Teaching assistantships are assigned by the student’s department; therefore, queries regarding teaching assistantships should be directed to the departmental graduate coordinator (https://www.uml.edu/Grad/Accepted-Students/coordinators.aspx) or chairperson (see www.uml.edu/Grad/coordinators.aspx (https://www.uml.edu/Grad/Accepted-Students/coordinators.aspx) for a list). Research assistantships are available through special arrangements with individual research advisers. Individuals interested in research assistantships should contact departmental faculty members concerning the availability of this form of financial aid.

**Qualifying for an Assistantship**
To ensure that assistantships are awarded to the most qualified individuals, the University has established the following requirements:

1. No teaching/research assistantship may be awarded to a graduate student with incompletes, F's, or U's on his or her transcript.
2. No teaching/research assistantship may be awarded to a graduate student who fails to maintain good academic standing (a grade point average under 3.0 on the official transcript). See the Academic Standing information at www.uml.edu/catalog/graduate/policies/Academic_Stand ing.htm.
3. No University-funded teaching/research assistantship may be awarded to a master’s degree candidate if he/she has completed the total number of credits required for his/her program.
4. Level III teaching/research assistantships may only be awarded to graduate students who have reached doctoral candidacy (i.e. completed all course work, oral/written
Teaching and Research Assistants are awarded either a semester or a yearly contract. The current negotiated agreement between The University of Massachusetts Lowell Board of Trustees and the Graduate Employee Organization is posted on the Human Resources website. Current stipend levels may be found there as well.

Graduate Student Assistantships
A limited number of student assistantships may be available in the departments. Students in this category are paid an hourly rate and are obligated to pay their own tuition and fees. All queries concerning assistantships should be directed to the graduate coordinator (https://www.uml.edu/Grad/Accepted-Students/coordinators.aspx) in the student’s department.

Master's Degree Requirements
Advising
General Requirements for the Master's Degree
Research Option for the Master's Degree
Research Project
Thesis
Thesis Committee
Thesis Preparation
Thesis Defense

Students Continuing on to a Doctoral Program

Advising
An entering graduate student should meet with the departmental graduate coordinator as soon as possible after arrival on campus. The coordinator will:

1. Help design and then approve the student’s complete program leading to the master’s degree.
2. Recommend course credits from within and outside the University for transfer into the student’s degree program.
3. Monitor the student’s progress toward the degree, which must be completed within a five-year time period in most programs (See Time for Limit for Degree Completion).

General Requirements for the Master's Degree
To be recommended for a masters degree, a candidate must satisfy all requirements of the University and the specific requirements of the department in which he or she is enrolled. The requirements of the University are listed below, and the specific requirements established by the various departments may be found in the section describing the particular programs.

A candidate for the master’s degree must complete the following within five years of matriculation in order to receive the degree: (Note: Master’s degrees which require 45 or more credits have a limit of six years.)

1. A course of study designed by the department in which he or she is enrolled and approved by the University. The course of study must have a minimum of 30 credit hours of graduate work including, where applicable, a thesis or project in the student’s chosen field.
2. A student must successfully pass an oral or written examination on his or her complete master's program if required by the department.
3. Satisfactory grades in all subjects offered for the degree must be earned (See Academic Standing).
4. All financial obligations, including tuition, fees, and expenses, must be satisfied as evidenced by completion and submission of a signed Graduate Degree Clearance form to the Registrar’s Office.

Research Option for the Master's Degree
If required by the program, a student must complete a master's project or a thesis. The proposal must be approved by the department in which the student is enrolled and the final project or thesis must be of graduate level quality.

Project
The project must consist of a scholarly investigation, such as a review, report, synthesis, design or experiments in the student’s field resulting in a comprehensive written document. Usually, if a student chooses the project option, he or she is required to take additional course credits. Each project is awarded only three to four credits and is intended to be completed within the time limit of one semester. If the work for a project is not
completed by the end of the semester, the instructor will give the student an Incomplete which is to be treated the same as an incomplete for a regular course.

Thesis

The requirements for a thesis are much more extensive, including the completion of acceptable research and its defense before a thesis committee. The completed thesis must conform to the format specified in the "Thesis Guide (https://www.uml.edu/docs/thesis_guide_tcm18-3515_tcm18-65590.pdf)" which is available in the Registrar’s Office. The time required for completion may vary; if a student has not completed the thesis by the end of the semester, but is making satisfactory progress, he or she is given the grade of "PR". If the student requires the use of university resources to continue thesis research, but has completed the required number of credits for the master’s thesis, he or she may sign up for 3, 6, or 9 credits of Continuing Graduate Research (see Course Descriptions). However, if the student is not using University resources, but is in the process of writing the thesis, he or she may register for Continued Matriculation for the semester(s) during which the work is completed. Continued Matriculation is available to international students only under special circumstances. International students should contact the International Student Office (https://www.uml.edu/ISSO/default.aspx) for more information and to make sure they comply with visa and immigration regulations.

Upon successful completion of the thesis, the grade of "S" will be awarded for all semesters in which the student is registered for thesis research. Only the Registrar’s Office can issue this grade.

Thesis Committee

As soon as a student has chosen an area of research, a Thesis Committee is selected by the student and his or her research advisor in accordance with the policy of the department. The Thesis Committee shall consist of at least three members, at least two of whom shall be from the student’s major department. One member of the committee shall be the student’s thesis advisor. An outside expert, such as the supervisor of a research project conducted at an industrial setting or a faculty member from another institution, may be a member of the committee, but that individual must possess academic credentials which would qualify him or her to serve as a member of the University of Massachusetts Lowell faculty. The responsibilities of the Thesis Committee shall be to:

1. Approve the research topic.
2. Supervise the progress of the thesis.
3. Read, evaluate and approve or disapprove of the written thesis.
4. Hear, evaluate and approve or disapprove of the oral defense of the thesis.
5. Report the completion of all thesis requirements to the department and the Registrar’s Office.

Thesis Preparation

Every graduate student who completes a thesis is required to bear the cost of binding two copies of the manuscript for the University's files. Copy writing is optional and available for an additional fee.

Thesis Defense

Two weeks prior to the thesis defense, announcements of the defense listing the candidate’s name, thesis title, and place and time of the defense, must be submitted to the chairperson of the department, the college dean, and the Registrar’s Office, and posted and distributed throughout the University. The defense is open to the public.

For Students Continuing on to a Doctoral Program

Students accepted into a master’s degree program who decide to continue on for the doctorate but want to first complete their master’s degree must adhere to the following procedure.

1. The student must complete all required courses, compile a 3.0 grade point average, and successfully defend his/her thesis, if required.
2. The student must complete the Registrar’s Office clearance process for the master’s degree.
3. A student is prohibited from enrolling in doctoral research until he or she has completed the clearance process for the master’s degree.
4. The student must then apply to the doctoral program by completing the standard Graduate Admissions application process.
5. Official admission into a doctoral program and receipt of a letter of acceptance are contingent upon completion of the clearance process for the master’s degree.

Master’s Degree Credit Requirements

College of Sciences

<table>
<thead>
<tr>
<th>COLLEGE/PROG</th>
<th>COURSE</th>
<th>THESIS</th>
<th>TOTAL</th>
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Academic Catalog 2016 - 2017 / Graduate - General Information
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<tr>
<th>RAM</th>
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<th>CREDIT REQUIREMENT</th>
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<tr>
<td>BIOLOGICAL SCIENCES (M.S.)</td>
<td>Thesis 18-24</td>
<td>6-12</td>
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<td>Project 24-27</td>
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<tr>
<td>PS M options</td>
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<td>CHEMISTRY (M.S.)</td>
<td>Thesis 18</td>
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<td>6</td>
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<tr>
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<td>PHYSICS (M.S.)</td>
<td>Thesis 18-24</td>
<td>6-12</td>
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<tr>
<th>COLLEGE OF FINE ARTS, HUMANITIES &amp; SOCIAL SCIENCES</th>
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<td>ECONOMIC &amp; SOCIAL DEVELOPMENT REGIONS (M.A.)</td>
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<td>Project</td>
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<td>MUSIC EDUCATION (M.M.)</td>
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<td>READING &amp; LANGUAGE (M.ED)</td>
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<td>ELECTRICAL (M.S.E.)</td>
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<td>ENVIRONMENTAL STUDIES (M.S.)</td>
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<td>ATMOSPHERIC SCIENCES (Concentration)</td>
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<td>MECHANICAL (M.S.E.)</td>
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<td>PLASTICS</td>
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**GRADUATE SCHOOL OF EDUCATION**

**FRANCIS COLLEGE OF ENGINEERING**
## COLLEGE OF HEALTH SCIENCES

<table>
<thead>
<tr>
<th>COLLEGE/PROGRAM</th>
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<th>THESIS or PROJECT CREDITS</th>
<th>TOTAL CREDIT REQUIREMENT</th>
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<td>NURSING (M.S.) [all options]</td>
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<td>PSM options</td>
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</table>

## UMASS INTERCAMPUS

<table>
<thead>
<tr>
<th>COLLEGE/PROGRAM</th>
<th>COURSE or SEMINAR CREDITS</th>
<th>THESIS or PROJECT CREDIT S</th>
<th>TOTAL CREDIT REQUIREMENT</th>
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<tbody>
<tr>
<td>BIOMEDICAL ENGINEERING &amp; BIOTECHNOLOGY (M.S.)</td>
<td>M.S. - included within Ph.D. track</td>
<td>28</td>
<td>3</td>
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<tr>
<td>M.S. - PSM option</td>
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<td>34</td>
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<tr>
<td>MARINE SCIENCES &amp; TECHNOLOGY (M.S.)</td>
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<td>4</td>
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<tr>
<td>Non-Thesis</td>
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<tr>
<td>PSM option</td>
<td></td>
<td>34</td>
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## GRADUATE CERTIFICATES

<table>
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<th>COLLEGE/PROGRAM</th>
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<th>THESIS or PROJECT CREDIT S</th>
<th>TOTAL CREDIT REQUIREMENT</th>
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<tbody>
<tr>
<td>Most Graduate Certificates are 12 Credits each.</td>
<td>12</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>(Beyond B.S.)</td>
<td></td>
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</tbody>
</table>

*Note: While most graduate certificates are 12 credits, some are as many as 18 credits. Courses completed for one graduate certificate may not be used for another graduate certificate.*

## MANNING SCHOOL OF BUSINESS

<table>
<thead>
<tr>
<th>COLLEGE/PROGRAM</th>
<th>COURSE or SEMINAR CREDITS</th>
<th>THESIS or PROJECT CREDIT S</th>
<th>TOTAL CREDIT REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSINESS ADMINISTRATION (M.B.A.) [all options]</td>
<td>No-Thesis</td>
<td>42</td>
<td>0</td>
</tr>
<tr>
<td>INNOVATION AND TECHNOLOGICAL</td>
<td></td>
<td>Non-Thesis</td>
<td>30</td>
</tr>
</tbody>
</table>

## Graduate Admissions

- Admissions Requirements
- Departmental Requirements

**Find Us**

The Office of Graduate Admissions (www.uml.edu/grad)
Admission Requirements

The general requirements for admission to graduate study at the University are listed below.

1. The applicant must show official evidence of having earned a baccalaureate degree or its U.S. equivalent from an accredited college or university. If an international transcript does not adequately demonstrate that an applicant has the equivalent of an American bachelor’s or master’s degree, the Office of Graduate Admissions will require such verification by an independent service such as the Center for Educational Documentation, Boston, MA (617-338-7171).

2. The degree must have been earned with a satisfactory scholastic average to demonstrate that the applicant has had adequate preparation for the field in which graduate studies are to be undertaken.

3. The applicant must have obtained a satisfactory score on the appropriate entrance examination required for admission by the program or department to which admission is sought. The official score report must be submitted; a photocopy of the examinee’s report is unacceptable. Unless otherwise stated under a specific program description, the required examination is the Graduate Record Examination General Test.

4. The Commonwealth of Massachusetts requires that all full-time graduate students (9 or more credits) must be immunized against measles, mumps, rubella, tetanus, and diphtheria. In addition, all students in programs in the health professions, regardless of age or enrollment status, must show proof of immunization. Students will not be permitted to register for courses at the University unless proof of immunization has been sent directly to the Director of Health Services, University of Massachusetts Lowell, Lowell, MA 01854 (978-934-4991).

Departmental Requirements

The rules, regulations, and policies delineated by the University constitute only the minimum requirements for admission, retention, and graduation. Each department may have additional requirements mandated by the unique nature of its programs. It is the responsibility of the graduate student to be aware of the minimum requirements of the University and, in addition, to fulfill the special requirements of the particular program in which he or she is enrolled.

Learning Outcomes Assessment Policy

In keeping with the University’s commitment to excellent educational experiences and high-quality programs for its students, and consistent with practices at other institutions within the state and nationally, UMass Lowell routinely engages in the assessment of student learning at the course, program, institution and systems levels. The learning outcomes assessment process may include a variety of methods such as standardized tests, student surveys and focus groups, campus developed instruments, and a review of student work. In circumstances beyond the individual course level, the identity of the student will be protected. In circumstances beyond the individual course level, the identity of the student will be protected. In circumstances beyond the individual course level, the identity of the student will be protected. In circumstances beyond the individual course level, the identity of the student will be protected. In circumstances beyond the individual course level, the identity of the student will be protected. In circumstances beyond the individual course level, the identity of the student will be protected.
will have absolutely no effect on a student’s grade, academic standing, ability to transfer, or ability to be graduated. UMass Lowell will take all necessary steps to ensure the confidentiality of all student records and student work reviewed through this process in accordance with FERPA regulation.

Application Procedure

- Departmental Requirements
- Application Procedure for Graduate Admissions
- Conventional Application
- Application Deadline
- Types of Admission
- Status as a Graduate Certificate Candidate
- Non Degree Status
- Graduate Readmission/Deferral Policy

General Admissions Requirements

The general requirements for admission to graduate study at the University are listed below.

1. The applicant must show official evidence of having earned a baccalaureate degree or its U.S. equivalent from an accredited college or university. If an international transcript does not adequately demonstrate that an applicant has the equivalent of an American bachelor’s or master’s degree, the Office of Graduate Admissions will require such verification by an independent service such as the Center for Educational Documentation (http://www.cedevaluations.com/), (http://www.cedevaluations.com) Boston, MA (617-338-7171).

2. The degree must have been earned with a satisfactory scholastic average to demonstrate that the applicant has had adequate preparation for the field in which graduate studies are to be undertaken.

3. The applicant must have obtained a satisfactory score on the appropriate entrance examination required for admission by the program or department to which admission is sought. The official score report must be submitted; a photocopy of the examinee’s report is unacceptable. Unless otherwise stated under a specific program description, the required examination is the Graduate Record Examination General Test.

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Application Procedure for Graduate Admission

Applicants to graduate programs are encouraged to apply online. Apply now with our Online Application. (https://sa-webapp-prd.erp.umasscs.net/psc/webapp/EMPLOYEE/HRMS/c/UM_WEBAPP_MENU.UUMADM_APP_LOGIN.GBL?instituion=UMLOW&CbitGRAD&C&CenterGRAD%27?&

- Conventional Application
- Application Deadline
- Types of Admission
- Status as a Graduate Certificate Candidate
- Non-Degree Status
- Graduate Readmission/Deferral Policy
- Acceptance of Foreign or American Master’s Degree Toward Doctoral Requirement
- Transfer Credit
- Graduate Equivalency Credit

Conventional Application
Application forms and materials may be obtained from:

**The Office of Graduate Admissions**

University of Massachusetts Lowell  
Cumnock Hall, Suite 110  
One University Avenue  
Lowell, MA 01854  

978-934-2390 or 1-800-656-GRAD  

www.uml.edu/grad (https://www.uml.edu/Grad/default.aspx)

A non-waivable and non-refundable application fee must be received before the application is processed. Each applicant must file the following documents:

1. A completed application form.  
2. Official transcripts of all undergraduate and graduate records.  
3. Three letters of recommendation written by individuals qualified to judge the ability of the applicant to carry on graduate work and research.  
4. Official scholastic test scores specified for various degree programs at the University (see individual departmental requirements). An applicant who has earned a graduate degree from an accredited university may petition the department graduate coordinator to waive the scholastic test requirements (e.g. GRE).  
5. The official score report for the "Test of English as a Foreign Language" (TOEFL) for students from countries where English is not the national language. If the TOEFL bulletin cannot be obtained locally, students should write well in advance to:  

   Test of English as a Foreign Language  
   Box 6151  
   Princeton, NJ 08541-6151, U.S.A.

All test scores must be official and sent directly by the testing agency.

**Application Deadline**

The University of Massachusetts Lowell Graduate Admissions Office has a "rolling admissions" policy. However, some programs have early, fixed application deadlines. Consequently, the applicant is strongly urged to contact the department of interest to determine the last date on which applications may be received. In general, early applications will ensure that all materials are processed on time and that a student who wishes to apply for a teaching assistantship will be given due consideration. Many programs will fill available openings several months before the beginning of the semester. A student who has been accepted into a graduate program must attend within a year of acceptance or may, at the discretion of the department, be required to submit a new application. Application files for individuals who do not matriculate will be retained for only two years from the date of application.

**Types of Admission**

A student may be admitted to graduate study at the University of Massachusetts Lowell under one of the two classifications listed below.

1. **Matriculated status**: A student who has met all requirements for admission to a degree program and who has been recommended by the department in which he or she proposes to study as a degree candidate.  
2. **Matriculated with conditions**: A student who has not fully met the requirements stipulated by the program may be admitted as a prospective candidate for a degree with specified conditions to be met in the future. Such a student must have as an initial objective the satisfactory completion of all requirements for full matriculation.

**Status as a Graduate Certificate Candidate**

Graduate certificate programs are designed for students holding a baccalaureate degree in a field related to the certificate program. A student who wishes to apply to a certificate program must complete the Graduate Certificate Application (https://www.uml.edu/Grad/programs/about-certificates.aspx), submit the appropriate application fee, and submit an official transcript indicating the conferral of a Bachelor’s degree. The graduate record exam (GRE) is not required.

A student in a certificate program who wishes to enroll in a master’s or doctoral program is ineligible to receive credit towards a degree until he or she files a formal application and is then admitted as a matriculated student.

The maximum number of graduate credits a student may complete while enrolled in a graduate certificate is 12 credits.

**Non-Degree Status**

An individual without advanced degree objectives may take courses in certain programs with non-degree status. A student who wishes to take courses as a non-degree student must
submit an official transcript indicating the conferral of a Bachelor’s degree. A student in non-degree status is ineligible to receive credit towards a degree until he or she files a formal application and is then admitted as a matriculated student.

The maximum number of graduate credits a student may complete with non-degree status is 12 credits.

NOTE: International students are not eligible for non-degree status.

Graduate Readmission/Deferral Policy

1. A matriculated student who formally withdraws in good standing from the university may request readmission within two years by completing only the cover page of the graduate application.

2. A newly accepted student dropped from a graduate program for failure to register may be re-admitted by submitting a new application cover page and fee within two years of acceptance date.

3. A matriculated student who fails to maintain continuous enrollment and has not formally withdrawn may be readmitted by submitting a new application cover page and fee within two years of being dropped from the program.

4. A student may request a deferment of enrollment up to one year beyond the date when he or she was scheduled to begin his or her graduate program. If the one-year time period is exceeded, the student must submit a new application and fee. Deferral must be requested before the start of the semester for which the student is accepted.

Professional Leadership Certificate

About the Program

The Professional Leadership certificate is a useful credential for science, engineering, technology professionals in the private and public sectors who wish to advance to managerial and/or move to more business related positions within their organizations. This is a 12 credit (four courses, three credits per course) program.

