Spring 2016 Course Registration Information for MS Industrial Engineering

Congratulations on your acceptance to MS Industrial Engineering program at Northeastern University!

At this time we suggest that you register for spring 2016 courses. Before registering for classes, please make sure to watch the following webinars:

Course Search Webinar: http://www.northeastern.edu/registrar/webinar-search.html
Course Add/Drop Webinar: http://www.northeastern.edu/registrar/webinar-adddrop.html

Please refer to the following subject codes when searching for courses:

CSYE - Computer Systems Engineering
EMGT - Engineering Management
ENLR - Engineering Leadership
IE - Industrial Engineering
MEIE - Mechanical & Industrial Engineering
OR - Operations Research

You will be able to add or drop courses using the online course registration system during the first two weeks of the spring semester. If you have any questions or difficulties with the above instructions, we will be able to assist you upon your arrival. Please do not register for MS Thesis or MS Project at this time because these courses must be preapproved by your Academic Advisor before registration.

Spring 2016 courses are available to view at the following link:

https://wl11gp.neu.edu/udcprod8/bwlkffcs.p_disp_dyn_sched

When searching for courses at the above link, please make sure to select “Spring 2016 Semester” for the term then appropriate subject code for subject followed by “Graduate” for course level.

Plan of Study

All students are required to complete a Plan of Study by meeting with their Academic Advisor during their first semester. Plan of Study can be accessed at the following link:


We advise full-time students to register for at least two courses and part-time students to register for at least one course.
MS Industrial Engineering Curriculum

Please choose to register for courses listed in your approved curriculum. List of approved courses for Industrial Engineering students can be found at the end of this message.

Enrollment Confirmation

You will not be able to register for spring classes until you confirm your enrollment. Please make sure to confirm your enrollment at Northeastern University by logging into your application account and paying the enrollment deposit.

Frequently Asked Questions

What if I was admitted as a Provisional or Conditional Student?

If page 2 of your Admission Letter states that you must fulfill additional requirements such as “REQUIREMENT (S): Student must take a course in Multivariate Calculus and a course in Linear Algebra before she/he is granted Regular Student status,” then you must meet with your Academic Advisor as soon as possible after the Orientation to determine your Plan of Study.

What if my course is full?

Enrollments are always shifting as students get Co-ops or change their course registrations. If a seat isn’t available in your preferred class right away, you can join the waitlist. To join a waitlist, enter the class CRN (the 5 numbers in parentheses next to the course number above) directly into your registration sheet and hit submit. You will then have an option to select “waitlist” from a drop down menu. The waitlist system will automatically inform you when a seat opens up. When a seat opens up, you need to just log into your account and accept it within the 24 hour time limit.

How do I register for the Co-op course?

One of the requirements to become eligible for Co-op Experience is to take the course ENCP 6100 – Introduction to Cooperative Education. This course is available in both fall and spring semesters. Please note that CRN (Course Reference Number) for the Co-op class for Industrial Engineering section is 37414.

Will I get a bill by registering for courses?

Your first e-bill is generated when you register for your courses. You will receive an e-bill from the university with instructions on how to pay the bill. If you have questions about payment, please contact the Student Financial Services at: http://www.northeastern.edu/financialaid/
How do I get a MyNEU account?

After you confirm your enrollment, you will be able to utilize your MyNEU portal. If you have not yet set up your MyNEU account then please login to your electronic application and look for instructions to do so at the link: https://app.applyyourself.com/AYApplicantLogin/fl_ApplicantConnectLogin.asp?id=neu-grad

We wish you all the best and look forward to working with you.

Sincerely,

Graduate School of Engineering
Northeastern University
360 Huntington Avenue
Boston, MA 02115

MS Industrial Engineering Curriculum

INDUSTRIAL ENGINEERING
www.mie.neu.edu/mie/degrees-programs/graduate-studies

HANCHEN HUANG, PHD
Professor and Chair
NADER JALILI, PHD
Professor and Associate Chair for Graduate Studies and Research

334 Snell Engineering Center
617.373.2740
617.373.2921 (fax)

The Department of Mechanical and Industrial Engineering (MIE) offers MS and PhD degree programs in industrial engineering.

Master of Science Degrees

REQUIREMENTS
To be eligible for admission to any of the Master of Science (MS) degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or equivalent field. Students in all master’s degree programs must complete a minimum of 32 semester hours of approved course work (exclusive of any preparatory courses) with a minimum GPA of 3.000. Students may pursue any program either on a full- or part-time basis; however, certain restrictions may apply as described below.
Students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete an 8-semester-hour thesis. Other students may choose to complete a thesis, project, or pursue their degree on a course-work-only (also known as nonthesis) basis. Students who complete the thesis option must make a presentation at a thesis defense before approval by the department.