Admission Requirements

1. Bachelors degree in science, engineering, technology or mathematics.

2. Minimum of two years post-baccalaureate work experience.

Curriculum

This program consists of four masters level courses (3 credits each), with three courses in the professional leadership area and one advanced course in the individuals field of expertise. For qualified individuals, the 12 earned graduate credits are transferable to a related Professional Science Masters graduate program with the approval of the appropriate graduate program coordinator.

Required Professional Courses: (three credits each all are online courses)

- PSM 535 Project Management for Science Professionals
- PSM 545 Professional and Scientific Communication
- PSM 555 Professional Science Leadership

One business course may be substituted for one of the above courses, with approval of the program advisor.

Required Science, Engineering, or Technology Course (three credits) One graduate level course within the students academic discipline, to be chosen with the approval of the appropriate Graduate Coordinator, is required.

Contact

Email:

Deborah White (mailto:Deborah_White@uml.edu)

Phone: 978-934-2173

UMass System Graduate Programs

UMass Lowell offers two intercampus programs drawing on the strengths of the whole UMass System.
Marine Science

- Biomedical Engineering & Biotechnology Program

Colleges & Degrees of Graduate Study

- Manning School of Business
- Graduate School of Education
- College of Engineering
- College of Fine Arts, Humanities & Social Sciences
- School of Health & Environment
- College of Sciences
- UMass System Graduate Programs

Graduate Programs

UMass Lowell offers more than three dozen master’s programs, including Education Specialist (Ed.S.) post-graduate programs. Many of our programs have non-thesis options. If you’re not ready to matriculate into a full program, consider our certificate programs. If you are looking for a doctoral program, we offer more than two dozen in a wide range of disciplines.

Online Graduate & Undergraduate Degrees & Part-Time Programs

UMass Lowell offers a number of graduate degrees and certificates (http://continuinged.uml.edu/degrees/Graduate.htm) and part-time undergraduate degrees and certificates (http://continuinged.uml.edu/degrees/Undergraduate.htm) entirely online, or as a mix of online and on-campus courses through its Division of Online and Continuing Education. By making the courses available online - during the evening and on weekends - the University makes it easier for busy professionals to fit education into their lives.
General Regulations for Graduate Students

Each University student is subject to two sets of academic regulations - those of the University as a whole, which are cited in this section, and the academic rules of the college and program in which he or she is enrolled. The academic rules of colleges and programs are listed in sections devoted to college programs.

In registering for courses, each student assumes full responsibility for knowledge of and compliance with the definitions, regulations, and procedures for the University, as set forth in this publication. Moreover, in accepting admission to the University, each student assumes responsibility for knowledge of and compliance with the definitions, regulations, and procedures of the University pertaining to his or her student status as set forth in the appropriate UML publications.

Students who have questions about the interpretation or application of University academic policy should consult the dean of their college or the Vice Provost for Graduate Education.

Academic Integrity Policy

UNIVERSITY OF MASSACHUSETTS LOWELL POLICY AND PROCEDURES RELATING TO STUDENT ACADEMIC INTEGRITY AND MISCONDUCT

I. Statement of Principles: The University has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others academic endeavors. Academic dishonesty is prohibited in all programs of the university.

II. Academic Misconduct Subject to Disciplinary Action:

(1) Academic misconduct is an act in which a student:

(a) Seeks to claim credit for the work or efforts of another without authorization or citation;
(b) Uses unauthorized materials or fabricated data in any academic exercise;
(c) Forges or falsifies academic documents or records;
(d) Intentionally impedes or damages the academic work of others;
(e) Engages in conduct aimed at making false representation of a students academic performance; or
(f) Assists other students in any of these acts.

(2) Examples of academic misconduct include, but are not limited to: cheating on an examination; collaborating with others in work to be presented, contrary to the stated rules of the course; submitting a paper or assignment as ones own work when a part or all of the paper or assignment is the work of another; submitting a paper or assignment that contains ideas or research of others without appropriately identifying the sources of those ideas; getting unauthorized access to examinations or course materials; submitting, without the permission of the current instructor, work previously presented in another course; tampering with the laboratory experiment or computer program of another student; knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed.

III. Possible Disciplinary Sanctions:

(1) The following are the disciplinary sanctions that may be imposed by an instructor for academic misconduct:

(a) An oral or written notice of misconduct;
(b) An assignment to repeat the work, to be graded on its merits;
(c) A lower or failing grade on the particular assignment or test;
(d) A lower grade in the course;
(e) A failing grade in the course;

In addition, an instructor or the Academic Dean may recommend the following sanctions:

(f) A non-deletable failing grade in the course;
(g) Suspension from the University; (h) Expulsion from the university.

Sanctions f h are imposed by the Office of the Provost.

(2) One or more of the disciplinary sanctions listed above may be imposed for an incident of academic misconduct.

IV. Definitions

As used herein:

(1) Office of the Provost means the Provost, Vice Provost or a designee.

(2) Days means academic calendar days and excludes Saturdays, Sundays, legal holidays and days upon which the university is closed.

(3) Academic Dean means the Academic Dean or designee for the college in which the subject course is taught.

(4) Instructor refers to the Instructor of Record.

(5) Minor Disciplinary Sanction means a disciplinary sanction, identified in paragraph III (1) (a)-(c) and imposed, for academic
(6) Major Disciplinary Sanction means a disciplinary sanction, identified in paragraph III (1) (f)-(h) and imposed, for academic misconduct, upon a student by the Office of the Provost or the Academic Integrity Appeals Board upon the recommendation of the instructor or the Academic Dean or imposed at the discretion of the Office of the Provost.

(7) Notice to the student, whenever required herein, shall be e-mailed to the students official student.uml.edu e-mail address or mailed to the student by regular first class United States mail at his or her current address as maintained by the university.

V. Imposition of Disciplinary Sanctions by the Instructor:

(1) Where an instructor concludes that a student enrolled in one of his or her courses has engaged in academic misconduct, the instructor may impose one or more of the following disciplinary sanctions, as listed under paragraph III, subsections (a) through (e):

(a) An oral or written notice of misconduct;
(b) An assignment to repeat the work, to be graded on its merits;
(c) A lower or failing grade on the particular assignment or test;
(d) A lower grade in the course;
(e) A failing grade in the course.

(2) When possible, prior to imposing a minor sanction, the instructor shall notify the student that the instructor believes an act of academic misconduct has occurred, that a sanction may be imposed, and that a Notification of Academic Dishonesty Form will be filed with the Office of the Provost.

(3) Upon the imposition of a minor sanction under this section, the instructor shall notify the Office of the Provost.

(4) Within 10 days following receipt of such notice, the Office of the Provost shall provide notice of the imposed discipline to the student, the instructor and to the Academic Dean.

VI. Recommendation of Major Disciplinary Sanction by the Instructor:

(1) Where an instructor concludes that a student enrolled in one of his or her courses has engaged in academic misconduct in the course, the instructor for that course may recommend one or more of the following disciplinary sanctions:

(f) A non-deletable failing grade in the course;
(g) Suspension from the University;
(h) Expulsion from the university.

(2) When possible, prior to the recommendation of a major sanction, the instructor shall notify the student that the instructor believes an act of academic misconduct has occurred, that a major sanction is being recommended, and that a Notification of Academic Dishonesty Form will be filed with the Office of the Provost.

(3) Upon the recommendation of a major sanction under this section, the instructor shall notify the Office of the Provost using the Notification of Academic Dishonesty Form (http://www.uml.edu/docs/notificationofacademicdishonesty_tc m18-3543.pdf). Notification to the Office of the Provost shall occur with 10 days and shall include identification of the student, a description of the misconduct and a specification of the sanction recommended.

(4) Within 10 days following receipt of such notice, the Office of the Provost shall provide notice of the recommended discipline to the student, the instructor, and the Academic Dean. Notification to the student shall include a statement of the misconduct, specification of the sanction recommended, a statement indicating the students right to an appeal before the Academic Dean and a copy of the policy and procedures set forth herein.

(5) A student who receives notice of a disciplinary sanction recommended under this section has the right to a hearing before the Academic Dean to contest the determination that academic misconduct occurred or the disciplinary sanction recommended or both. If the student desires such a hearing, he or she must file a written request with the Office of the Provost and the Academic Dean within 10 days of receipt of notice from the Office of the Provost.

(6) In the event that the student does not file a written request for an appeal within 10 days, the Office of the Provost shall review the matter with respect to the subject student and may, at his or her discretion, uphold the recommended sanction or impose a major sanction. In any event, the Office of the Provost shall, within a reasonable time, provide notice of the outcome to the student, the instructor and to the Academic Dean.
modify the sanction recommended. In any event, the Office of the Provost shall, within a reasonable time, provide notice of the outcome to the student, the instructor, and to the Academic Dean.

VII. Appeal to the Academic Dean: When an appeal to the Academic Dean is commenced in accordance with the provisions set forth in Paragraphs V(5) or VI(5), the Academic Dean shall proceed in accordance with this section to consider one or more of the disciplinary sanctions listed in paragraph IV, subsections (1) (a) through (h).

(1) Conference With Student: The Academic Dean shall offer to discuss the matter with the student. The purpose of this discussion is to permit the Academic Dean to review with the student the charges levied against him or her and to afford the student an opportunity to respond.

(2) Conference With Instructor: The Academic Dean shall attempt to discuss the matter with any involved instructor. This discussion may occur either before or after the conference with the student. It should include consultation with the instructor on the facts underlying the alleged academic misconduct and on the appropriateness of the imposed or recommended sanction.

(3) Determination that No Academic Misconduct Occurred: If, as a result of discussions under subsections (1) and (2), the Academic Dean determines that academic misconduct did not in fact occur or that the disciplinary sanction is not appropriate under the circumstances, the Academic Dean shall notify the instructor and the Office of the Provost. The Office of the Provost shall promptly thereafter notify the student and take appropriate action with respect to the student records.

(4) If, as a result of discussions under subsections (1) and (2), the Academic Dean determines that academic misconduct did occur and that one or more of the disciplinary sanctions listed under paragraph III, subsections (1) (a) through (h) is appropriate, the Academic Dean shall prepare and forward to the Office of the Provost, within 10 days, a written Finding of Misconduct which shall include identification of the student, a description of the alleged misconduct, a summary of evidence, findings of fact and a specification of the disciplinary sanction imposed.

VIII. Appeal to the Office of the Provost

The decision reached by the Academic Dean may be appealed to the Provost Office of the Provost if the student believes that he or she did not receive due process.

Grounds for Appeal of Due Process

An appeal to the Office of the Provost shall be limited to a review of supporting documents and the process and outcome of the Academic Dean or designee for one or more of the following grounds:

- Bias by the Instructor, Academic Dean, or designee substantially influenced the outcome of the process to the detriment of the student.
- New, relevant information has come to light that was not available at the time of the hearing by the Academic Dean.
- Unusual procedures were followed or the procedures outlined herein were not followed, to the detriment of the student.
- If the student desires such a hearing, he or she must file a written request with the Office of the Provost and the Academic Dean within 10 days of receipt of notice from the Office of the Provost. The request must be based upon the Grounds for Appeal listed above.

(2) When an appeal to the Office of the Provost is commenced in accordance with this paragraph, the Office of the Provost shall review the matter with respect to the subject student and may, at his or her discretion, uphold, vacate or modify the discipline imposed or direct such appeal to be heard by the Academic Integrity Appeals Board. In any event, the Office of the Provost shall, within a reasonable time, provide notice of the outcome to the student, instructor, and to the Academic Dean.

(3) In the event that the student does not file a written request for an appeal within 10 days, the Office of the Provost shall review the matter with respect to the subject student and may, at his or her discretion, uphold, vacate or modify the discipline imposed. In any event, the Office of the Provost shall, within a reasonable time, provide notice of the outcome to the student, instructor and to the Academic Dean.

IX. Role of the Academic Integrity Appeals Board:

(1) The Academic Integrity Appeals Board is an ad hoc committee appointed by the Office of the Provost and consists of a minimum of three faculty members chosen by the Office of the Provost with no two members selected from the same College; the board shall not include a faculty member from within the department initiating charges of academic dishonesty. The Board is chaired by the Office of the Provost who shall vote only in the case of a tie. [Or One member shall serve as Chair at the direction of the Office of the Provost. The Chair shall vote only in the case of a tie.]

When an appeal is directed to the Academic Integrity Appeals Board by the Office of the Provost in accordance with the provisions set forth in Paragraphs VIII, the Academic Integrity Appeals Board shall schedule the hearing, within a reasonable time period, at a time that is mutually agreed upon by the student, Office of the Provost and members of the Academic Integrity Appeals Board.

(2) Reasonably in advance of the hearing, the Academic
Integrity Appeals Board shall obtain from the Academic Dean, in writing, a full explanation of the facts upon which the determination of misconduct was based and shall provide to the student a copy of the policy and procedures set forth herein.

(3) The hearing before the Academic Integrity Appeals Board shall be conducted in accordance with the following requirements:

(a) The Academic Integrity Appeals Board shall consider relevant evidence including documentary evidence and testimony of the instructor, student, Chair and/or Dean where appropriate.

(b) The student shall have the right to be heard and to present relevant evidence, including documentary evidence and the testimony of witnesses, in his or her own behalf.

(c) The Academic Integrity Appeals Board shall maintain a record of the hearing including any and all pleadings and documentary evidence presented.

(d) The Academic Integrity Appeals Board shall prepare written findings of fact and a written statement of its decision based upon the record of the hearing.

(e) The Academic Integrity Appeals Board may find academic misconduct and impose a sanction of suspension or expulsion only if the proof of such misconduct is clear and convincing. In other cases, a finding of misconduct must be based on a preponderance of the credible evidence.

(f) The Academic Integrity Appeals Board may impose a disciplinary sanction that differs from the recommendation of the Academic Dean.

(g) The instructor or Academic Dean may be witnesses at the hearing conducted by the Academic Integrity Appeals Board, but shall not have responsibility for conducting the hearing.

(4) Determination that No Academic Misconduct Occurred: If, after the hearing, the Academic Integrity Appeals Board determines that there is insufficient evidence that academic misconduct occurred or that no disciplinary sanction is appropriate under the circumstances, the Academic Integrity Appeals Board shall notify the instructor, the Academic Dean and the Office of the Provost. The Office of the Provost shall promptly thereafter notify the student and take appropriate action with respect to the student records.

(5) Process Following Determination by the Academic Integrity Appeals Board that Academic Misconduct Occurred:

(a) If, after the hearing, the Academic Integrity Appeals Board determines that academic misconduct did occur and that one or more of the disciplinary sanctions listed under paragraph III, subsections (1) (a) through (h) is appropriate, the Academic Integrity Appeals Board shall prepare and forward to the Office of the Provost, within 10 days, a written Finding of Misconduct which shall include identification of the student, a description of the misconduct and a specification of the disciplinary sanction to be imposed.

(b) Within 10 days following receipt of the written Finding of Misconduct from the Academic Integrity Appeals Board, the Office of the Provost shall provide written notice of the imposed discipline to the instructor, the Academic Dean and the student.

**Academic Standing**

- Warning Notice
- Probation
- Academic Dismissal and Reinstatement
- Graduate Fresh Start

GPA Minimum

No more than 6 course credits of grades below a B may be counted toward the master’s degree; no more than 9 credits of the same grades may be counted toward the doctorate. No graduate degree will be awarded to any student whose overall cumulative grade point average falls below 3.0.

Academic Standing

Graduate academic standing is run three times per year - Fall, Spring and Summer.

The consequences of the academic standing of warning or suspension will not apply for students completing degree requirements for that semester.

**Warning Notice**

Any graduate student whose semester grade point average (GPA) falls below 3.0 will automatically receive a warning notice which will also be sent to the graduate coordinator, and filed with the student's record in the Registrar's Office. The student will be strongly advised to meet with the graduate coordinator or his/her designee within 30 days of receipt of the warning notice and develop an academic plan to bring his or her GPA to a level above 3.0.

**Probation**

Any graduate student whose semester GPA falls below 3.0 for a second time, will automatically receive a letter of probation from the Vice Provost for Graduate Education. Copies of the
letter will be sent to the graduate coordinator, chairperson, college dean, and also placed on file with the student’s record in the Registrar’s Office. Within 30 days, the department graduate committee, chaired by the graduate coordinator or his/her designee, will meet with the student and decide whether to recommend loss of degree candidacy. Such a decision or other course of action will be fully documented in writing with copies sent to the chairperson, and college dean. A recommendation of loss of degree candidacy and dismissal are subject to the approval of the college dean.

Academic Dismissal and Reinstatement

Any student whose semester GPA falls below 3.0 for a third time, and whose cumulative GPA is below 3.0, will automatically be dismissed from his or her graduate program and the University. Reinstatement will be considered if the student provides a detailed justification and academic plan concerning how he or she will correct this academic deficiency. The plan must be attached to a Graduate Academic Petition and approved by the graduate coordinator, chairperson, the college dean, and the Vice Provost for Graduate Education or his/her designee. If any of the above individuals disapproves of the reinstatement, the dismissal will remain in effect and no subsequent appeals will be considered.

Independent of the warning/probation/dismissal system, the dean of the college where the student’s degree program resides may at any time examine the performance of any student not meeting the academic standard expected of graduate students within that college and recommend to the appropriate graduate committee a course of action including dismissal.

For the procedure for formal adjudication of any academic issues (non-misconduct) which may arise, please see University Appeals Process Regarding Academic (non-misconduct) Issues of Graduate Students.

Graduate Fresh Start

Master and Doctoral degree candidates and non-degree students who have been absent from the University for four years or longer may be readmitted under the program Graduate Fresh Start. If admitted into a degree granting program, under the terms of Graduate Fresh Start, a returning graduate student will be treated as if s/he were a new student. A maximum of two courses (six credits) at the 500 level or higher completed during earlier periods of enrollment with grades of "B" or better may, with the approval of the degree granting department, be transferred into the degree program. These courses must be transferred via an academic petition and will be accepted toward graduation but not included in the cumulative grade point average (GPA). Thesis and dissertation research credits are ineligible for transfer. Courses completed during earlier periods of enrollment with grades below "B" are not eligible for transfer. A student may be readmitted under the Graduate Fresh Start program only once at the graduate level.

Students who wish to be considered for the Graduate Fresh Start Program must follow the normal procedures for admission to the University and file a Graduate Fresh Start Contract (https://www.uml.edu/docs/GraduateFreshStart16_tcm18-229435.pdf). Academic Petitions for transfer credits must be approved by the appropriate graduate coordinator and/or department chair of the degree granting department, and must be filed with the University Registrar. In addition, the student must submit a personal statement which addresses personal and professional growth during the period of time in which the student was absent from the University which supports the student’s potential for academic success. If admitted, credits and GPA start at zero. Transfer courses may count towards the degree, but are not included in the GPA.

All courses taken and grades achieved during earlier periods of enrollment will appear on the transcript along with a notation that they are not included in the cumulative grade point average. Once this change is made to the academic record, the change can NOT be reversed.

Acceptance of Foreign or American Master’s Degree toward Doctoral Requirements

Students accepted into a doctoral program who hold a master’s degree in the same or a closely related discipline from a U.S. or foreign academic institution will have their transcripts and supporting documentation reviewed by the department graduate committee.

The committee may choose one of the following actions:

1. Approve all coursework and thesis for the master’s degree up to the total number of credits granted by the University of Massachusetts Lowell department for its master’s degree, and thereby require the student to complete only “beyond the master’s” course/thesis credits for the doctorate.

2. Accept the U.S. or foreign master’s degree, but because of deficiencies in the student’s master’s program, require a limited number of graduate courses to be added to the total credits required for doctoral degree completion “beyond the master’s”.

3. Require that a student with a U.S. or foreign master’s degree obtain a University of Massachusetts Lowell master’s degree before proceeding to the doctorate.

All coursework for U.S. or foreign master’s degrees considered for approval by the department must be at a grade level of B or
better. Official, documented verification of the degree awarded must also be provided.

Commencement

Graduation exercises are held once a year at the end of the spring semester. Students who have completed degree requirements during the previous summer term or fall semester are permitted to attend commencement exercises, and their names are listed in the commencement booklet. Attending commencement exercises is not compulsory. An individual who wishes to receive a diploma by mail must notify his/her college dean and file a corrected address through student self service if he or she anticipates moving from a previously reported permanent address.

Conferring of Degrees

- In June for students completing degree requirements during the spring semester.
- In October for students completing degree requirements during the summer term.
- In February for students completing degree requirements during the fall semester.

Individuals who wish to submit verification of degree completion to employers or to graduate schools during the period between the end of their final grading period and the awarding of diplomas may obtain a letter of completion from the Registrars Office.

Academic Honors

Due to the many fields and diversity of study at UMass Lowell, academic honors for graduate students are discipline-based and vary within respective colleges. Honors for graduate students are not listed on transcripts.

Replacement Diploma

Replacement diplomas may be ordered through University Alumni Relations for an additional fee.

Course Credit

Maximum Semester Credit Limit
Graduate Credit for Undergraduate Courses
Undergraduate Credit for Graduate Courses

Maximum Semester Credit Limit

The usual course load for full-time graduate students is 9 credits/semester. Depending upon the program requirements and abilities of the student, individuals may carry more than 9 credits each semester. However, the absolute maximum number of total credits (combined undergraduate and graduate) for which a graduate student will be allowed to register is 18 credits/semester. The maximum number of thesis or dissertation credits for which a student may enroll in any semester is nine credits.

During the summer term students are classified as full-time when they are registered for a minimum of 9 credits which may combine courses/credits from the different sessions within the summer term. Students who enroll in only one of the accelerated summer session (summer I or summer II) may be considered by the institution as the equivalent to full-time for the specific time period of that session only when registered for a minimum of 6 credits. This is for enrollment purposes only. Please note: Financial aid, veterans benefits or other types of aid define 9 credits for full-time study.

Navitas Summer Pathway Program
The University of Massachusetts Lowell (UMass Lowell) offers a 10-week summer session to its Pre Undergraduate and Pre Masters international students. These students are admitted into a Bachelors or Masters program with the condition of a preparatory semester(s) which could encompass the summer session. The Pre Undergraduate and Pre Masters summer session consists of intensive academics of 18-22 clock hours per week in English, Mathematics and Cultural Support.

Graduate Credit for Undergraduate Courses

UMass Lowell courses at the 400 level are designed for seniors but under certain circumstances may be taken by graduate students for graduate credit. A maximum of 6 credits of 400 level courses may be used for credit toward the graduate degree with the permission of the degree granting department. Three hundred level courses and below are never counted toward a graduate degree. If a graduate student takes certain undergraduate courses to make up for background deficiencies or to satisfy language requirements, the course credit hours are not used as part of the graduate degree program but will appear on the graduate transcript.

Undergraduate Credit for Graduate Courses

A qualified junior or senior may take a course at the 500 level for undergraduate credit in accordance with the policy and
procedures of the department or college in which the course is offered. The grade received in any such course is used in calculating the undergraduate’s cumulative grade point average. Counting of graduate credits for both the bachelors and masters degrees is subject to departmental requirements.

At no time may grades computed in an undergraduate GPA be used toward a graduate GPA.

Course Designations

- Course Numbering System
- Continuing Graduate Research
- Course Prefixes
- Audit

Maximum Semester Credit Limit

The usual course load for full-time graduate students is 9 credits/semester. Depending upon the program requirements and abilities of the student, individuals may carry more than 9 credits each semester. However, the absolute maximum number of total credits (combined undergraduate and graduate) for which a graduate student will be allowed to register is 18 credits/semester. The maximum number of thesis or dissertation credits for which a student may enroll in any given semester is nine credits.

Course

Numbering System and Designation:

- 4000-4999 - Undergraduate courses usually designed for juniors or seniors; no more than six credits may be taken for graduate credit with the permission of the graduate coordinator.
- 5000-5999 - Courses for graduate credit, but which may be taken by advanced undergraduates with the advisor’s permission.
- 6000-6999 - Graduate courses which are open only to graduate students.
- 7000-7999 - Seminars, special topic courses, projects, or thesis research for advanced candidates in master’s and doctoral degree programs.

Each course offering is designated by a four letter prefix and a four-digit course number (e.g., BIOL.5290).

Continuing Graduate Research

Once a student has completed the required number of credits for master’s or doctoral thesis/dissertation research with grades of PR or S (see summary of degree credit requirements), he or she will not be allowed to sign up for additional thesis/dissertation research credits. Instead, if required for teaching/research assistantships or immigration/visa purposes, the student may enroll in 3, 6, or 9 credits of Continuing Graduate Research designated _ _763, 766, or 769 _ _ _ where the first two blanks represent the departmental designation, 3, 6, and 9 indicate the respective number of credits, and the last three blanks are the standard numbers which code to a particular faculty member in the department.

The two digit college prefix identifies a college department and/or special area. The three-digit course number identifies the course level.

Course Prefixes

Each college department and/or special subject area has been assigned an identifying two digit number within the numerical ranges specified as follows:

- Education - EDUC
- Engineering - CHEN, CIVE, EECE, ETEC, ENVE &MECH, MTEC, ENGY, ENGN, PLAS
- Health - PUBH &AREO, HSCI, NURS, DPTH, NUTR, HSCI, MLSC, EXER
- Humanities/Social Sciences, Fine Arts - AMST, LGST, ENGL, HIST, CRIM, PHIL, POLI, PSYS, ASP, SOCI, ECON, WLFIT, WLGE, WLIT, WLR, WLKH, WLCH, WLPO, WLAN, WLSI, WLSP, WLLA, ARHI, FAHS &ARTS, MUTH, MUAP MUED, MUHI, MUPF, MUEN, MUBU, MUSR, AEST
- Management - ACCT, FINA, MKTG, POMS, MIST, ENTR, MGMT, BUSI
- Science and Math - BIOL, LIFE, CHEM, ATMO, ENVI, GEOI, INFO, COMP, MATH, MSIT, PHYS, POLY, RADI
- Biomedical Engineering - BMBT
- Marine Science - im

Audit

A graduate student may, upon approval of the advisor and the instructor, register for a course on an audit basis, but must pay the full amount of tuition and fees. An audit student is not required to take tests or the final examination. A change in registration from audit to credit or credit to audit must be done
during the add/drop period. Under no circumstances can a course taken for audit be given credit at a later date.

Equal and Fair Treatment

Under federal and state laws, all students are protected from discrimination based on race, color, religion, national origin, disability, gender, (including sexual harassment), age, sexual orientation, marital or veteran status. If you feel that you have been discriminated against based upon any one of these areas, you must contact Equal Opportunity and Outreach (EOO). These protections also include retaliation for filing complaints of discrimination. Concerns regarding course offerings, instructor and student attitudes should also be directed to EOO staff at 978-934-3565.

Students are responsible for adhering to the policies of the University regarding equal and fair treatment.

Graduate Grading Policies

Grading System
Grade Exclusion
Grades for Projects, Theses/Dissertations and Seminars
Incompletes
Course Listing on the Graduate Transcript
Audited Courses
Grade Appeal Process

Grading System

The grading system uses grades:

\[
\begin{align*}
A+(4.0), A(4.0), A-(3.7) \\
B+(3.3), B(3.0), B-(2.7) \\
C+(2.3), C(2.0) \\
F(0.0) \\
FX (0.0) Failed due to Academic Misconduct (May not be replaced or deleted)
\end{align*}
\]

The following special grades are also used:

- **INC** (Incomplete)
- **S** (Satisfactory, B or better)
- **U** (Unsatisfactory) for projects, theses/dissertations, and seminars only
- **AU** (Audit)
- **W** (Withdrawal from a course or from the University)
- **X** (Withdrawal because of illness or personal emergency)
- **Y** (University withdrawal for non-academic reasons)
- **Q** (Never attended but did not withdraw. This grade requires a letter from the instructor to the University Registrar stating the student never attended the class.)
- **PR** (In Progress for theses or dissertations)
- **NC** (No Credit for theses or dissertations where no progress has been made).

A student registering for research will do so each semester up to the total number recommended. No graduate degree will be awarded to a student whose cumulative average for course work in his or her program is below 3.0. Some programs may require a higher grade point average for graduation. The cumulative grade point average is computed from all graduate level courses taken for a grade at the University of Massachusetts Lowell.

Grade Exclusion

A request may be submitted to omit a specific course (grade and credits) from the GPA for matriculated students. Such a request must be presented on an Academic Petition, provide detailed justification for the specific action, and certify that the action has been approved by a majority of the departmental graduate committee. Only one grade exclusion in total, including a grade for a repeated course, will be permitted for each degree sought by the student as recommended by the departmental graduate committee. However, the official transcript will list grades for all undergraduate and graduate courses taken at the University with the notation that the grade and credits are excluded from the GPA. Once a grade exclusion has been processed it may not be reversed. Additionally, grade substitutions are not permitted.

Grades for Projects, Theses/Dissertations and Seminars

- **Projects** (Enrollment Restricted to Matriculated Graduate Students):
  - Only one of three grade designations will be allowed for projects:
    - **S** for projects completed at a satisfactory level
    - **U** for unsatisfactory completion of a project (no credit toward degree requirements)
    - **INC** Incomplete

- **Theses/Dissertations** (Enrollment Restricted to Matriculated Graduate Students):
  - **PR** will be given for thesis/dissertation research if the student has made satisfactory progress during the semester.
  - **NC** will be given if the student has made no progress during the semester on thesis/dissertation research.
  - **U** Unsatisfactory (no credit toward degree requirements)

After successful defense of the thesis/dissertation, a grade of "S" (Satisfactory) will be given for all semesters of the thesis/dissertation research. Only the Registrar’s Office can
issue this grade.

- Seminars
  - S - Satisfactory
  - U - Unsatisfactory (no credit toward degree requirements)
  - INC - Incomplete

Under no circumstances will letter grades (A, B+, etc.) be allowed for projects, theses/dissertations, or seminars.

Incompletes

If, because of unusual circumstances, a student is unable to meet all the requirements of the course by the end of a semester, the grade of Incomplete (INC) may be given. Responsibility for making arrangements with an instructor to complete all outstanding coursework rests entirely with the student, who must complete all outstanding coursework by the date listed on the Graduate Academic Calendar (https://www.uml.edu/Registrar/Calendars/default.aspx).

Under no circumstances will a student be allowed to graduate with incomplete(s) on his or her transcript.

Prior to completion of the missing work, the incomplete will not be computed into the grade point average (GPA). If the student completes the missing work within the specified period, the instructor must evaluate the work and turn in a grade change form to the Registrar’s Office before the deadline for instructors to submit final grades for incomplete courses as specified on the Graduate Academic Calendar (https://www.uml.edu/Registrar/Calendars/default.aspx).

However, if the student does not complete the missing work by the specified date and no grade change form is submitted by the instructor, the student’s grade will automatically change to a grade of “F” and be computed into the GPA.

Course Listing on the Graduate Transcript

All graduate courses for which a student registers (including repeated courses) are listed on the transcript and are used to calculate the student’s grade point average whether or not they are taken to fulfill degree requirements. In addition, undergraduate courses which a student takes to fulfill prerequisite requirements before or during matriculation in a graduate program, or courses taken for personal enrichment, will also be listed on the transcript.

Audited Courses

A graduate student may, upon approval of the advisor and the instructor, register for a course on an audit basis, but must pay the full amount of tuition and fees. An audit student is not required to take tests or the final examination. A change in registration from audit to credit or credit to audit must be done during the add/drop period. Under no circumstances can a course taken for audit be given credit at a later date.

Graduate Clearance

To apply for Graduation, graduate students must fill out a Declaration of Intent to Graduate (DIG) form and have it approved by their Graduate Coordinator and (if applicable), Thesis/Dissertation Advisor.

The Registrar’s Office will verify number of credits, final grades, GPA requirements and if applicable submission of thesis/dissertation prior to awarding the degree.

Additional Requirements for Students Completing a Thesis or Dissertation

All students who are completing a thesis or dissertation must also submit one clean copy (NOT the original) of the signature page for the thesis or dissertation. The signature page must be signed and dated by the thesis/dissertation advisor and all committee members. Copies of the Thesis or Dissertation must be submitted to the Library for binding and microfilming by the deadline date. In addition, doctoral students are required to complete the "Survey of Earned Doctorates" online, you will be emailed the information when you submit your DIG form.

Graduate Grade Appeal Process for Students

The instructor of the class is the primary authority with respect to a student’s proficiency and final grade in that course. A student who believes that his or her final grade reflects an erroneous, capricious, arbitrary, or prejudiced academic evaluation may appeal the grade. The academic judgment used in determining the merits of the grade to be awarded shall not be reviewable. This process does not apply to cases of academic dishonesty, which are adjudicated through the "academic dishonesty process."

1. The student may file an appeal of his or her complaint, in writing, to the instructor within 30 days after a final grade is posted to the students record. The instructor must respond within 14 days of receiving the appeal.
2. If the student remains dissatisfied by the decision of the instructor under step (1), he or she may, within 14 days after formal receipt of the instructor’s final decision, appeal, in writing, to the chairperson of the program (or the Dean of the College if the instructor is the
continuous registration

In order to maintain continuity of enrollment, a matriculated student must register each fall and spring until the program of study is complete and the degree has been earned. A graduate student who plans to receive his/her graduate degree in the summer term (awarded in August) must register during the previous summer session in order to maintain continuous matriculation.

If for any reason a student is not registered for a course (because of a leave of absence or because the thesis or dissertation has been successfully defended, but the final manuscript has not been submitted to the library), the student must register for CONT.6010 (Continued Matriculation) in order to maintain continuous registration. Since students are not allowed to register if they have outstanding financial obligations to the university, it will be necessary for them to clear their financial record in order to register for Continued Matriculation.

Master's students may only register for two semesters of Continued Matriculation. Doctoral candidates may register for up to three semesters. Exceptions to the above rule may be granted with approval of the academic department (Graduate Coordinator/Department Chair) and college dean. Students completing a thesis or dissertation must also have the approval of their thesis/dissertation advisor. Exceptions must be requested via a Graduate Academic Petition. If an exception is not granted, the student will be withdrawn from the University and need to reapply. If a student reappears and is readmitted, the rules regarding the Statute of Limitations restart.

Continued Matriculation does not entitle a student to any use of university facilities, services or resources, but only maintains an active record and provides for appropriate mailings. Students who are engaged in academic work necessary to complete their thesis or dissertation, participate in a required full time internship or curricular practical training, or otherwise engage in or make use of University facilities or other resources must register for a minimum of 1 credit. (Note: Specific internship/CPT requirements will vary by department and students may be required to register for 3, 6, or 9 credits depending upon their program of study.)

The rules regarding the Statute of Limitations for the completion of master's and doctoral degrees still apply to students registered for Continued Matriculation.

All international students on F-1 or J-1 visas must register as full-time students (9 credits) each semester until their degree requirements are completed. Any variance from this policy must be approved by the International Student and Scholars Office.

A student who fails to maintain continuous matriculation loses the status of a degree candidate and must reapply to the Graduate Admissions Office.
Dropping Classes and Refund Policy

Graduate students may drop courses during the first ten days of classes and receive a refund. No refund will be given after these time periods. To formally withdraw from a course during this period, or thereafter, the student must drop the course through SiS (https://www.uml.edu/Enrollment/SiS/default.aspx). If the student fails to officially drop a course, he or she will remain enrolled and be required to pay for tuition and fees. In addition, if the student does not drop a course and does not attend classes, he or she will receive an "F" on the official transcript.

Changes in Registration

Courses may be added or dropped through self-service in SiS (https://www.uml.edu/Enrollment/SiS/default.aspx). Students who wish to add a course during the sixth through 10th day of classes will need a permission number from the instructor of the course. Permission numbers are not needed to drop a course. In addition, students may change from audit to credit or from credit to audit during this period. Courses dropped during the first 10 academic days will not appear on the student's permanent record. No new courses may be added and no course may be changed from audit to credit after the tenth academic day. Thereafter, a student wishing to drop courses must do so by the date indicated in the Graduate Academic Calendar (https://www.uml.edu/Registrar/Calendars/default.aspx). No refund of tuition and fees is allowed after the tenth day of the semester. The grades for courses dropped after the tenth day will appear as W on the student's record.

Change of Program

A graduate student wishing to change departments or transfer to a doctoral program upon completion of his or her master's degree must follow the steps listed below:

1. No transfers will be considered until the student has been in the original department in which he or she was accepted for at least one semester.
2. All sections of a new application sheet must be completed.

3. If so desired, the student may request that all test scores, letters of recommendation, etc., in his or her original file be used as part of his or her new application package.
4. The student must specify on the application form when his or her master's degree will be completed and when he or she will actually begin doctoral studies (for students applying to a doctoral program).
5. A check made payable to University of Massachusetts Lowell to cover the application fee must be included, or payment must be made by credit card when applying online.

Right of Access to Student Records

Access

University Student Records
Release of Student Records
Release Exclusions
Additional Information

Access

The Family Educational Rights and Privacy Act of 1974 (FERPA) grants any student currently in attendance, or any former student, the right of access to inspect or review his or her educational files, records, or data. Students who wish to inspect their records must file a Right of Access form with the office or department in which the desired record is kept. Right of Access forms are available in the Office of Student Services or through student self service. Wherever practicable, within ten days of receipt of the Right of Access form, the office or department will notify the student as to the date, time, and location when the desired record will be available for inspection. If a student believes that circumstances effectively prevent inspecting and reviewing the records at the designated date, time and location, he or she may request alternative inspection arrangements or copies of the records instead, subject to a fee for copies. The Dean of Students or the Deans designee will consider the request.

University Student Records

The University maintains the following general records on students:

Admission File - Admissions Office (https://www.uml.edu/Grad/default.aspx) - www.uml.edu/grad
Permanennt Academic Records - Registrar's Office (https://www.uml.edu/Registrar/default.aspx) -
The file of each student must contain a record of all non-
University affiliated individuals or organizations requesting
access to information in the file, plus statements that specify
the legitimate educational purposes for which access was
requested.

Except as otherwise permitted under FERPA, information or
records concerning individual students may not be released to
any individual or agency without the students written
permission. Any request for such information received without
such written permission will not be honored and will be
returned with a request for a written release from the student.

Release of Student Records

FERPA allows release of a students education records without
the students written permission under certain circumstances,
including the following:

1. To personnel of the University, i.e., faculty, administrators,
or staff for legitimate educational purposes only.
2. To officials of other institutions in which the student seeks
admission or intends to enroll, provided that the student is
notified of the release.
3. To federal or state officials in connection with the audit
and evaluation of programs funded by federal or state
governments, with the enforcement of legal requirements
that relate to such programs, or in connection with the
students application for or receipt of financial aid.
4. To accrediting organizations in order to carry out their
accrediting functions.
5. To parents who claim the student as a dependent on their
IRS statement.
6. In connection with an emergency, to appropriate persons
if revealing such information is necessary to protect the
health or safety of the student or other persons.
7. In response pursuant to a validly issued subpoena, subject
to advance notification of the student unless such notice
is prohibited by court order.
8. As otherwise permitted under or consistent with FERPA.