SPECIAL COURSE REQUIREMENTS
All MIE MS students in thesis or project options (excluding MS students in engineering management and the Gordon Engineering Leadership programs), who have entered in or after the fall 2012 semester, must complete MEIE 6800 Technical Writing and MEIE 6850 Research Seminar in Mechanical and Industrial Engineering, preferably during their first year of full-time study. If appropriate, part-time students may petition the graduate affairs committee to waive these requirements. Students in combined BS/MS programs who entered in or after fall 2014 must take MEIE 6850 as part of their course work requirement, while MEIE 6800 is optional for these students.

All MIE graduate students are also required to complete a brief online session on Responsible Conduct of Research and Plagiarism in one of these courses. The outcome of the online session will be filed with the student’s records.

ACADEMIC AND RESEARCH ADVISORS
All non-thesis students are advised by the academic advisor designated for their respective concentration or program. Thesis-option MS students must find a research advisor within their first year of study and may have thesis reader(s) at the discretion of their research advisor. The research advisor must be a full-time faculty or affiliated member of the MIE department; otherwise, a petition must be filed and approved by the MIE graduate affairs committee. If the research advisor is outside the MIE department, a faculty member with 50 percent or more appointment in the MIE department must be chosen as co-advisor. Thesis-option students are advised by the academic advisor of their concentration before they select their research advisor(s).

PLAN OF STUDY AND COURSE SELECTION
It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the course work requirements and research activities of the department as well as with general policies, procedures, and expectations.

In order to receive proper guidance with their course work needs, all MS students are strongly encouraged to complete and submit a signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form helps the students manage their course work as well as helps the department plan for offering the requested courses. The PS form may be modified at any time as the students proceed in their degree programs. However, requests for changes in PS must be processed before the requested change actually takes place. A revised PS form must also be approved and signed by the academic advisor.
Industrial engineering students must select all required course work, typically consisting of six or more courses, from the list below. Each student’s academic advisor must approve all courses prior to registration. Students may not use any courses taken without the approval of the academic advisor toward the 32-semester-hour minimum requirement. However, students may petition the MIE graduate affairs committee to substitute no more than one (4-semester-hour) graduate-level course from outside the approved list of electives. This may include independent study. An independent study must be approved by the research advisor (for thesis option) or academic advisor (for non-thesis option). The petition must clearly state the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

<table>
<thead>
<tr>
<th>Degree Requirements</th>
<th>Course Work Only</th>
<th>With Project</th>
<th>With Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required core courses</td>
<td>16 SH</td>
<td>16 SH</td>
<td>16 SH</td>
</tr>
<tr>
<td>Elective courses</td>
<td>16 SH</td>
<td>12 SH</td>
<td>8 SH</td>
</tr>
<tr>
<td>MEIE 6800 –Technical Writing</td>
<td>N/A</td>
<td>0 SH</td>
<td>0 SH</td>
</tr>
<tr>
<td>MEIE 6850 - Research Seminar in Mechanical and Industrial Engineering</td>
<td>N/A</td>
<td>0 SH</td>
<td>0 SH</td>
</tr>
<tr>
<td>Project/Thesis</td>
<td></td>
<td>4 SH</td>
<td>8 SH</td>
</tr>
<tr>
<td>Minimum semester hours required</td>
<td>32 SH</td>
<td>32 SH</td>
<td>32 SH</td>
</tr>
</tbody>
</table>

**MSIE—Master of Science in Industrial Engineering**  
Complete all courses and requirements listed below unless otherwise indicated.

**GENERAL REQUIREMENTS**
- IE 6200 Engineering Probability and Statistics 4 SH
- OR 6205 Deterministics Operations Research 4 SH

**Core Requirements**
Complete two of the following courses:
- IE 5400 Healthcare Systems Modeling and Analysis 4 SH
- IE 7200 Supply Chain Engineering 4 SH
- IE 7215 Simulation Analysis 4 SH
- IE 7315 Human Factors Engineering 4 SH
- IE 7275 Data Mining in Engineering 4 SH
OPTIONS
Complete one of the following options:

Course Work Option
Complete 16 semester hours from the following courses:

CSYE 6200 Concepts of Object-Oriented Design 4 SH
CSYE 6205 Concepts of Object-Oriented Design with C++ 4 SH
CSYE 6210 Component Software Development 4 SH
CSYE 6220 Enterprise Software Design 4 SH
CSYE 7230 Software Engineering 4 SH
CSYE 7270 Building Virtual Environments 4 SH
CSYE 7280 Advanced User Experience Design and Testing 4 SH
EMGT 5220 Engineering Project Management 4 SH
EMGT 5300 Engineering/Organizational Psychology 4 SH
EMGT 6225 Economic Decision Making 4 SH
EMGT 6305 Financial Management for Engineers 4 SH
IE 5617 Lean Concepts and Applications 4 SH
IE 5620 Mass Customization 4 SH
IE 5630 Biosensor and Human Behavior Measurement 4 SH
IE 6300 Manufacturing Methods and Processes
IE 7255 Manufacturing Processes 4 SH
IE 7270 Intelligent Manufacturing 4 SH
IE 7275 Data Mining in Engineering 4 SH
IE 7280 Statistical Methods in Engineering 4 SH
IE 7285 Statistical Quality Control 4 SH
IE 7315 Human Factors Engineering 4 SH
IE 7290 Reliability Analysis and Risk Assessment 4 SH
OR 7230 Probabilistic Operation Research 4 SH
OR 7235 Inventory Theory 4 SH
OR 7240 Integer and Nonlinear Optimization 4 SH
OR 7245 Network Analysis and Advanced Optimization 4 SH
OR 7250 Multi-Criteria Decision Making 4 SH
OR 7260 Constraint Programming 4 SH
OR 7310 Logistics, Warehousing, and Scheduling 4 SH