The following data are considered informational in nature and
may be released without the permission of the student, at the
discretion of the University: students name, major,
acknowledgement of a student’s participation in officially
recognized activities and sports, weight and height of members
of athletic teams, date(s) of attendance; degrees, certificates,
awards received; the most recent previous educational agency
or institution attended by the student and appointment as a
Resident Assistant or Community Development Assistant. For
graduate students who are teaching credit courses, work
department, office address, and employments category are also
defined as directory information.

Release Exclusions

Any student who wishes to have some or all of his or her
directory information excluded from release by the University
without prior permission must complete the appropriate
selections available thru student self service

Additional Information

Any student who believes that his or her records are inaccurate
or misleading may request a hearing with the Dean of Students
to discuss the contents of such records and whether or not they
need to be changed. Additional information on procedures or
policies relating to University compliance with the Family
Rights and Privacy Act can be obtained from the Office of
Student Services or the Registrar’s Office.

Statute of Limitations (Time Limit for Degree
Completion)

A graduate degree, at either the master’s or doctoral level,
implies a significant mastery of a discipline within a specified time period. A well designed curriculum is not a mere collection of classes that add up to a set number of credits. It is, rather, a coherent selection of courses with an overall educational achievement that is greater than the sum of its parts. However, this coherence is lost if the program is completed over a long time span.

Master's degree requirements must be completed within a **five-year** period from the semester of admission. For those master's programs requiring 45 or more credits, the time limit is six years.

The doctoral degree must be completed within an **eight-year** period beginning with the semester of admission as fully matriculated or matriculated with conditions.

A student may obtain an extension of one year by filing an [Academic Petition](https://www.uml.edu/docs/petition_grad_tcm18-87176.pdf) signed by his or her coordinator, department chair, and college dean, and which is then submitted to the Registrar’s Office.

**Time Extension Appeal Procedure**

In exceptional cases, an additional extension may be granted by the Graduate Policy and Affairs Committee (GPAC). In this case, the student must submit an [Academic Petition](https://www.uml.edu/docs/petition_grad_tcm18-87176.pdf), a letter of explanation accompanied by a detailed schedule for degree completion, and a letter from the student’s coordinator or thesis advisor in support of the request.

**Transcripts**

In order to obtain a transcript, a student may print an unofficial transcript or order an official copy through self-service in SIS [here](https://www.uml.edu/Enrollment/SiS/default.aspx). If SIS is not available, a transcript may be ordered by filling out a Transcript Request Form [here](https://www.uml.edu/docs/transcriptrequest_tcm18-3516.pdf) and submitting it to the University of Massachusetts Lowell Registrar’s Office at 883 Broadway Street, Lowell, MA 01854.

**Course Listing on the Graduate Transcript**

All graduate courses for which a student registers (including repeated courses) are listed on the transcript and are used to calculate the student's grade point average whether or not they are taken to fulfill degree requirements. In addition, undergraduate courses which a student takes to fulfill prerequisite requirements before or during matriculation in a graduate program, or courses taken for personal enrichment, will also be listed on the transcript.

**Transfer Credit**

The following are minimal guidelines for transfer of credit. Individual departments are free to impose more stringent requirements. Only courses completed elsewhere within five years prior to the date of admission to a graduate degree program at the University of Massachusetts Lowell may be considered by the faculty of the department for transfer in accordance with the following regulations.

1. A maximum total of 12 graduate credits earned with a grade of B or better taken at another accredited institution may be transferred to a master’s degree program (see individual programs for further restrictions, if any). A maximum of 24 credits with a grade of B or better may be transferred to a doctoral program.

2. Grades of C or better for courses taken at UMass Lowell when the student held non-degree status may also be transferred (by Academic Petition) into a degree program. However, the 6 and 9 credits with grades below a B (graduation limit) for master’s and doctoral degrees, respectively, (see Retention Policy) and calculation of the cumulative grade point average based on all graduate courses taken at the University (see Academic Grades) remain in effect.

3. An official transcript and description of the course(s) must be submitted with the written request.

4. The courses presented must be from an accredited U.S. or Canadian institution authorized to grant graduate degrees.

5. The courses presented must be appropriate to the degree program for which the applicant is applying.

6. The courses presented must be graduate level.

7. Transfer credit may not be granted for research seminars,
9. Transfer credit from another U.S. or Canadian institution must not exceed equivalent course credit (typically 3) at UMass Lowell, and will be based on UMass Lowell’s standard of 37.5 semester contact hours being equal to 3 credits. One and two course credit transfers will also be considered providing they are proportional to the 37.5 semester contact hour standard.

10. Students who wish to transfer credit must file (within the first semester of matriculation) the Academic Petition form available from the Registrars Office.

11. With the approval of the department, a maximum of 6 credits of 4000 level courses taken at the University of Massachusetts Lowell with grades of C or better, not used for the baccalaureate degree, may be considered for transfer and counted toward the graduate degree.

University Appeals Process Regarding Academic (Non-Grade Appeal and Non-Misconduct) Issues

The underlying purpose of the University’s appeals procedure is to guarantee due process and to protect the rights of both students and faculty in graduate programs.

The following procedure provides a mechanism for formal adjudication of any academic issues (non-misconduct and not related to grade appeal) which may arise. (For information regarding the process for grade appeals, see the Graduate Grade Appeal Process.)

Responsibility for initiation of each of the steps belongs to the appellant.

Step 1. If an informal discussion between the student and the instructor or individual with whom the student has a conflict does not resolve the issue, the resolution of an academic appeal of a student should begin within the department. The first step in the resolution of a problem or disagreement should be a discussion between the instructor, the student, and his/her faculty advisor or the coordinator of the program.

Step 2. If the matter cannot be resolved after such a discussion, a formal appeal, in writing and containing the pertinent facts, should be presented by the student to the chairperson/head of the department within two months of the occurrence that precipitated the appeal. Any appeal made outside this time period shall not be considered by any University body. The chairperson of the department will appoint committee composed of faculty members in the department. Within seven working days, this committee shall convene and discuss the appeal with the student and the instructor, coordinator, or individual with whom the student has a conflict. The student may be accompanied by his or her advisor or a faculty representative during the discussion of the appeal. The committee, by a majority vote after deliberations with only members of the committee present, shall render a decision within five working days and notify the appropriate parties in writing with the rationale for the decision included in the notification.

Step 3. If the decision of the departmental committee is not satisfactory to all parties, the appeal may be forwarded to the College Dean within two weeks of the decision of the departmental committee. The Dean will appoint a college committee composed of area coordinators of all graduate programs within the college or a suitable committee of faculty. The committee will be chaired by the college dean, or his/her designee. Within seven working days, the committee shall convene and discuss the appeal with the student. At this level the student may request to be present at the committee meetings, that discussions or proceedings be tape recorded, and that a transcript be prepared from the tape. The request for a recording must be made at the time the appeal is made to the college committee. The college committee shall render a decision by majority vote after deliberations with only members of the college committee present within five working days and notify the appropriate parties in writing with the rationale for the decision included in the notification.

Step 4. If the decision of the college committee is not satisfactory to all parties, the appeal may be forwarded to the Graduate Policy and Affairs Committee (GPAC) within ten working days after the decision of the college committee. The committee shall convene within 10 working days after the GPAC chairperson has received a written request for a hearing from the appellant, and discuss the appeal with the student and faculty advisor or representative. A request for recording and preparing a transcript of the discussions with the student present may be made at the time of appeal. The committee shall render a written decision within five working days and notify the appropriate parties. The decision of the Graduate Policy and Affairs Committee shall be final, and the information accumulated during the appeal procedure shall be forwarded to the Provost to be kept on file. If any decision involving the awarding of a degree is made and the official deadline for graduation exercises has passed during the appeal, the degree date will reflect the initiation of the appeal.
The above time periods define working days as days when classes are in session for the fall and spring semesters. Efforts will be made to honor the same time periods during intercession and June - August although some flexibility must be accepted by the appellant because of potential difficulties in assembling committee members during these periods.

The GPAC chairperson may modify the Step 4 hearing time framework at his/her discretion to coincide with regularly scheduled GPAC meetings. In either of the above cases, the appellant must be notified in writing by the hearing officer (along with an explanation) of any modification of the hearing time schedule. The chairperson may recommend that final voting/discussion of Step 4 cases be done in Executive Session with only committee members present.

University Disciplinary Procedures for Graduate Students

Academic Dishonesty - Academic Integrity Policy

Administrative Dismissal from the University

Administrative dismissal may be invoked when a student fails to comply, after due notice, with an administrative regulation of the University. Examples of some conditions which justify administrative dismissal are listed in the Undergraduate Catalog at www.uml.edu/catalog/undergraduate/policies/administrative_dismissal.aspx (https://www.uml.edu/catalog-AY17/pdf/Undergraduate.pdf) and apply to all students, undergraduate and graduate.

Non-Academic Misconduct

Improper conduct or behavior of graduate students is subject to the University of Massachusetts Lowell Student Conduct Code and Judicial Process (https://www.uml.edu/docs/Student%20Conduct%20Code%20and%20Resident%20Student%20Handbook_tcm18-74786.pdf). Copies of this document may be obtained from the Dean of Students Office.

Withdrawal Policies

Withdrawal from a Course

Withdrawal from the University

Withdrawal from a Course

A student finding it necessary to withdraw from a course must do so within the time specified in the graduate academic calendar.
**Manning School of Business**

The mission of the Manning School of Business is to support regional business development. We accomplish this by engaging our students in affordable, internationally accredited management education programs, innovative course delivery, conducting research that emphasizes the practical application of knowledge, and serving a dynamic community through outreach activities.

**Graduate Programs Offered**

Ph.D in Business Administration: [Link](http://www.uml.edu/Catalog/Graduate/Business/Doctoral-Program.aspx)

1. Accounting
2. Entrepreneurship
3. Finance
4. International Business
5. Leadership/Organization Studies
6. Management Information Systems

**Master’s Programs:**

1. Master of Business Administration (MBA) (available online or on-campus) General
   - Business
   - Accounting
   - Finance
   - Information Technology
   - International Business
   - Managerial Leadership
2. Master of Science in Entrepreneurship
3. Master of Science in Accounting
   - [Link](http://www.uml.edu/Catalog/Graduate/Business/master-s/Accounting.aspx)
4. Master of Science in Business Analytics
5. Master of Science in Finance
   - [Link](http://www.uml.edu/Catalog/Graduate/Business/master-s/MSFinance.aspx)

**Business Management Curriculum for the Doctor of Engineering (D.Eng.) Program**

American competitiveness in world markets requires both technical innovation and the business skills to bring these innovations to market profitability. The management component of the University of Massachusetts Lowell’s Doctor of Engineering Program is designed to complement the technical training of the engineer with knowledge and skills in team management, financial decision making under market uncertainty, sensitivity to market needs, leading edge manufacturing techniques, and winning business strategies.

The philosophy and goals of the management component of the Doctor of Engineering program is to develop a person who can effectively extend the limits of technology both as a member of a professional work team and as a member of a global society. Today’s professionals will find that, over their work lives, they will hold several different types of positions in fields using their professional education in the business world, in academia, or in other endeavors. Regardless of the environment, a core of management skills will be required for success. The professional must be able to understand the external and internal work environment, understand the criteria that form the basis for decisions, and understand and evaluate the implications of those decisions.

The management curriculum for the Doctor of Engineering program is six 2-credit courses and is intended to provide flexibility for the engineering students. Students may select four of the 2-credit Graduate Certificate courses which most appropriately meet their professional and educational needs. Students are encouraged to complete the remaining two courses to qualify for the Graduate Certificate in the Foundations of Business. These courses do not assume a previous knowledge of business or management subjects by the engineering student.

**Graduate Certificates:**

- Foundations of Business
- Technology Venture Creation
- Financial Management

**Supply Chain and Operations Management**

Manning School of Business course listings [Link](https://www.uml.edu/catalog-AY17/pdf/Graduate.pdf).

**Accreditation**

All degree programs offered by the Manning School of Business are accredited by the Association to Advance Collegiate Schools of Business - International (AACSB [Link](http://www.aacsb.edu/)).

- Faculty in the Manning School of Business [Link](https://www.uml.edu/MSB/faculty/default.aspx)
The UMass Lowell Manning School of Business offers four Master’s programs:

- Master of Business Administration (MBA)
- Master of Science in Accounting
- Master of Science in Business Analytics
- Master of Science in Finance
- Master of Science in Entrepreneurship

Master of Science in Finance

The Finance Department at The Manning School of Business (MSB) offers a graduate degree program in Master of Science in Finance (MSF) in addition to a finance options in the MBA and doctoral degree programs. All degree programs offered by the Finance Department, along with all programs offered by the MSB are accredited by the Association to Advance Collegiate Schools of Business (AACSB). This accreditation is the highest level of accreditation for a business school, and documents the commitment of the Finance Department, the Manning School of Business, and the University of Massachusetts Lowell to excellence in education and continuous improvement of programs to keep them rigorous and relevant.

Curriculum

For undergraduate business majors, the MSF curriculum consists of 10 courses (30 credits): five required courses in Finance and five electives (two of which are recommended to be in Finance). For applicants who earned an undergraduate degree in an area other than business, this program is preceded by three prerequisite courses (with grades of B- or better) representing key foundation material in Accounting, Economics, and Finance. These prerequisite course credits will not count toward the MSF degree. The curriculum plan for the MSF is as shown in the curriculum outline.

Admission Requirements

1. Undergraduate Degree: Official transcripts. A minimum overall GPA of 3.0 is required.
2. GMAT (minimum 500): can be waived for UMass Lowell undergraduates with a GPA of 3.2 and above and upon receipt of a recommendation by an UMass Lowell faculty member; also can be waived if the undergraduate GPA is 3.5 and above at an AACSB accredited (or equivalent) university.
3. TOEFL for international students: (600+ paper-based, 250+ computer-based, or 100+ Internet-based).
4. Successful completion of all other Graduate Admissions Office requirements, including three letters of recommendation.

Curriculum Outline: Master of Science in Finance (MSF)

Major Required (Core) Courses (Total courses required = 5)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINA.6010</td>
<td>Corporate Finance</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6110</td>
<td>Financial Statements Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6210</td>
<td>Security Analysis &amp;Portfolio Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6750</td>
<td>Financial Derivatives</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6910</td>
<td>International Financial Management</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal # Core Credits Required</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Concentration Course Choices (Total courses required = 5)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT.6010</td>
<td>Accounting Information for Management Decisions</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6020</td>
<td>Advanced Corporate Finance</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6100</td>
<td>Global Financial Markets &amp; Monetary Policy</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6220</td>
<td>Advanced Portfolio Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6240</td>
<td>Fixed Income Securities</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6510</td>
<td>Bank Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6610</td>
<td>Financial Risk Management</td>
<td>3</td>
</tr>
<tr>
<td>FINA.6990</td>
<td>Finance Seminar</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Other Courses approved by the MSF Program Coordinator</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal # Concentration Credits Required</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Curriculum Summary

- Total Number of Courses required for the degree: 10
- Total credit hours required for the degree: 30

Prerequisite Course Requirements

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT.5010</td>
<td>Financial Accounting (2 credits)</td>
</tr>
<tr>
<td>FINA.5010</td>
<td>Business Financial Analysis (2 credits)</td>
</tr>
<tr>
<td>ECON.2010</td>
<td>Microeconomics (3 credits)</td>
</tr>
</tbody>
</table>
Academic and Graduation Requirements

Academic and graduation requirements are similar to those of the other graduate programs in the MSB. Specifically, no more than six (6) MSF course credits of grades below a B may be counted toward the MSF, and no graduate degree will be awarded to any student whose overall cumulative grade point average is below 3.0. Other policies, as contained in the UMass Lowell graduate Catalog, will also apply as appropriate.

MSF Program Coordinator:

Prof. Chan Wung Kim

Phone: 978-934-2516

Email:

MSF@uml.edu (mailto:MSF@uml.edu)

Graduate Certificates in the Manning School of Business

The College of Management offers graduate certificates in:

- Foundations of Business (MGFB)
- New Venture Creation (NVNG)
- Financial Management (FNMG)
- Supply Chain and Operations Management (SCOM)

You will need a Graduate Certificate Application Form (https://www.uml.edu/docs/MGFB%20Course%20Outline%20-%20Revised%20Codes%202014_tcm18-224894.pdf) as well.

Foundations of Business

Contacts:

Lauren Hildreth (mailto:Lauren_Hildreth@uml.edu)

Ryan Masson (mailto:ryan_masson@uml.edu)

978-934-2848

Graduate students in the certificate program who are subsequently accepted into the UMass Lowell AACSB accredited MBA program may apply certificate courses with grades of B or better to their MBA degree.

Required Core Courses:

12 Credit Hours ? six courses at two credit hours each.

- ACCT.5010 Financial Accounting
- FINA.5010 Business Financial Analysis
- MKTG.5010 Marketing Fundamentals
- POMS.5010 Operations Fundamentals
- MGMT.5010 Organizational Behavior
- MGMT.5110 Global Enterprise and Competition


Students must hold an undergraduate degree for admission into a certificate program. A GMAT exam is not required for certificate programs. An undergraduate transcript must be supplied by student when applying.

New Venture Creation

Contact: Ashwin Mehta (mailto:ashwin_mehta@uml.edu), 978-934-2728

This certificate assists the aspiring entrepreneur, inventor and mid-career professional in understanding and applying the process associated with starting a new business or creating new business opportunities within established organizations. This program is specifically focused on the creation of technology-based ventures and is designed to assist professionals with undergraduate and career experience in science, engineering, technology or business fields in better understanding the venture creation process.

The program consists of two required courses (New Venture Creation, Innovation & Emerging Technology) and two electives (selected in consultation with the Program Coordinator). Graduate students in the certificate program who are subsequently accepted into the UMass Lowell MSITE program may apply certificate courses with grades of B or better to their MSITE degree.

Required Courses: (6 Credit hours, two 3 credit courses)

- ENTR.6400 New Venture Creation
- ENTR.6500 Innovation & Emerging Technology

Elective Courses (select two in consultation with Program Coordinator): 6 Credit hours, two 3 credit courses:

- ENTR.5650 - Technological Entrepreneurship
• ENTR.6350 - Financing Innovation & Technology Ventures
• ENTR.6700 - Global Entrepreneurship (3 credits)
• MKTG.6300 - Market Research for Entrepreneurs
• ENTR.6550 - Corporate Entrepreneurship
• ENTR.6800 - Practicum I New Venture Planning
• MGMT.6400 - Building and Managing Teams
• ENTR.6350 - New Product Development
• MIST.6350 - Project Management

Admissions Requirements: Undergraduate degree and related experience in science, engineering, technology or business (other areas will be considered in consultation with the program coordinator).

Financial Management - Certificate

Contact: Chun Wang Kim (mailto:ChunWang_Kim@uml.edu), 978-934-2516

The Graduate Certificate in Financial Management is a 12 credit program (three two-credit courses and two three-credit courses) designed for non-financial mid-management professionals in the private and public sectors who wish to advance to decision-making positions within their organizations.

Individuals with undergraduate degrees in fields other than business management with finance as the major who wish to acquire additional academic credentials to advance within their organization or who wish to change career paths and improve their competitive position in the job market will benefit from this program.

Especially, for many employees working in the technical and scientific fields without any financial background, the Financial Management certificate will provide them with the knowledge needed for decision-making roles within their technical or scientific fields.

Prerequisite:

• ACCT.5010 Financial Accounting and FINA.5010 Business Financial Analysis

Required Courses: (9 credits)

• FINA.6010 Corporate Finance
• FINA.6020 Advanced Corporate Finance
• FINA.6100 Global Financial Markets and Monetary Policy

Elective (3 credits)

One course from a list of approved courses, which may include courses such as:

• FINA.6750 Financial Derivatives
• FINA.6110 Financial Statement Analysis
• FINA.6880 Current Topics in Finance
• FINA.6770 Independent Study: Finance
• MIST.7060 Data Analytics
• ACCT.6010 Accounting Information for Management Decisions

Graduate students in the certificate program are encouraged to extend their education further by applying for admission to the M.B.A. program may apply certificate courses with grades of B or better towards their M.B.A. degree requirements.

Supply Chain and Operations Management

Contact: Yao Chen, 978-934-2764, Yao_Chen@uml.edu (mailto:Yao_Chen@uml.edu)

This certificate assists individuals who wish to acquire additional academic credentials to advance within their organization or who wish to change their career paths and improve their competitive position in the job market.

Especially, for many employees working in the technical and scientific fields without an operations or industrial engineering background, the program will provide them with the knowledge needed for decision-making roles within their technical or scientific fields. The program is to meet the needs of those mid-career professionals in non-operations positions, who require a greater understanding of operations to advance towards decision-making positions in their organizations, to communicate effectively with operations managers, to pursue new careers in industrial engineering or operations management, or to demonstrate the contribution of their unit and/or ideas to the organizations value chain.

The certificate requires students to complete 12 hours of graduate study. This consists of four three-credit Supply Chain and Operations Management courses. Graduate students in the certificate program who are subsequently accepted into the UMass Lowell MBA program may apply certificate courses with grades of B or better to their MBA degree.

Prerequisite Coursework (prior to certificate coursework)

• Microeconomics (ECON.2010)
• Statistics (ECON.2110)
• Operations Fundamentals (POMS.5010)

Required: 3-credit courses

• POMS.6010 Operations Management
• POMS.6020 Global Supply Chain Management
• POMS.6030 Service Management
• MIST.6450 Information Technology Project Management

Admissions Requirements: Undergraduate degree and related experience in science, engineering, technology or business (other areas will be considered in consultation with the program coordinator).
Master of Science in Accounting

- Program of Study
- Admissions Requirements
- Curriculum

Program of Study

The Master of Science in Accounting (MSA) program in the Manning School of Business at UMass Lowell provides an economically affordable opportunity for qualified students to meet the licensing requirements to become Certified Public Accountants (CPAs) and prepare for success in a competitive environment and a respected profession, one whose members continue to be in high demand from public accounting firms, financial institutions, industry, government agencies, municipalities, schools, hospitals and charitable organizations. The Massachusetts Board of Public Accountancy has classified the MSA program at Manning School of Business as Level 1 and deemed the program to be substantially equivalent to AACSB standards. Any student who earns a graduate degree in accounting from a Level 1 program is judged to have satisfied the educational requirements to take the CPA exam. Students who earn degrees from non-Level 1 programs must demonstrate that they have satisfied such educational requirements. Therefore, our MSA programs Level 1 status makes it easier for UMass Lowell accounting graduates to eventually become CPA's.

The MSA program can be completed on a full-time or part-time basis and all courses are available online. For a full-time student, the 10-course, 30-credit program can typically be completed in one calendar year (e.g., four courses in the fall, four in the spring, and two in the summer). Part-time students will, on average, complete the program in about three years. We accept students with undergraduate accounting, business and non-business degrees. Students without an accounting undergraduate degree from an accredited U.S. institution will have to complete a series of prerequisite courses prior to beginning the MSA program.

Admission Requirements

- GPA - Minimum undergraduate GPA of 3.0 (overall); comparable accounting GPA.
- GMAT (500+); can be waived if the undergraduate GPA is at least 3.5 at an AACSB-accredited school and upon receipt of a recommendation by a faculty member; GMAT can also be waived for students in the UMass Lowell Plus 1 Program with an undergraduate GPA of 3.0 or greater.
- Successful completion of all other University of Massachusetts Lowell Graduate Admissions requirements including three letters of recommendation and Master of Science in Accounting TOEFL minimums.
- Exceptions or modifications to the above will be considered on a case-by-case basis.
- An internship or other relevant employment in the field is strongly encouraged, either before or during the program.

Curriculum

- MSA Core Courses (5 courses required)
- ACCT.6050 Governmental and Non-Profit Accounting
- ACCT.6120 Advanced Cost Management
- ACCT.6300 Taxation of Business Entities
- ACCT.6400 Financial Accounting Theory and Research
- ACCT.6550 Advanced Auditing
- MSA Elective Courses (2 courses required)
- ACCT.6220 Globalization and Accounting
- ACCT.6450 Fraud Examination and Forensic Accounting
- MSA non-Accounting Business elective courses (3 courses required)

Courses are generally selected from the UMass Lowell MBA program; other courses can be selected with the approval of the MSA Coordinator.

Students without an accounting undergraduate degree granted by an accredited US institution will be required to complete a series of up to eight accounting prerequisite courses prior to starting the MSA courses. Details on the prerequisites can be found online or by contacting Stefanie Tate, MSA Coordinator.

ACADEMIC AND GRADUATION REQUIREMENTS

- Academic and graduation requirements will be similar to those of the Manning School of Business MBA program.
- No more than six course credits of grades below a B may be counted toward the MSA.
- No graduate degree will be awarded to any student whose overall cumulative grade point average falls below 3.0.
- Other policies, as contained in the UMass Lowell graduate
For a full-time student, the 10-course, 30-credit MSA program can typically be completed in one calendar year (e.g., four courses in the fall, four in the spring, and two in the summer).

Part-time students will proceed at a slower and more varied pace (on average, about three years).

The Manning School of Business will accept up to six graduate credits from other AACSB institutions on a case-by-case basis.

For more information about the Master of Science in Accounting, contact:

Stefanie Tate, CPA, Ph.D.
MSA Coordinator
Phone: 978-934-2815
Email: Stefanie_Tate@uml.edu
ACCT.5010 Financial Accounting (Formerly ACCT/60.501) - Credits: 2
An introduction to financial accounting within the context of business transactions and business decisions. This course is a broad introduction to using accounting information from the user’s perspective with little emphasis on traditional debits, credits, journal entries and ledgers. Emphasis is placed on preparing and understanding financial statements.

ACCT.6010 Accounting Information for Management Decisions (Formerly ACCT/60.601) - Credits: 3
Prerequisite: Student must be matriculated and must have completed foundation core courses. Focuses on the manager’s view as opposed to the accountant’s view of the decision process and related quantitative and qualitative information needs. The course material examines accounting information that will achieve faster, better, and cheaper operations. New strategic cost management models, such as ABC and target costing, are explored and contrasted with traditional cost approaches.

ACCT.6020 Advanced Management and Sustainability Accounting (Formerly ACCT/60.602) - Credits: 3
In the new environment of change, accountants are increasingly called on to support strategy through increasing efficiencies and reducing costs. This course will examine the different ways that accountants can add value through an understanding of value chain activities, use of technology, and extending value chain activities to develop a sustainability strategy.

ACCT.6030 Accounting Information Systems (Formerly ACCT/60.603) - Credits: 3
Presents accounting as a system designed to meet the needs of external and internal users. Accounting information system concepts are emphasized. Topics include accounting transaction cycles, internal controls, and systems development processes.

ACCT.6050 Government and Non-Profit Accounting (Formerly ACCT/60.605) - Credits: 3
This course introduces students to financial accounting and reporting issues related to state and local government and non-profit organizations. Students will learn how to prepare, analyze, and interpret these entities financial statements.

ACCT.6120 Advanced Cost Management (Formerly ACCT/60.612) - Credits: 3
An examination of cost data in ambiguous situations to assist managers in decision-making and strategy implementation. Emphasis is placed on advanced cost management for strategic planning, management control and, performance evaluation in multinational business entities.

ACCT.6210 Tax Factors in Business Decisions (Formerly ACCT/60.621) - Credits: 3
ACCT.6220 Globalization and Accounting (Formerly ACCT/60.622) - Credits: 3
ACCT.6230 Contemporary Accounting Issues (Formerly ACCT/60.623) - Credits: 3
Significant and rapid changes in accounting rules are impacting the financial reporting and analysis that management uses to make business decisions. This course will explore contemporary accounting topics that accounting professionals will face in the workplace and how the accompanying requirements are changing the way that companies and their business partners use, report, analyze, and interpret financial data. Subjects covered will vary as conditions change but may include International Financial Reporting Standards (IFRS), Fair Value Measurements, Post-Retirement Benefits, Revenue Recognition, or other current accounting topics.

ACCT.6300 Taxation of Business Entities (Formerly ACCT/60.630) - Credits: 3
This course provides coverage of gross income and business deductions, and provides a comprehensive overview of the taxation of corporations, partnerships, and sole proprietorships. This course will also cover the history of federal taxation, estate and gift taxes, and how the taxation of business entities fits into the entire tax system.

ACCT.6400 Financial Accounting Theory and Research (Formerly ACCT/60.640) - Credits: 3
A comprehensive exposure at an intermediate level to accounting theory and practice. Emphasis is placed on applying underlying accounting theory to complex accounting measurement problems. The effects of alternative methods are considered throughout the entire course.

ACCT.6410 Corporate Financial Reporting II (Formerly ACCT/60.641) - Credits: 3
Corporate Financial Reporting - II is a comprehensive analysis of financial accounting topics involved in preparing financial statements and in external reporting that began in Corporate
Financial Reporting- I. It includes topics such as current and long term liabilities and contingencies; stockholders’ equity; dilutive securities and earnings per share calculations; investments; pensions; leases, financial statement analysis; the statement of cash flows; and full disclosure in financial reporting.

**ACCT.6450 Fraud Examination and Forensic Accounting (Formerly ACCT/60.645) - Credits: 3**

Fraud is an extremely costly business problem. Wells, Chairman of the Association of Certified Fraud Examiners, estimates that all forms of corporate dishonesty from “cooking the books” to embezzling could run as high as $660 billion annually. Business owners, executives, managers and accountants will benefit from understanding the causes, types and scope of fraud, fraud prevention, fraud detection, and fraud investigation. This course will cover management fraud, employee embezzlement and other types of fraud. The principles and methodology of fraud prevention, detection and investigation (e.g., forensic accounting) will be discussed.

**ACCT.6500 International Accounting (Formerly ACCT/60.650) - Credits: 3**

This course integrates International Financial Reporting Standards (IFRS) into a financial accounting course and leverages comparisons between US GAAP and IFRS (the two most commonly applied sets of accounting standards in the world) to enhance the development of a "critical thinking" approach to financial accounting and reporting. The goal of the course is to enhance student understanding of the links between the underlying transactions, the application of reporting standards for those transactions, and the financial reports obtained from a global/international perspective. Accounting standards set in the US and internationally (US GAAP and IFRS) are guided by general concepts but the specifics of the standards, and national cultures across different countries and geographical areas. In this course, we will consider those differences to better understand both US GAAP and IFRS accounting standards and the financial reports produced by them. In addition, the course will provide students with a basic understanding of IFRS, a relatively new set of accounting standards gaining wide acceptance throughout the world and being considered for adoption within the US.

**ACCT.6550 Advanced Auditing (Formerly ACCT/60.655) - Credits: 3**

This course provides a more in-depth study of auditing topics including audit planning, evidence gathering and evaluation, professional standards and regulatory agencies, and a practical approach to accounting and auditing research. Applications will be drawn from public and private sector audits.

**ACCT.6770 Directed Study: Accounting (Formerly ACCT/60.677) - Credits: 3**

ACCT.6990 Accounting Internship (Formerly ACCT/60.699) - Credits: 3

ACCT.7510 Accounting Research Methodology (Formerly ACCT/60.751) - Credits: 3

This course situates accounting and organization management research in the context of scientific inquiry generally, and social science in particular. In introduces students to the philosophical background of epistemological and metaphysical issues, the framing of scientific research, theory development, and the formulation of testable hypotheses. Operationalization, measurement and validity issues are studied, and a wide range of research paradigms and methodologies for accounting and organization management research are introduced and illustrated.

**ACCT.7620 Empirical Financial Accounting Research II (Formerly ACCT/60.762) - Credits: 3**

This is part II of a two part doctoral seminar in Empirical Financial Accounting Research. This course introduces and develops a broad understanding of empirical accounting research in financial reporting. The intent is to provide an overview of archival research and an in-depth analysis of current financial accounting research. This course will focus on the types of questions and innovative methods accounting academics are currently pursuing and developing.

**ACCT.7720 Auditing and Corporate Governance Research (Formerly ACCT/60.772) - Credits: 3**

This course is designed to expose doctoral students to major research areas in auditing and corporate governance research, with an emphasis on primarily archival research and secondarily judgement and decision making research. In line with Empirical Financial Accounting Research, emphasis will be placed on a significant number of research topics and methods by participating in active discussions about challenging research opportunities and auditing and corporate governance research.

**ACCT.7960 Doctoral Dissertation (Formerly ACCT/60.796) - Credits: 1-9**

Doctoral dissertation research.

**ACCT.7970 Managerial Research Seminar (Formerly ACCT/60.797) - Credits: 1**
The course will involve an on-going monthly presentation from across scholarly disciplines. Speakers will be drawn from local, national, and international universities. Attendance will be mandatory; PhD students should gain an appreciation for high level scholarship and corporate governance research.
BUSI.7010 Doctoral Curricular Practical Training
(Formerly BUSI 701) - Credits: 1

An internship, practicum or other type of employment that is either required by the student's academic program or an experience for which a student receives academic credit. To be eligible the student must be in legal F-1 status and have been enrolled full-time for one academic year. CPT work experience must be in the student's field of study and contain a curricular component.
FINA.5010 Business Financial Analysis (Formerly FINA/61.501) - Credits: 2

Introduces students to the finance function in a firm. Students are exposed to a variety of analytical techniques and to theory applied to financial decision making. Study will include effects of major financial decisions such as investment, financing and dividends on the value of a firm, in the light of their risk-return relationship under the assumption that the maximization of shareholder wealth is the goal of management. Pre-requisites: MBA or Certificate Programs or Permission of MBA Director.

FINA.6010 Corporate Finance (Formerly FINA/61.601) - Credits: 3

Relates working capital strategy, capital investment analysis, long-term financing, and capital structure decisions in a risk-return framework to the dynamics of the firm and the market in which it operates.

FINA.6020 Advanced Corporate Finance (Formerly FINA 602/61.621) - Credits: 3

This course covers advanced topics of financial decision-making concepts such as financial restructuring, mergers and acquisitions, different forms of debt and equity financing, leasing, and real options. The course includes techniques to incorporate uncertainty in financial analysis, to hedge corporate risk, and to restructure a firm through leveraged buyouts or under bankruptcy protection. It also includes advanced topics such as real options, theories of behavioral corporate finance, and the process to navigate extraordinary financial situations such as financial restructuring and liquidation.

FINA.6050 Mergers, Acquisitions, and Corporate Restructuring (Formerly FINA 605) - Credits: 3

This course examines the process by which takeovers and other corporate control transactions take place. Of particular interest will be the empirical evidence of capital market reactions to control transactions, to defensive measures by management against takeover bids and the valuation effects of these activities. We will also investigate restructuring activities that have significant effects on firm assets, liabilities, and equity claims, as well as their underlying economic motives. A Major focus will be the interaction of strategic planning, valuation, financial strategies, and investment decisions in the life cycle of the firm. This course is indispensable for those who plan to pursue careers in corporate finance, investment banking, private equity, and management consulting.

FINA.6100 Global Financial Markets and Monetary Policy (Formerly FINA 610/61.610) - Credits: 3

This course examines the interactions between changing perceptions of macroeconomic conditions and movements in the prices and yields on financial market instruments. The orientation of this course is heavily institutional with emphasis on helping students develop a Wall Street perspective on asset choice and the likely impact of macroeconomic conditions and policies on financial market prices. At the same time, the dependence of macroeconomic policy outcomes on global financial markets expectations of future real growth in the US and in the world economy, expectations of inflation, sovereign default risk and of interest rates will be stressed.

FINA.6110 Financial Statement Analysis (Formerly FINA 611) - Credits: 3

This course introduces to students a comprehensive financial statement analysis and valuation framework that integrates financial reporting, financial analysis and valuation, and the application of this framework to fundamental analysis. This course provides students with hands-on experience in financial statement analysis. Students will be introduced to general tools of financial analysis, theoretical concepts, and practical valuation issues. By the end of the course, students should be comfortable with using firms financial statements to develop an understand of their performance and to establish a basis for making reasonable valuation estimates.

FINA.6210 Security Analysis and Portfolio Management (Formerly FINA 621/61.721) - Credits: 3

This course introduces the student to the main theories and practice of investments and portfolio management. The student will learn about various investment opportunities including real and financial assets; the investment environment including the money and capital markets; the investment process including identification of goals, data gathering and analysis etc.; and, decision making under a changing market environment. The material covered will include: selection of assets - with special emphasis on securities selection through technical analysis and fundamental analysis, computation of risk and return of individual assets, asset allocation and portfolio formation, computation of risk and return of portfolios, measurement of portfolio performance and rebalancing of portfolios. Also included in the material will be topics such as the pyramid approach, forecasting and the use of indicators and, market and industry indexes, models such as the CAPM, bond and stock valuation, mutual funds, domestic versus global investment etc.

FINA.6220 Advanced Portfolio Management (Formerly FINA 622/61.735) - Credits: 3

This course develops investment theory as applicable to
portfolio management and securities selection. Topics covered include identification of investor goals, identification of investment opportunities in real and financial assets under volatile capital market conditions as well as analysis and decision making under conditions of certainty and uncertainty. Related concepts include technical analysis and fundamental analysis, pyramid approach to investing, changing risk and return through asset allocation and portfolio formation, valuation of basic securities and rebalancing of portfolios.

FINA.6240 Fixed Income Securities (Formerly FINA/61.624) - Credits: 3

Financial securities whose valuation depends on interest rates, such as Treasury securities, municipal bonds, and corporate bonds are called Fixed Income Securities. In this course, students will learn how to value and manage the risk of these securities.

FINA.6530 Financial Institutions and Markets (Formerly FINA 653/61.732) - Credits: 3

Analysis of the theory and practice of financial intermediation by institutions in the financial markets, including debt, equity, and foreign exchange markets. Study of the role of financial intermediaries including commercial banks, investment banks, and brokers. Other topics include financial market policy making and regulation in financial markets with an aim to understanding the rationale and nature of such policies and regulations.

FINA.6550 Global Financial Regulation and Compliance - Credits: 3

This course will provide an in depth survey of some of the major regulatory regimes within which the global financial services industry operates. Participants will learn the principles and techniques required to establish and maintain an effective compliance regime consistent with a strong ethical corporate culture. The course will rely upon examination of real-world examples; and, students will participate in a significant case study, requiring them to design an effective compliance program for a hypothetical firm operating in multiple jurisdictions.

FINA.6610 Financial Risk Management (Formerly FINA 661) - Credits: 3

This course deals with the theoretical and practical approaches to effective financial risk management. It covers risk management techniques for corporations and for management of equity, bond, derivatives and investment portfolios. Topics include measurement of corporate risk exposure, portfolio risk exposure and value at risk (VAR) for financial institutions; risk and diversification, modern portfolio theory, concentrated equity positions, portfolio benchmarking, the importance of asset allocations; market risk management, currency risk exposures, credit risk management, interest rate risks, and operational & integrated risk management; and computer applications.