- AND - Any other approved engineering or business discipline course

Project Option
IE 7945 Master’s Project 4 SH
MEIE 6800 Technical Writing Seminar 0 SH
MEIE 6850 Research Seminar in Mechanical and Industrial Engineering 0 SH

ELECTIVES
Complete three of the following courses:
CSYE 6200 Concepts of Object-Oriented Design 4 SH
CSYE 6205 Concepts of Object-Oriented Design with C++ 4 SH
CSYE 6210  Component Software Development  4 SH
CSYE 6220  Enterprise Software Design  4 SH
CSYE 7230  Software Engineering  4 SH
CSYE 7270  Building Virtual Environments  4 SH
CSYE 7280  Advanced User Experience Design and Testing  4 SH
EMGT 5220  Engineering Project Management  4 SH
EMGT 5300  Engineering/Organizational Psychology  4 SH
EMGT 6225  Economic Decision Making  4 SH
EMGT 6305  Financial Management for Engineers  4 SH
IE 5617  Lean Concepts and Applications  4 SH
IE 5620  Mass Customization  4 SH
IE 5630  Biosensor and Human Behavior Measurement  4 SH
IE 6300  Manufacturing Methods and Processes  4 SH
IE 7255  Manufacturing Processes  4 SH
IE 7270  Intelligent Manufacturing  4 SH
IE 7275  Data Mining in Engineering  4 SH
IE 7280  Statistical Methods in Engineering  4 SH
IE 7285  Statistical Quality Control  4 SH
IE 7315  Human Factors Engineering  4 SH
IE 7290  Reliability Analysis and Risk Assessment  4 SH
OR 7230  Probabilistic Operation Research  4 SH
OR 7235  Inventory Theory  4 SH
OR 7240  Integer and Nonlinear Optimization  4 SH
OR 7245  Network Analysis and Advanced Optimization  4 SH
OR 7250  Multi-Criteria Decision Making  4 SH
OR 7260  Constraint Programming  4 SH
OR 7310  Logistics, Warehousing, and Scheduling  4 SH

- AND - Any other approved engineering or business discipline course

Thesis Option
Requires 8 semester hours:
IE 7990  Thesis  1 to 8 SH
MEIE 6800  Technical Writing Seminar  0 SH
MEIE 6850  Research Seminar in Mechanical and Industrial Engineering  0 SH

ELECTIVES
Complete two of the following courses:
CSYE 6200  Concepts of Object-Oriented Design  4 SH
CSYE 6205  Concepts of Object-Oriented Design with C++  4 SH
CSYE 6210  Component Software Development  4 SH
CSYE 6220  Enterprise Software Design  4 SH
CSYE 7230  Software Engineering  4 SH
CSYE 7270  Building Virtual Environments  4 SH
CSYE 7280  Advanced User Experience Design and Testing  4 SH
EMGT 5220  Engineering Project Management  4 SH
EMGT 5300 Engineering/Organizational Psychology 4 SH
EMGT 6225 Economic Decision Making 4 SH
EMGT 6305 Financial Management for Engineers 4 SH
IE 5617 Lean Concepts and Applications 4 SH
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OR 7245 Network Analysis and Advanced Optimization 4 SH
OR 7250 Multi-Criteria Decision Making 4 SH
OR 7260 Constraint Programming 4 SH
OR 7310 Logistics, Warehousing, and Scheduling 4 SH

- AND - Any other approved engineering or business discipline course

Engineering Leadership Option
Students completing this option receive the graduate certificate in engineering leadership in addition to the master’s degree. Students must APPLY and be admitted to the Gordon Engineering Leadership program in order to pursue this option.

Leadership
ENLR 5121 Engineering Leadership 1 2 SH
ENLR 5122 Engineering Leadership 2 2 SH

Foundations
ENLR 5131 Scientific Foundations of Engineering 1 2 SH
ENLR 5132 Scientific Foundations of Engineering 2 2 SH

Project
IE 7440 Industrial Engineering Leadership Challenge Project 1 4 SH
IE 7442 Industrial Engineering Leadership Challenge Project 2 4 SH

General Requirements
IE 6200 Engineering Probability and Statistics 4 SH
OR 6205 Deterministic Operations Research 4 SH
Core Requirements
Complete two of the following courses:
IE 7200 Supply Chain Engineering  4 SH
IE 7215 Simulation Analysis  4 SH
IE 7315 Human Factors Engineering  4 SH

PROGRAM CREDIT/GPA REQUIREMENTS
32 total semester hours required
Minimum 3.000 GPA required