FINA.6750 Financial Derivatives (Formerly FINA/61.675) - Credits: 3

The primary emphases in this course are the valuation and practical application of derivatives for both hedging and speculation. Topics include the characteristics of options, forward contracts, futures, and swaps; arbitrage and the valuation of derivatives; creating value and profit diagrams; and the structure of the derivatives markets. Ethical and economic issues associated with the use of derivatives as reported in the current financial press are also covered.

FINA.6770 Independent Study: Finance (Formerly FINA/61.677) - Credits: 3

Pre-Requisites: MBA Foundation Core and 61.601, or permission of MBA Coordinator.

FINA.6880 Current Topics in Finance (Formerly FINA/61.688) - Credits: 3

Topics of current interest in Finance. Subject matter to be announced in advance. For a current semester course title, please log on to ISIS, the Inter-Campus Student Information System.

FINA.6910 International Financial Management (Formerly FINA/61.691) - Credits: 3

The international dimension of the finance function of the firm. Financial constraints of the international environment and their effect on the standard concepts of financial management. The techniques of adapting risk analysis to the international situation. Study of international currency flows, monetary systems, forward cover and international banking policies.

FINA.7200 Financial Economics and Research (Formerly FINA 720) - Credits: 3

This doctoral-level course will introduce students to financial economics and the research methodology that supports advancement in the field. One major course objective is to provide the core theoretical foundations on which the various subfields, such as corporate finance and investments, rely upon. The second objective is to become familiar with financial data and the methodology to test the empirical evidence to validate theoretical arguments. Topics will include utility theory under
uncertainty, stochastic dominance, state preference theory, mean-variance portfolio theory, asset pricing, and contingent claims pricing. Topics that support corporate finance, such as information asymmetry and agency theory, will also be introduced.

FINA.7400 Corporate Finance Theory (Formerly FINA/61.740) - Credits: 3
This course covers topics in corporate finance including agency theory, theory of the firm, market for corporate control, financing policy, and dividend policy, among others.

FINA.7410 Investments Theory (Formerly FINA/61.741) - Credits: 3
This course covers topics in optimal portfolio choice and asset pricing including discrete-time and continuous time models for portfolio choice and security prices, Black-Scholes model of asset pricing, and general-equilibrium asset pricing models, among others.

FINA.7430 Seminar in Corporate Finance (Formerly FINA/61.743) - Credits: 3
This course is a doctoral level seminar covering both theoretical and empirical research in the area of corporate finance.

FINA.7440 Seminar in Investment Analysis (Formerly FINA/61.744) - Credits: 3
This course is a doctoral level seminar covering both theoretical and empirical research in the area of investments and asset pricing.

FINA.7820 Financial Derivatives Theory (Formerly FINA/61.782) - Credits: 3
This course is an in-depth analysis of contingent claims valuation. Financial assets considered will include European and American style options, forwards, futures, swaps, real options, and corporate securities.

FINA.7830 Research in International Finance (Formerly FINA/ 61.783) - Credits: 3
This course investigates issues in corporate financial management for multinational firms including foreign exchange forecasting and risk management, multinational capital budgeting, multinational capital structure, and international financial markets.

FINA.7840 Special Topics in Finance (Formerly FINA/61.784) - Credits: 3
This is a doctoral level course covering both theoretical and empirical research in an area of finance as determined by the instructor.

FINA.7960 Doctoral Dissertation (Formerly FINA 796) - Credits: 1-9
Doctoral dissertation research.

FINA.7970 Managerial Research Seminar (Formerly FINA 797) - Credits: 1
The course will involve an on-going monthly presentation from across scholarly disciplines. Speakers will be drawn from local, national, and international universities. Attendance will be mandatory; PhD students should gain an appreciation for high level scholarship, and corporate governance research.

FINA.8010 Technology Adoption Finance (Formerly FINA/ 61.801) - Credits: 3
Ph.D in Business Administration

- Program of Study
- Concentration
  - Accounting
  - Entrepreneurship
  - Finance
  - International Business
  - Leadership/Organization Studies
  - Management
  - Information Systems
- Prerequisites and Admissions Requirements
- Transfer Credit for the Ph.D. in Business Administration
- Degree Requirements
- Doctoral Qualifying Exam
- Doctoral Dissertation

Ph.D in Business Administration

Manning School of Business at University of Massachusetts Lowell offers a Ph.D. degree in Business Administration. The Ph.D. program is designed for highly qualified students who are committed to scholarly research and teaching, and are motivated to pursue an academic career at business schools. The program also appeals to working professionals who aspire to an advanced degree to enhance their credentials in their current or future industry role or for entrance to academic.

The program focuses specifically on the development of relevant, interdisciplinary research skills applied to current and future business problems and challenges. Students in each of the Accounting, Entrepreneurship, Finance, International Business, Leadership/Organization Studies and MIS concentrations will study the theoretical framework of their functional area with the option of exploring timely, related interdisciplinary areas. They will master traditional academic research methodologies appropriate to their respective fields, grounded in current industry trends and issues and will understand the benefits of advancing knowledge while recognizing the practical application of that knowledge in advancing economic and regional development locally, nationally and internationally. Graduates will be prepared for academic careers, research careers and upper level executive positions in both public and private companies.

Program of Study

The Ph.D. program includes six concentrations: Accounting, Entrepreneurship, Finance, International Business, Leadership/Organization Studies and MIS. The curriculum consists of a minimum of 36 credits of in-class coursework and 22 credits of dissertation, in addition to the prerequisite courses.

The Ph.D. can be taken on a full or part time basis. Fall and spring sessions begin with the traditional semesters and the summer session begins shortly after the conclusion of the spring session. The expectation is that full time students will finish the program within four years; while part time students will require no more than seven years.

Prerequisites and Admissions Requirements

Applicants are expected to have successfully demonstrated graduate level knowledge in seven functional areas: Accounting, Finance, Marketing, Organizational Behavior, MIS, Operations Management and Strategic Management. Additionally, they will demonstrate undergraduate competency in Calculus, Statistics and Micro/Macroeconomics. Applicants who have deficiencies in any of these areas will be required to successfully complete coursework to fulfill these prerequisites prior to matriculating into the Ph.D. program.

Admissions Requirements:

To qualify for admission into the Ph.D. program, applicants are expected to be graduates of an accredited U.S. college or university or an approved foreign equivalent institution and have earned grade point averages of 3.0 or better in all prior undergraduate and graduate studies.

All applicants must also submit a full Graduate Application, including an official GMAT or GRE score taken within the last five years, official undergraduate and graduate academic transcripts from all previously attended institutions, application form, statement of purpose, application fee, resume, and three letters of recommendation.

If an international transcript does not adequately demonstrate that an applicant has the equivalent of an American bachelor's or master's degree, the applicant must obtain such verification by an independent service such as the Center for Educational Documentation, Boston, MA (617-338-7171). In addition, international students are expected to at least meet the minimum UMass Lowell TOEFL requirements and must submit an official score report.

The faculty admissions committee will review all of the above admissions materials in a portfolio approach.

The program admits new students every other year. Applicants are accepted for the fall only.

Transfer Credit for the Ph.D. in Business Administration

Up to six credits from other AACSB institutions may be transferred on a case by case basis. The faculty committee for the Ph.D. in Business Administration can accept transfer credit for graduate courses from an accredited university with a grade of B or better which meet the University policy for graduate transfer credit.

Degree Requirements for each Ph.D. in Business
Administration Concentration

Four Required Foundation Courses (Common to all Ph.D. concentrations) - 3 credits each

1. MGMT.7300 Research Design Methods I
2. ECON.7310 Statistics
3. ECON.7330 Econometrics I
4. ECON.7300 Microeconomic Theory

Plus one non-credit course - Managerial Research Seminar

Accounting Concentration Overview

The accounting concentration will concentrate on relevant bodies of knowledge, such as financial accounting, managerial accounting, auditing and taxation. The curriculum is designed to develop a high level of student technical and research competence in a specifically defined program area of business. Strong attention will be paid to linking accounting research with accounting practice, specifically guidance relative to best and evolving practices in the accounting field.

In addition to the Four Required Foundation Courses common to all Ph.D. concentrations, students must take:

Two Required Advanced Research Design/Methods Courses

1. ECON.7340 Econometrics II
2. MIST.7370 Multivariate Statistical Methods

Six Concentration Courses

1. Accounting Research Methodology
2. Empirical Financial Accounting Research I
4. Auditing and Corporate Governance Research
5. Two approved Doctoral level electives
6. And complete all dissertation credits and requirements.

Additional information and concentration coordinator information may be found at: Doctoral Program Fields of Accounting Concentration (https://www.uml.edu/MSB/Departments/Accounting/programs/PhD-accounting.aspx)

Entrepreneurship Concentration Overview

The Entrepreneurship concentration will develop scholars who are thought leaders in advancing theory and practice within the discipline of entrepreneurship. Ph.D. students will gain a thorough understanding of the existing research on both the micro and macro levels. In particular, the core emphasis is placed on technological commercialization, new venture strategy, corporate entrepreneurship and growth at the firm level.

Course Work

In addition to the Four Required Foundation Courses common to all Ph.D. concentrations, students must take:

Two Required Advanced Research Design/Methods Courses

1. MGMT.7330 Research Design Methods II
2. ECON.7340 Econometrics II OR ECON.7370 Multivariate Statistical Methods

Six Concentration Courses

1. ENTR.7430 Seminar in Innovation and New Product Development
2. ENTR.7410 Seminar in Entrepreneurship Research
3. ENTR.7420 Seminar in Corporate Entrepreneurship
4. ENTR.7440 Current topics in Innovation and Entrepreneurship
5. Two approved Doctoral Level electives
6. And complete all dissertation credits and requirements.

Additional information and Concentration information may be found at: Doctoral Program Entrepreneurship Concentration (https://www.uml.edu/MSB/Departments/Marketing-Entrepreneurship-Innovation/Programs/PhD-Entrepreneurship.aspx)

Finance Concentration

The Finance concentration will develop scholars with a deep understanding of financial market, investment theories, financial innovations and strategies and the current challenges facing financial specialists. This program will be grounded with course content, research methodologies and projects developed collaboratively by faculty and financial industry partners to meet the research challenges facing the financial community.

Course Work

In addition to the Four Required Foundation Courses common to all Ph.D. concentration, students must take:

Two Required Advanced Research Design/Methods Courses

1. ECON.7340 Econometrics II
2. MIST.7370 Multivariate Statistical methods.

Six Concentration Courses

1. FINA.7200 Theory of Finance
2. FINA.7400 Corporate Finance Theory  
3. FINA.7430 Seminar in Corporate Finance  
4. FINA.7410 Investment Theory  
5. One approved Doctoral level elective  
6. And complete all dissertation credits and requirements.

Additional Information and Concentration Coordinator information may be found at Doctoral Program Finance Concentration (https://www.uml.edu/MSB/Departments/Finance/Programs/PhD-Finance.aspx).

**International Business Concentration**

The international business concentration will prepare scholars who have interest in the theory, research and practice of management with a cross-border or cross-cultural dimension. Given the trend of globalization and the importance of emerging economies, international business has become one of the fastest-growing area of interest by both academic researchers and practitioners.

**Course Work**

In addition to the Four Required Foundation Courses common to all Ph.D. concentrations, students must take:

**Two Required Advanced Research Design/Methods Courses**

1. MGMT.7330 Research Design Method II
2. ECON.7340 Econometrics II OR Qualitative Research Methods OR MIST.7370 Multivariate Statistical Methods

**Six Concentration Courses**

1. International Business Research  
2. International Marketing Research  
3. International Finance Research  
4. International Management Research  
5. International Business Research Methods  
6. One approved Doctoral level elective

And complete all dissertation credits and requirements. Additional information and Concentration Coordinator information may be found at: Doctoral Program Leadership/Organization Studies Concentration (https://www.uml.edu/MSB/Departments/management/Programs/Leadership.aspx).

**Management Information Systems Concentration**

The MIS concentration will focus on innovative and competitive IT / IS management theories, strategies and practices and their impact on organizations and society. Consistent with the other specialization, the MIS specialization will concentrate on current IT/IS challenges facing the industry today. IT / IS industry input and collaboration will be continually sought to develop appropriate projects and maintain currency in this program.

**Course Work**

In addition to the Four Required Foundation Courses common to all Ph.D. concentration, students must take:

Two Required Advanced Research Design/Methods Courses

1. MIST.7370 Multivariate Statistical Methods  
2. ECON.7340 Econometrics II OR MGMT.7330 Research
Design Methods II

Six Concentration Courses

1. MIST.7060 Data Analytics
2. MIST.7070 Electronic Commerce
3. MIST.7080 Enterprise Systems
4. MIST.7500 Seminar in Information Systems Research
5. MIST.7880 Current Topics in MIS
6. One approved Doctoral level elective

And complete all dissertation credits and requirements. Additional information and Concentration Coordinator information may be found at: Doctoral Program MIS Concentration (https://www.uml.edu/MSB/Departments/Operations-Info-Systems/Programs/PhD-MIS.aspx).

Curriculum Summary

- Total number of courses required for the degree, 36 Credits
- Dissertation, 22 Credits
- Total credit hours required for degree, 58 Credits

First-Year Summer Paper

Ph.D. students will be required to submit one summer research paper at the end of the first year. The paper must be the student’s own work; that is the student must be either the single author or the first author of the paper if it is based on a research project with MSB faculty member(s). The quality of the summer paper will be evaluated by the concentration faculty and a grade of "pass/fail" will be granted. Students who fail the summer paper may, at the discretion of their concentration Committee members, be permitted a second and final opportunity to resubmit the summer paper before the end of the first semester of the second year. Ultimately, if the student cannot meet this requirement, the student will be dismissed from the program.

Doctoral Qualifying Exam

Students must take a comprehensive doctoral exam, which must be passed prior to students enrollment in dissertation credits.

Doctoral Dissertation (minimum 22 credits)

The minimum number of dissertation credits is 22. During each semester of the dissertation stage, students will register for 1, 3, 6, or 9 credits of direct supervision with their dissertation advisor. Students must successfully pass oral defenses of both the dissertation proposal and of the completed dissertation and submit a complete, approved dissertation to the library for publishing.

Master of Business Administration (MBA) Degree Program

- Entrance Requirements
- Part-time/Full-time Study
- Admission to MBA Courses
- Residency Requirement
- Curriculum Requirements
- Concentrations

American business is facing a very different internal and external environment today. This environment is characterized by rapid technological change, increased international competitiveness in manufacturing and other sectors, and a labor force which expects a higher quality of work life than did previous generations of employees. These changes directly affect the health and vitality of any regions economy.

The UMass Lowell Master of Business Administration (MBA) program is designed primarily as a part-time evening program to serve middle level working professionals and others seeking management careers in business and industry. The program is designed to prepare students to manage effectively in rapidly changing regional, national, and global competitive environments. The MBA program not only requires a thorough understanding of the traditional functional areas of business, but also provides a detailed, integrated examination of issues faced by contemporary managers.

The unifying theme of industry analysis addresses the challenges posed by global competition, such as, accelerated change and complexity of technology, globalization of markets, increasing cultural diversity of human resources, ethical concerns, changing political processes, increasing role of governments in business, evolving organizational structures, and other similar issues. With this philosophical framework as its driving force, the MBA program at the University of Massachusetts Lowell prepares graduates to become leaders in a wide variety of commercial, industrial and governmental settings.

Additionally, three elective courses allow students to tailor their program to their specific professional needs. The awarding of the MBA degree signifies that the student has developed integrative skills in problem solving and decision making and can relate these skills to all functional areas of business. The development of this expertise entails an examination and application of advanced analytical tools.

Entrance Requirements
Application to the MBA program utilizes a rolling admissions policy and is open to students who have earned a 4-year baccalaureate degree. An aptitude for management decision-making and demonstrated academic ability are the most important qualifications for admissions. It is also required that applicants have an adequate mathematics background. Applicants should submit, along with their graduate school application, an official transcript of grades from their undergraduate institution(s), an official Graduate Management Admission Test (G.M.A.T.) score (the Graduate Record Examination is an acceptable alternative), three letters of recommendation, a resume, and a one-page written statement of academic and career goals. Students for whom English is not their national language must also submit an official score report for the Test of English as a Foreign Language (TOEFL).

Part-time and Full-time Study

MBA students may attend either full-time or part-time. On campus courses meet during the evening hours beginning at 6:30 PM. Most courses are currently also offered in an online format. Courses are offered in the fall, spring, and summer semesters. A minimum full-time course load is considered to be 9 credits. Full-time students usually complete their degree requirements in two years. Part-time students must complete their degree requirements within five years.

Admission to MBA Courses

MBA advanced core courses are open only to Manning School of Business graduate students who are fully matriculated degree candidates.

Residency Requirement

To be recommended for the MBA degree, students are required to complete a minimum of ten courses (30 credits) beyond the Foundations Core in the MBA program at the University of Massachusetts Lowell. Only under special circumstances, and with prior approval, are students permitted to complete courses at other institutions.

Curriculum Requirements

The MBA program consists of twelve credit hours of foundation core courses which may be waived through previous undergraduate work, and thirty credit hours (10 courses) of advanced courses and electives, for a total of 42 credit hours.

Recommended MBA Preparation Coursework (no longer required):

- Microeconomics (ECON.2010)
- Statistics (ECON.2110)

Foundations Core Courses (8-week Courses):

(six 2-credit courses - 12 credits total)

- ACCT.5010 Financial Accounting
- FINA.5010 Business Financial Analysis
- MKTG.5010 Marketing Fundamentals
- POMS.5010 Operations Fundamentals
- MGMT.5010 Organization Behavior
- MGMT.5110 Global Enterprise and Competition

Guidelines for Graduate Equivalency Credit of Foundation Core Courses:

The maximum number of courses that can be given equivalency credit is 12 credits. A student accepted to the UMass Lowell MBA program may request equivalency credit for any of the core courses listed above. These courses may be credited with exemption (meaning a replacement course is not required) if the equivalent undergraduate course work was completed with a grade of "B" or better within the past ten years. Additionally, up to two courses for 6 credits can be transferred in from an AACSB-accredited MBA program only.

Required Advanced Core Courses:

(seven 3-credit courses - 21 credits total):

- ACCT.6010 Accounting Information for Management Decisions
- FINA.6010 Corporate Finance
- MKTG.6010 Analysis of Customers and Markets
- MIST.6010 Management Information Systems
- POMS.6010 Operations Management
- MGMT.6010 Managing Organization Design and Change
- MGMT.6910 Strategy Formulation and Implementation

Electives or Concentrations:

(three 3-credit courses - 9 credits total):

- Download a Program Outline
  (https://www.uml.edu/docs/MBA%20Course%20Outline%20-%20%20Revised%20Codes%2009012016_tcm18-168453.pdf)
Concentrations

Students may choose General Business or concentrate in a particular field by taking three electives in a given area. To take electives, students must have completed the foundation core and be matriculated.

Concentrations are offered in:

- Accounting
- Finance
- Information Technology
- International Business
- Managerial Leadership
- Marketing

Master of Science in Business Analytics (MSBA)

About MSBA
Admissions Requirements
Curriculum

About MSBA

Business Analytics is the process of transforming raw data into business intelligence and insight. As companies generate more data at ever faster rates, the need for business analytics professionals is growing. The Master of Science in Business Analytics (MSBA) program will help you: Develop the ability to collect, manage and analyze data from a variety of sources; enhance your understanding of business processes and systems; develop the ability to understand and communicate insights gleaned from descriptive, predictive and prescriptive analytics.

Private and public firms in fields as diverse as health care, finance, logistics and marketing need business analysts to help them identify and solve problems related to forecasting, customer relationship management and revenue optimization - to name only a few. Experts predict that in the next 10 years hundreds of thousands of new jobs will be created in the domain of business analytics.

The MSBA program at UMass Lowell is a 30 credit program, which may be completed either full-time or part-time. The program integrates theory and practice, giving students a solid foundation of analytical skills that can be used to solve real-world problems.

Admissions Requirements

The following are general admissions requirements for MSBA. Exceptions will be considered on a case-by-case basis. To begin your application online, please go to the Graduate Admissions webpage (http://www.uml.edu/Grad/default.aspx) and click the link for the online application at the bottom of the page.

1. The Graduate Admissions Application form and application fee.
2. Bachelor’s degree from an accredited college or university with a minimum overall GPA of 3.0. A CED foreign credential evaluation (http://www.cedevaluations.com/) is required for degrees earned outside of the United States.
3. GMAT (minimum 500) or GRE (with equivalent minimum score). The GMAT/GRE may be waived based on certain criteria. To apply for a GMAT Waiver, please complete the GMAT Waiver Form (https://www.uml.edu/docs/GMAT%20Waiver%207-18-2016_tcm18-206299.pdf) (pdf) and email it to msba@uml.edu (mailto:msba@uml.edu).
4. Introductory-level business course prerequisites in the following areas:
   - Statistics Examples: ECON.2010 Statistics for Business and Economics I
   - MATH.2830 Introduction to Statistics, or equivalent.
   - MIS Examples: MIST.6010 Management Information Systems,
   - MIST.2010 Business Information Systems, or equivalent.
   - Operations Examples: POMS.5010 Operations Fundamentals,
   - POMS.2010 Managerial Decision Making, or equivalent.
   - Finance Examples: FINA.5010 Business Financial
Analysis,
FINA.3010 Financial Management, or equivalent.

Marketing Examples: MKTG.5010 Marketing Fundamentals,
MKTG.2010 Marketing Principles, or equivalent.

Students must exhibit sufficient recent knowledge of statistics. Students, with a grade of C or below or who have not taken a statistics course in the last 5 years prior to admission, will be required to pass a competency exam in statistics.

5. Three letters of recommendation from instructors who have taught you, ideally in the field of study for which you are applying. Letters may also be from employers or supervisors who are in a position to compare your performance with that of your peers.

6. Statement of Purpose: Submit a 500 - 750 word statement indicating your immediate and long-range goals and any areas of specific interest or experience that may be relevant to the graduate program.

7. Resume or CV that lists your education and work experience.

8. TOEFL for international students (600+ paper-based, 250+ computer-based, or 100+ Internet-Based). A waiver may be given to candidates who have completed at least two semesters of full-time college/university work in the United States by the date of submission of the application.

Curriculum

The Master of Science in Business Analytics requires 10 courses (30 credits). Students complete a core of 7 required courses (21 credits) and then complete three courses (9 credits) within one of four tracks (Big Data, Managerial Decision Making, Marketing Analytics or Finance Analytics).

**Required (Core) Courses**
Total number of courses required = 7 (21 credits)

- MIST.6030 Database Management
- MIST.6060 Business Intelligence and Data Mining
- MIST.6150 Data Engineering for Business Analytics
- POMS.6120 Statistics for Predictive Analytics
- POMS.6220 Decision Analytics
- POMS.6240 Analytical Decision Making Tools
- MIST.6490 / POMS.6490 Business Analytics Capstone Project

**Big Data Analytics Track**
Select 3 of the following courses (9 credits)

- MIST.6080 Enterprise System Management
- MIST.6140 Social and Economic Networks
- MIST.6160 Advanced Data Mining
- POMS.6210 Advanced Statistics for Business

**Managerial Decision Making Track**
Select 3 of the following courses (9 credits)

- MIST.6450 Information Technology Project Management
- POMS.6020 Global Supply Chain Management
- POMS.6030 Service Management
- POMS.6040 Managerial Quality Control

**Marketing Analytics Track**
Select 3 of the following courses (9 credits)

- MIST.6070 Electronic Business
- MKTG.6010 Customers and Markets
- MKTG.6300 Market Research
- MKTG.6410 Marketing Analytics

**Finance Analytics Track**
Select 3 of the following courses (9 credits)

- POMS.6210 Advanced Statistics for Business
- FINA.6010 Corporate Finance
- FINA.6110 Financial Statements Analysis
- FINA.6210 Security Analysis and Portfolio Management

The Manning School of Business Website (http://www.uml.edu/msb/) has more information on the Master of Science in Business Analytics.
MGMT.5010 Organizational Behavior (Formerly MGMT/66.501) - Credits: 2
Introduces students to management and organizational behavior. Its general purpose is to study and understand the behavior of individuals and groups in organizations. It is directed toward behavioral action components and emphasizes the close relationship between the study of organizational behavior and the practice of management. Pre-requisites: MBA or Certificate Programs, or Permission of MBA Director.

MGMT.5040 Curricular Practical Training (Formerly MGMT/66.504) - Credits: 1
An internship, practicum or other type of employment that is either required by the student's academic program or an experience for which a student receives academic credit. To be eligible the student must be in legal F-1 status and have been enrolled full-time for one academic year. CPT work experience must be in the student's field of study and contain a curricular component. Contact the Manning School of Business Graduate Programs office for additional details.

MGMT.5110 Global Enterprise and Competition (Formerly MGMT/66.511) - Credits: 2
To be taken as last course in foundation core. Is an integrated investigation of global competitive issues to help students understand the processes of organization and technological innovation which permit businesses to achieve competitive advantages in a global environment. This course also deals with the nature and techniques of industry analysis necessary to the formulation of effective global strategy for the firm.

MGMT.5750 Business Fundamentals for Scientists and Engineers (Formerly PSM 575) - Credits: 3
Is designed for science and other non-business professionals seeking to excel as managers. This course will introduce core business principles. Starting with managing ourselves, and others, we will move through the functional business disciplines. There will be weekly, theme-based case studies and related articles that will provide ample opportunity to work individually and in teams. The goal of this course is to build your knowledge of business principles and develop the analytic and practical skills necessary to contribute in decision-making and operations.

MGMT.6010 Managing Organizational Change (Formerly MGMT/66.601) - Credits: 3
Examines how business enterprises are designed, managed and changed to operate efficiently and perform effectively within their competitive environments. It critically examines organizations that vary in terms of such characteristics as size, complexity, goals, and technology as they operate under different circumstances and at various stages of their life cycles. The role and impact of individual managers receive particular attention.

MGMT.6070 Independent Study in MIS (Formerly MGMT 607) - Credits: 3
MGMT.6250 Negotiations (Formerly MGMT/66.625) - Credits: 3
Pre-Requisite: MBA Foundation Core.

MGMT.6400 Building and Managing Teams (Formerly MGMT/66.640) - Credits: 3
One critical determinant of success in an on-going corporate venture or launch of a new product, service or company is the performance of teams. This course examines the key roles of leader and follower in the development of project teams in both start startups and existing companies. It will address issues relating to team composition, team member capabilities, and team dynamics as teams develop and change over time. Emphasis is placed on acquiring the interpersonal, communication and collaboration skills necessary for effective team performance.

MGMT.6450 Advanced Professional Communication (Formerly MGMT/66.645) - Credits: 3
MGMT.6520 Human Resources Management (Formerly MGMT/66.652) - Credits: 3
An introduction to the primary human resource functions-job design, recruitment, selection, training, managing workforce diversity, employee development, performance appraisal, compensation and benefits, with an emphasis on how these functions are affected by Equal Employment Opportunity requirements. 3 credits

MGMT.6550 Mid-Management Skills for the New Business Environment (Formerly MGMT/66.655) - Credits: 3
This reading and discussion course for advanced MBA students explores the new skill and performance requirements imposed on middle managers by globalization and technology. Particular attention is given to emerging organizational forms that expand the emphasis on such things as individual free agency, the creation and synthesis of innovations, internal entrepreneurship, influence without authority and the coordination of activities over remote work sites.
MGMT.6770 Independent Study: Management  
(Formerly MGMT/66.677) - Credits: 3
Prerequisite: MBA Foundation Core and 66.601, or permission of MBA Coordinator

MGMT.6880 Current Topics in Management  
(Formerly MGMT/66.688) - Credits: 3
Topics of current interest in Management. Subject matter to be announced in advance. For a current semester course title, please log onto ISIS, the Inter-Campus Student Information System.

MGMT.6910 Strategy Formation and Implementation  
(Formerly MGMT/66.691) - Credits: 3
Reviews strategies for positioning a firm within its competitive environment. Fundamental concepts in strategic management; role of the CEO, levels and components of strategy, competitive analysis, and formulation and implementation of strategy are explored. Pre-Requisite: MBA Advanced Core.

MGMT.7150 Managing Quality In Comp Or  
(Formerly MGMT/66.715) - Credits: 3

MGMT.7300 Research Design I  
(Formerly MGMT/66.730) - Credits: 3
Seminar will address study design, including but not limited to methods, hypothesis development and testing, reliability, and validity.

MGMT.7330 Research Design Methods II  
(Formerly MGMT/66.733) - Credits: 3
Expanding beyond Research Design Methods I Student will begin the design of a research project which considers the range of research methodologies and the implications of their use.

MGMT.7400 Leadership Theory & Principles  
(Formerly MGMT/66.740) - Credits: 3
This course will help students develop a strong understanding of the theoretical lineage of leadership, from great man theory and trait theory up until more recent dynamic leadership theories. In addition to an understanding of the historical theoretical development, students will also gain an appreciation of current knowledge concerning leadership.

MGMT.7410 Leadership & Decision Making  
(Formerly MGMT/66.741) - Credits: 3
This course will examine the manner and nature in which leaders make decisions, specifically decisions as it relates to the larger organization. The course will draw from a diverse spectrum of organizational theories, such as economics, behavioral economics, and psychology. Additionally, we will examine the manner which heuristics, bias and perception influence otherwise rationale decisions. The course will also examine decision making dynamics within the confines of senior leadership teams.

MGMT.7420 Leadership & Change Management  
(Formerly MGMT/66.742) - Credits: 3
The course will focus on research that examines leaders within the context of organizations that are undergoing significant change and restructuring initiatives. Specific attention will be paid to the moderating role of leadership on change and organizational outcome. Numerous research streams will be examined including but not limited to leaders ability to interpret shifts in the environment, leaders role in various phases of the change process, the role of leaders in addressing culture within change efforts, and leaders' ability to manage continuous change and strategic renewal.

MGMT.7430 Leadership & Ethics  
(Formerly MGMT/66.743) - Credits: 3
This course will focus on ethics as it pertains to organizational leaders. Theoretical principles underlying business ethics, specifically as it related to organizational leaders will be addressed, such as the role leaders play in establishing ethics within the organization, the manner in which ethics impacts top management team decision making, and ethical culture.

MGMT.7440 Independent Study  
(Formerly MGMT/66.744) - Credits: 3
Students will be expected to establish a relationship with a faculty member and develop and submit a paper to a top academic conference within their first two years.

MGMT.7450 Seminar in Organization Theory  
(Formerly MGMT/66.745) - Credits: 3
This course focuses on the theories that explain the manner in which organizations form, behave, thrive, and decline. The course will draw from the contemporary literature in organization theory. Specific attention will paid to the major school of thought including but not limited too classical management theory, bureaucracy, behavioral decision theory, contingency theory, resource dependence theory, population ecology theory, organizational economic theory, institutional theory, and network theory.
MGMT.7460 Seminar in Organizational Behavior  
(Formerly MGMT/66.746) - Credits: 3

The doctoral seminar in organizational behavior focuses on theoretical perspectives that explain individual behavior and social processes in organizational settings. The course will draw on literature at the micro and meso levels of analysis. It will provide a broad exposure to the major research domains of this discipline such as motivation, organizational justice, decision making, leadership, power, and organizational change. Emphasis will be placed on critical evaluation of existing paradigms and emerging trends.

MGMT.7470 Leadership Theory and Concepts  
(Formerly MGMT/66.747) - Credits: 3

This doctoral seminar will provide an in-depth review of the theoretical and conceptual frameworks that characterize organizational leadership research, and provide an overview of the empirical research stemming from these frameworks. Students will develop a critical understanding of the literature and an ability to engage in the scholarly discourse surrounding leadership. The course will also help students develop their ideas regarding their own contribution to the field.

MGMT.7510 Public & Business Policy Practicum  
(Formerly MGMT/66.751) - Credits: 3

Examines the larger context of technology, specifically the role that government policy plays in stimulating technology industry clusters. The course will focus on public policy, public economics, and drivers for government support. Specific attention will be paid to research that examines national and regional competitiveness, as it related to role of state and federal government. The class will address comparative policies with other developing economics, such as China and India. Significant emphasis will be placed on the competitiveness of the U.S. technology industries, such as pharmaceuticals, information technology, etc. Students will be expected to put forth original research that addresses current public and business policy concerns, such as whether or not the United States is in decline? Such introspection is not only meant to be provocative, but relevant to the current discussion going on in business policy and public policy circles.

MGMT.7600 International Business Research  
(Formerly MGMT/66.760) - Credits: 3

The aim of the doctoral seminar is to help students develop an advanced understanding of the evolution of international business theories and the present state of international business literature. It introduces a variety of economic and management theories as well as their relevance and application in the field of international business, including models of international trade, product cycle model, competitive advantage model, eclectic paradigm, etc... The course also discusses selected research topics on international trade, international production, and multinational enterprise practices with emphasis on theoretic contributions to international business study.

MGMT.7610 International Management Research  
(Formerly MGMT/66.761) - Credits: 3

This seminar provides an in-depth review of the evolution of the multinational enterprise and the theoretical and empirical literature on international management research. In introduces multiple theoretical lenses through which multinational enterprise management practices can be studied, including international economics, organizational behavior, strategic management, organizational theory, and public policy. The topics include culture, global corporate strategy, cross-cultural communication and negotiation, corporate governance and organizational form, cross-nationally and international human resource management issues. It emphasizes on developing a critical understanding of theory, concept development, research design and research results within the field of international management.

MGMT.7620 International Business Research Methods (Formerly MGMT/66.762) - Credits: 3

The course is designed to provide students with an overview of methodologies (specifically multivariate data analysis) used in international business research. In the process, students will also tackle methods in international business research and what it takes to write a high-impact international business article.

MGMT.7820 Business Policy & Strategy (Formerly MGMT/66.782) - Credits: 3

This course will focus on the various schools of thought for explaining firm performance variance, specifically industry structure, competitive advantage, and competitive position.

MGMT.7840 Country/regional Studies Seminar  
(Formerly MGMT/66.784) - Credits: 3

This class would primarily be an onsite placement in a country/region worked out between the student and their advising committee. Prior to the onsite placement, student would go through an in-depth review of issues related to the overseas placement: economic, technical, financial, management, political, legal, organizational formalities and issues. Of particular importance would be a demonstration of language skills necessary to work successfully in the specific area of the world.

MGMT.7960 Doctoral Dissertation (Formerly MGMT
796) - Credits: 1-9
Doctoral dissertation research.

MGMT.7970 Managerial Research Seminar (Formerly MGMT 797) - Credits: 1

This course will involve mandatory attendance at on-going monthly presentations by invited scholars from local, national, and international universities. The goal of the course is to enhance PhD student appreciation for, and familiarity with, high quality research in various business-related disciplines.
ENTR.5650 Technological Entrepreneurship  
(Formerly ENTR 565) - Credits: 3  
This course is designed to help master’s level students, often from fields outside of business, understand how technological and social innovations lead to new businesses and how those are created, funded, governed, and grown.

ENTR.5910 Independent Study (Formerly ENTR 591) - Credits: 1  
ENTR.6100 Global Entrepreneurship and Innovation I  
(Formerly ENTR /64.610) - Credits: 3  
The Course is offered as a 2-week intensive experiential learning of Global Entrepreneurship and Innovation. It is designed to help students to understand the importance of entrepreneurship and innovation in today’s global economy and to cultivate an entrepreneurial mind-set among the students in the UMass Lowell Students will work in interdisciplinary, multi-cultural environments exploring problem solving techniques, opportunities identification, business concept development and venture planning using standard business model framework and bringing ideas to reality.

ENTR.6110 Global Entrepreneurship and Innovation II  
(Formerly ENTR /64.611) - Credits: 3  
The Course is offered as a 2-week intensive experiential learning of Global Entrepreneurship and Innovation. It is designed to help students to understand the importance of entrepreneurship and innovation in today’s global economy and to cultivate an entrepreneurial mind-set among the students in the UMass Lowell. Students will work interdisciplinary, multi-cultural environments exploring problem solving techniques, opportunities identification, business concept development & Venture planning using standard business model framework and bringing ideas to reality.

ENTR.6350 Financing Innovation and Technology Ventures  
(Formerly ENTR /64.635) - Credits: 3  
This course focuses on strategies for financing innovation and new technology ventures both within a firm and on a standalone basis. Topics covered will include: different types of business organizations; different sources of funding including internal sources and external sources such as angel investors, venture capitalists, etc.; short-term and long-term financial planning and forecasting; business valuation; term sheet negotiation and exit strategies including mergers and acquisitions and IPOs. Each aspect of the course will be covered within the context of a business plan and venture lifecycle.

ENTR.6400 New Venture Creation (Formerly ENTR/64.640) - Credits: 3  
This course is designed for students who are interested in entrepreneurship. The focus is on entrepreneurship as generic activity. It explores the opportunities and challenges face by individuals who seek to start a new ventures and the probable career development paths that are available. For those who may be interested in starting or running a new business, the course will provide an essential foundation for this process, identify the skills and resources required, and explore the opportunities available to the young entrepreneur.

ENTR.6450 New Product Development (Formerly 66.630) - Credits: 3  
This course will enable students to understand the complexities involved in new innovation and technology-based product development. Through examples and exercises, students will be exposed to such topics as creative problem solving, customers/suppliers/partners involvements and inputs processes, integration among all functions, building and managing cross functional teams, rapid prototyping and development, creating a learning organization and measurements.

ENTR.6500 Innovation and Emerging Technology  
(Formerly ENTR /64.650) - Credits: 3  
This course examines technological innovation and its relationship to value-creation and business strategy. Emphasis is placed on emerging scientific and technical innovations and the opportunities and challenges they present to both existing businesses and new venture entrepreneurs. The overall goal of this course is to help you to understand, appreciate and learn to manage the technology innovation process. Students examine innovation strategies, planning models, evaluation models, licensing and the commercialization process required to launch new businesses around innovative products and technologies.

ENTR.6550 Corporate Entrepreneurship (Formerly ENTR /64.655) - Credits: 3  
This course focuses on entrepreneurship in established companies. Corporate Entrepreneurship (CE) is a process by which companies adopt a conscious strategy to encourage creativity, innovation, outside-the-box thinking, experimentation and risk taking. As a result, companies promoting and implementing CE strive for competitive advantages in rapidly changing global markets. The course will cover components of CE, developing & implementing CE strategies and managing CE.
ENTR.6700 Global Entrepreneurship (Formerly ENTR 64.670) - Credits: 3

This course discusses state of global entrepreneurship and the opportunities for it. It will cover different forms of global entrepreneurship, influences of macro forces and factors for global entrepreneurs consideration. The course will offer a structured approach to thinking and creating entrepreneurship beyond domestic markets and operations. It will present entrepreneurship framework, case studies, group projects and connections with global entrepreneurs to understand real-life global entrepreneurship.

ENTR.6800 Capstone I - New Venture Planning (Formerly ENTR 64.680) - Credits: 3

Capstone I-New Venture Planning (64.680) and Capstone II-New Venture Implementation (64.681) focus on technology commercialization, business planning and initial incubation of an early-stage business by project teams, and the development of an investment proposal to launch a new business. In Capstone I students will be exploring, identifying and analyzing the path from Idea to Market for technology and research projects. They will evaluate selected technology and research projects for commercial applications and explore different options available to productize and introduce these projects to market. Where appropriate, teams will complete a new venture business plan and launch a new business (Capstone II). These two courses together will comprise the M.S.I.T.E program Capstone experience and will require students to actually develop these commercialization projects. Each student team will be assigned to a faculty member(s) who will instruct and guide them throughout this process. Capstone II may only be taken by students in the M.S.I.T.E program.

ENTR.6880 Current Topics in Entrepreneurship (Formerly ENTR 64.688) - Credits: 3

This course is designed for an entrepreneur or an intrapreneur that focuses on key marketing concepts, methods, and strategic issues relevant for start-up and early-stage entrepreneurs and new ventures within an established company. It will give students a broad and deep understanding of such topics; Entrepreneurship and marketing; Marketing Opportunities; Market Development; Distribution strategy; pricing Strategy; Customer Relationship Strategy; Communication Strategy; and Effective use of Social Media. Start-up entrepreneurs and intrapreneurs face the challenge of matching large resources of established companies and thus have to utilize different ("entrepreneurial") marketing methods to succeed.

ENTR.6990 Independent Study (Formerly ENTR 64.699) - Credits: 3

ENTR.7400 Seminar in Entrepreneurship Research (Formerly ENTR 64.740) - Credits: 3

This is a full-semester seminar devoted to the diverse field of entrepreneurship. During the semester, we will cover seminal articles as well as contemporary topics and debates. Our emphasis is on reading and discussing academic articles from various perspectives on entrepreneurship. Students are expected to actively participate and contribute to class discussions as well as prepare a research proposal.

ENTR.7410 Corporate Entrepreneurship (Formerly ENTR 64.741) - Credits: 3

The course investigates the extant literature on innovation within the confines of an established organization. Corporate entrepreneurship is concerned with firm level entrepreneurship, specifically the notion of strategic renewal. Specific attention will be paid to underlying theoretical constructs associated with innovation, such as risk, culture, top management disposition, as well as their affect on organizational performance.

ENTR.7420 Seminar in Corporate Entrepreneurship (Formerly ENTR 64.742) - Credits: 3

In this course, students will become familiar with and develop an in-depth understanding of the concepts, models, and paradigms that collectively form the foundation for corporate entrepreneurship. The purpose is to develop a keen awareness of major gaps that exist in the literature. Students will develop...
the ability to critically integrate findings from the literature and strengthen the skills needed to conduct original research in the related areas.

ENTR.7430 Seminar in Innovation and New Product Development (Formerly ENTR /64.743) - Credits: 3

This seminar is on the progress of the scholarly research on innovation and new product development. Topics include: types, drivers, and outcomes of innovation; new product development processes, how innovations and new products can help an organization develop a sustainable competitive advantage.

ENTR.7440 Current Topics in Innovation and Entrepreneurship (Formerly ENTR /64.744) - Credits: 3

This course examines current topics facing entrepreneurs and companies in strategic marketing of their innovative products and services. The specific issues covered include customers risk and value perceptions, buyer-seller relations, customer lifetime value, international

ENTR.7960 Doctoral Dissertation (Formerly ENTR /64.796) - Credits: 1-9

Doctoral dissertation research.

ENTR.7970 Managerial Research Seminar (Formerly ENTR /64.797) - Credits: 1

The course will involve an on-going monthly presentation from across scholarly disciplines. Speakers will be drawn from local, national, and international universities. Attendance will be mandatory; PhD students should gain an appreciation for high level scholarship and corporate governance research.

ENTR.9010 Research Seminar: Industrial Competition (Formerly ENTR /64.901) - Credits: 3

MKTG.4970 Senior Seminar - Credits: 3

MKTG.5010 Marketing Fundamentals (Formerly MKTG 501,62.501) - Credits: 2

Describes how marketing strategies and plans of a competitive enterprise are formulated, implemented, and adjusted over time. Behavioral and quantitative aspects are covered, as well as analysis of the environmental forces affecting marketing decisions. Pre-requisites: MBA or Certificate Programs, or Permission of MBA Director.

MKTG.5450 Professional and Scientific Communication (Formerly PSM 545) - Credits: 3

This course will help you improve your professional communication. A science professional who can communicate quickly, clearly and effectively will be most successful in the workplace. In this course, you will gain a fuller understanding of the communication process, and will practice the application of effective communication skills. You will develop both written and oral communication within the context of your professional area. Students will prepare and present a variety of short to moderate length presentations and written assignments. These assignments simulate those encountered in the “real-world” including persuasive presentations, oral and written reports, media interviews, memoranda, and crisis situations. This class will also display the impact of newer technologies such as e-mail and presentational software and the opportunities they present and constraints they place on effective communication. Supplemental course reading and materials included as appropriate.

MKTG.6010 Customers and Markets (Formerly MKTG 601/62.601) - Credits: 3

Prerequisite: Student must be matriculated and have finished foundation core. Pursues the development of comprehensive and integrated marketing plans using industry/competitor analysis, market value chains, and forecasting. An emphasis is given to business-to-business marketing situations which require an in-depth analysis of the firms’ complex organizational behavior and evolving buyer-seller relationship.

MKTG.6150 Sustainable Marketing (Formerly MKTG 615/62.615) - Credits: 3

MKTG.6200 Sales Management (Formerly MKTG.620) - Credits: 3

This course offers students the opportunity to understand how sales management is conducted in small entrepreneurial organizations and large established enterprises. Topics include aligning the sales function with overall organizational objectives, integrating sales into the value delivery process, recruiting a talented sales team and meeting enterprise goals through target setting, compensation schemes, effective use of sales automation systems, and the importance of the Internet and other emerging technologies in the sales discipline. The course will explore the range of sales skills from the consultative selling of complex deals to transactional account management, as well as structural options such as product specialization, customer segment focus and territory alignment.

MKTG.6250 Digital Marketing (Formerly MKTG 625/62.625) - Credits: 3
This course combines a strategic view of digital marketing and its challenges and opportunities with a tactical approach whereby through case studies, interactive sessions, class exercises, and client projects, students learn about the latest research and best practices in the industry. Topics to be covered include digital marketing strategy, digital marketing and business model innovation, social media marketing, search engine optimization, mobile marketing, video marketing, web analytics and measurement, legal and security issues, and multichannel integration. Students will leave the course with a working knowledge of the tools and processes for creating, managing, and executing digital marketing plans.

MKTG.6300 Market Research (Formerly 62.630) - Credits: 3

In this course students will learn and apply various marketing research techniques that will enable them to make soundly based decisions about new products or services in either an existing firm or new venture. Some of the topics covered include: assessing customer needs, estimating market demand, deciding the features of a proposed product/service and the price that would be most attractive in its target market. The course will provide students with an overview of key marketing concepts, and understanding of the statistical methodology behind market research techniques and practical application of these techniques through cases and projects.

MKTG.6700 International Marketing (Formerly MKTG 670/62.670) - Credits: 3

This course gives students a comprehensive view of marketing planning activity related to foreign markets. It aims to develop your understanding of the various dimensions of a business enterprise that are influenced by marketing. Marketing is a leading, integrated activity that influences the enterprise as a whole. Understanding of key trends in the global context and how they might affect a firm’s marketing activity is fundamental for all employees, particularly marketers, executive management and the leadership team including the CEO, and managers at all levels in various functions of the company. This course provides a comprehensive introduction to this fascinating subject in business management.

MKTG.6770 Independent Study: Marketing (Formerly MKTG 677/62.677) - Credits: 3

Pre-Requisite: MBA Foundation Core and 62.601 or permission of MBA Coordinator.

MKTG.6880 Current Topics in Marketing (Formerly MKTG 688/62.688) - Credits: 3

Topics of current interest in Marketing. Subject matter to be announced in advance. For a current semester course title, please log on to ISIS, the Inter-Campus Student Information System.

MKTG.7400 International Marketing Research (Formerly MKTG 740/62.740) - Credits: 3

The doctoral seminar is designed to expose students to the cutting-edge research in marketing models and discuss the relevance and implications of these marketing theories in a global business environment. It covers various research topics including pricing, new product development, marketing, brand management, and consumer behavior in a cross-national setting, with emphasis on developing a critical understanding of theory, concept development, research design, and research results within the field of international marketing.
MIST.6010 Management Information Systems
(Formerly 63.601, MIST 601) - Credits: 3
Examines computer technologies, database management, and data communications as vehicle to improve and/or restructure business processes and decision-making effectiveness to create competitive advantage.

MIST.6030 Database Management (Formerly 63.730: Advanced Data Management, MIST 603) - Credits: 3
This course provides students with in-depth knowledge for modeling, designing, implementing, and managing database systems for operational and decision support purposes. Topics covered include relational database model, entity-relationship modeling, normalization, SQL language, data warehousing, data quality and integration, data and database administration, and object-oriented database.

MIST.6060 Business Intelligence and Data Mining
(Formerly MIST 606) - Credits: 3
This Course introduces the concepts and technologies of business intelligence and data mining. The course studies how data-oriented business intelligence techniques can be used by organizations to gain competitive advantages, as well as how to design and develop these techniques. Topics include classification, clustering, association analysis, prediction, and text and web mining. Data-mining related ethical issues will also be discussed.

MIST.6070 Electronic Business (Formerly 63.630: E-business, MIST 607) - Credits: 3
This course provides a foundation on digital commerce and e-business for MBA students. It will cover both technological and managerial aspects of managing e-business operations in either a traditional or pure "dot.com" organization. Issues covered include interactive marketing and market-spaces, agent-based commerce and intelligent markets, electronic shopping carts, user interface issues, EDI transaction via Extraneats, database interfaces, personalization and targeted communications, security, encryption, and payment systems, privacy and intellectual property.

MIST.6080 Enterprise System Management
(Formerly 63.640, MIST 608) - Credits: 3
This course, an MBA elective, will focus on Enterprise Resource Planning (ERP) systems that integrate information spanning the functional boundaries within an organization. ERP systems include like SAP/R3, PeopleSoft, Oracle, and Customer Relationship Management (CRM) like Seibel, Tariva, etc. The goals of the course are to help students understand ERP systems and their underlying components and technologies, the implications of implementing ERP in organizations. Course will cover management and technical issues during the pre-implementation, installation, and post-installation stages of the ERP and/or CRM software in organizations. This course will cover topics such as: ES planning, business process re-engineering, selection of ES software and vendors, role of outside consultants, budgeting and resource planning, systems conversion, testing, user training, stabilization, role of top management, IT staff, consultants, design teams, and employee, and other topics.

MIST.6100 Information Technology Infrastructure
(Formerly 63.610, MIST 610) - Credits: 3
This course examines in detail, the two major technologies for establishing the Information Technology (IT) architecture & Infrastructure in an organization. Topics include Multi-user Database environments, review of IT architectures, the migration of legacy systems, network (WAN, LAN) design, deployment, and management, and role of the Internet, Extranet, and Intranet.

MIST.6140 Social and Economic Networks (Formerly 63.745: Electronic Commerce, MIST 614) - Credits: 3
This course provides a foundation on digital commerce and e-business for PhD program. It will cover both theory and practice of e-commerce (B2C), e-business (B2B) and emerging e-business technologies such as Web 2.0 and social networking, all with an organizational perceptive. Various theoretical models will be analyzed on topics such as e-strategy, interactive/e-marketing and supply-chain, agent-based commerce and intelligent markets, shopping carts and payment systems, user interface design, EDI transactions and Extraneats, personalization and privacy security, encryption, and intellectual property. Students will be assessed through research paper and exams.

MIST.6150 Data Engineering for Business Analytics
(Formerly 63.760 Enterprise Information Systems, MIST 615) - Credits: 3
This course will focus on Enterprise Systems such as Enterprise Resource Planning (ERP) systems and customer relationship Management (CRM) that integrate information spanning the functional boundaries (cross-functional) within an organization and link them with customers. This course will analyze theory and practice of implementing enterprise systems and their underlying components and technologies, their implications organization change and business processes. Students will be assessed through research paper and exams.
MIST.6160 Advanced Data Mining (Formerly 63.798: Independent Study in Management Information, MIST 616) - Credits: 3

MIST.6170 Information Privacy and Security (Formerly 63.770, MIST 617) - Credits: 3

This course examines information privacy and security from various perspectives. The course provides students with in-depth understanding of the privacy and security issues due to advances in information technology, as well as related legal, organizational, social and economic implications and consequences. The course also explores approaches to analyze, design and implement the privacy and security components/functions of information systems.

MIST.6350 Project Management (Formerly MIST/MGMT 635) - Credits: 3

This course will focus on managing innovation and technology projects and the critical role that a project manager plays in successful execution. Topics included in the course are: project planning, deliverables, managing quality, change management, documentation, communication, risks management, project team and human resource management approaches and creating and managing expectations.

MIST.6450 Information Technology Project Management (Formerly 63.620, MIST 645) - Credits: 3

Application and integration of the project management body of knowledge (PMBOK) areas to managing information technology (IT) projects. Focuses on project management tools and techniques for defining and managing the project’s goal, scope, schedule, and budget. Other topics include quality management, risk management, change management, and knowledge management as they are related to IT projects.

MIST.6880 Current Topics in Management Information Systems (Formerly 63.688, MIST 688) - Credits: 3

Selected topics having current and future impact in the field of MIS. Subject matter to be announced in advance.

MIST.7060 Data Analytics (Formerly 63.706, MIST 706) - Credits: 3

This course introduces the concepts and technologies of data analytics and data mining for transforming data into insight and business intelligence. The course studies how the data-driven analytics technologies can be used by organizations to gain competitive advantages, and how to design and develop these technologies. Topics include data integration, data transformation, prediction, classification, clustering, association, text mining, optimization, model and performance evaluation, and data-mining related privacy and ethical issues.

MIST.7070 Electronic Commerce (Formerly 63.707, MIST 707) - Credits: 3

This course provides a foundation on digital commerce and e-business research for PhD. students. It will cover both technological and managerial aspects of managing e-business operations in either a pure (Dot.Com) organization or traditional organization (bricks-and-click). Issues covered include interactive marketing and market-spaces, agent-based commerce and intelligent markets, electronic shopping carts, user interface issues, EDI transaction via Extranets, database interfaces, personalization and targeted communications, security, encryption, and payment systems, privacy and intellectual property. Students will be conducting literature review in each of these key e-business areas and identify potential future research directions.

MIST.7080 Enterprise Systems (Formerly 63.708, MIST 708) - Credits: 3

The course will focus on implementation issues with Enterprise Systems (also called Enterprise Resource planning – ERP) which integrate the informational and functional boundaries within organization. The goals of the course are to help students understand the underlying ERP components and technologies, change management, and process integration in organization. Conceptual models will be analyzed on topics such as business process management, customer relationship management, supply chain management, privacy and security, and outsourcing issues as related to the implementation of enterprise systems. Students will be assessed through case analysis, exams, and research paper proposals.

MIST.7090 Independent Study in Management Information Systems (Formerly 63.709, MIST 709) - Credits: 1-3

An opportunity for the student to carry out individualized study relating to the field of Management Information Systems under the supervision of a member of the faculty. Pre-requisites: MBA Foundation Core and Permission of MBA Coordinator

MIST.7370 Multivariate Statistical Methods (Formerly 63.737, MIST 737) - Credits: 3

This course introduces statistical methods and techniques for
multivariate data analysis. The course studies basic ideas underlying multivariate statistical methods and covers various applications of multivariate statistical analysis. The course discusses the design of a multivariate study, the choice of a multivariate method, the procedure of multivariate statistical analysis, and the interpretation of the analysis results. Topics include multivariate normal distribution, multivariate analysis of variance and covariance (MANOVA and MACOVA), principal components, factor analysis, structure equation modeling, canonical correlation, discriminant analysis, and cluster analysis.

MIST.7450 Information Technology Project Management (Formerly 63.780, MIST 745) - Credits: 3

This course covers the concepts, practices, processes, tools, techniques and resources used by information system (IS) project managers. The entire project life cycle will be covered from project initiation to project termination. The course will closely apply the framework of the Project Management Body of Knowledge (PMBoK) to carry out IT projects. The course will focus on how to manage the scope, schedule, budget and change of projects, with research emphasis on information systems and information technology projects.

MIST.7500 Seminar in Information Systems Research (Formerly 63.750, MIST 750) - Credits: 3

This course focuses on the contemporary topics in information systems research. The materials discussed in this course will be selected from leading IS research publications. Subject areas may be organizational, social, or technological in nature. Research methodologies may be empirical, computational or economics oriented. This course will normally be taught by multiple faculty members jointly.

MIST.7880 Current Topics in Management Information Systems (Formerly MIST 788) - Credits: 3

This course addresses one or more topics having current or future impact on the research fields of Information Systems. Topics can change at each course offering. Typically, the course will focus on emerging research streams in Management Information Systems, exploring new techniques and research methodologies used in the literature that yield high-impact research results.

MIST.7900 Doctoral Dissertation (Formerly MIST 790) - Credits: 1-9

Doctoral dissertation research.

MIST.7970 Managerial Research Seminar (Formerly MIST 797) - Credits: 1

The course will involve an on-going monthly presentation from across scholarly disciplines. Speakers will be drawn from local, national, and international universities. Attendance will be mandatory; PhD students should gain an appreciation for high level scholarship and corporate governance research.

POMS.5010 Operations Fundamentals (Formerly 63.501/POMS 501) - Credits: 2

Provides students with an introduction to operations management and operations analysis. The latter furnishes the student with a set of quantitative tools which are useful in designing and operating the former. These techniques are also generally applicable to other functional areas/courses within the MBA Program. Pre-requisites: MBA or Certificate Programs, or Permission of MBA Director.

POMS.6010 Operations Management (Formerly 63.671/POMS 601) - Credits: 3

Examines the strategic and tactical operations processes of manufacturing and service firms that foster global competitiveness. This course focuses on traditional and newer approaches including just-in-time, total quality management, MRP, flexible manufacturing systems, and capacity and management that lead to an integrated operations strategy. Cost reductions, flexibility, and market responsiveness are also considered.

POMS.6020 Global Supply Chain (Formerly POMS 602) - Credits: 3

POMS.6030 Service Management (Formerly 63.673/POMS 603) - Credits: 3

POMS.6040 Managerial Quality Control (Formerly 63.690/POMS 604) - Credits: 3

POMS.6120 Statistics for Predictive Analytics - Credits: 3

This course introduces statistical methods and techniques for predictive analytics. This is part of the business-analytics umbrella of courses. The main focus of this course is on regression, a powerful and widely used predictive method. Topics covered include simple linear regression, multiple regression, variable selection, model diagnostics, and systems of regression equations. The course also covers classification techniques using statistical methods such as linear discriminant function and logistic regression. Spreadsheet software, such as MS Excel, and statistical software, such as SAS and R, will be
heavily utilized.

**POMS.6220 Decision Analytics - Credits: 3**

The main objective of this course is for the students to develop an understanding of the role of using advanced analytic modeling in direct support of managerial decision making (commonly referred to as decision making, data analytics, decision support systems, and how they relate to other types of business analytic methodologies, (2) decision support systems (DSS) development methodologies and enabling technologies such as Analytical Hierarchy Process, Data Envelopment Analysis, Expert Systems, Neural Nets, Fuzzy Logic, Multi-criteria Decision Making, and (3) DSS enabling software packages, including some hands-on capabilities.

**POMS.7090 Independent Study: Operations Management (Formerly 63.779/POMS 709) - Credits: 3**

Pre-requisites: MBA Foundation Core and Permission of MBA Coordinator