ENGINEERING MANAGEMENT, MS

Contact

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Description

The program leading to the Master of Science degree in Engineering Management (MS EM) is interdisciplinary. It is administered by the Department of Mechanical and Aerospace Engineering, and the College of Engineering and Computer Science, with the cooperative support of the Martin J. Whitman School of Management.

The MS EM degree program is designed for practicing engineers and scientists who have or seek increased managerial and leadership responsibilities. The degree program provides a balanced field of knowledge in engineering management theory and practices, statistics, quality control, finance, economics, information/data management, and legal issues. With proper selection of courses, technical competence in a particular area can be strengthened as well. Course electives can be chosen to customize your program of study to meet specific career goals.

For more information, contact:

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Admission Requirements

Admission to the MS degree program is granted on the basis of undergraduate preparation and performance, GRE scores, and letters of recommendation documenting the recent technical proficiency of the applicant. A grade-point average (GPA) of 3.0 or higher on a 4.0 scale (or equivalent), and a GRE Quantitative Reasoning score of 700 or higher (155 or higher on the new scale) are normally expected.

Admission to this MS degree program requires a Bachelor's degree in Engineering, or an acceptable field of Science.

Application Procedure

Online application is the preferred method of applying to graduate programs at Syracuse University. Applications submitted online can be processed faster and more efficiently than those filed on paper. Access the online application.

You will receive an e-mail or postcard from Syracuse University when your application has been received and processed.

Department Policies

Independent Study Maximum

A graduate student may not count more than 3 credits of Independent Study towards the completion of their degree requirements:

- MAE 990 Independent Study 1-6 credit(s)

Special Projects Maximum

A graduate student may not count more than 6 credits of Special Projects towards the completion of their degree requirements:

- MEE 996 Special Projects 1-6 credit(s)

Transfer Credit Policy

A maximum of 9 credits of graduate coursework with a grade of B or better can be transferred into the program from another university with approval from the department.

Student Learning Outcomes

1. Use the principles of advanced mathematics to identify, analyze and solve engineering management problems
2. Apply appropriate economics and project management techniques to support more informed decisions
3. Apply knowledge and skills in the management of technology
4. Communicate advanced technical and managerial concepts effectively
5. Advance existing technical or scientific skills

Degree Requirements

The MS EM is a 30 credit-hour program (10 courses), plus a zero credit exit paper.

At least 18 credit-hours (6 courses) must be at the 600-level or higher.

The program consists of a set of 4 required core courses (12 credits), a set of 4 courses (12 credits) in engineering management specialization, and 2 elective courses (6 credits) in engineering and computer science.

Students are allowed to register for experience credits (MAE 670 Experience Credit), but MAE 670 Experience Credit does not count towards the degree requirements.

Completion of the program with less than 24 semester credits in engineering does not lead to credit towards licensure.

Core Coursework (12 Credits)

For Residential Students

Code	Title	Credits
ECS 526	Statistics for Engineers	3
MAE 548	Engineering Economics and Technology Valuation	3
SCM 656	Project Management	3
EEE 620	Foundations of Entrepreneurship	3

For Online Students

Code	Title	Credits
ECS 526	Statistics for Engineers	3
MAE 512	Technology Management	3

MAE 548	Engineering Economics and Technology Valuation	3
MAE 613	New Product Development	3

Management Specialization Tracks

Students have to select 3 courses (9 credits) from one of the following 4 tracks, plus 1 course (3 credits) from any of the 4 tracks. Alternatively, students can choose the 5th track and create a custom track. These tracks are regularly reviewed and may be revised by the program committee.

Track 1: Operations

Code	Title	Credits
CEE 601	Construction Engineering and Project Management	3
MFE 634	Productivity and Quality Engineering	3
MFE 654	Production System Design and Control	3
SCM 701	Supply Chain and Logistics Management	3
SCM 711	Supply Chain Management Systems	3
SCM 755	Lean Six Sigma	3
SCM 777	Global Supply Chain Management & Risk Mgmt	3

Track 2: Entrepreneurship

Code	Title	Credits
ECS 511	Sustainable Manufacturing	3
EEE 621	Corporate Entrepreneurship	3
EEE 651	Finance for Emerging Enterprises	3
EEE 643	Emerging Enterprise Consulting	3
LAW 726	Intellectual Property	3
MBC 610	Opportunity Recognition and Ideation	1.5
MBC 636	Marketing Management	3

Track 3: Informatics

Code	Title	Credits
CIS 787	Analytical Data Mining	3
CSE 581	Introduction to Database Management Systems	3
SCM 651	Business Analytics	3
MBC 638	Data Analysis and Decision Making	3
ECS 629	Modeling and Optimization Techniques	3
ECS 630	Simulation and Data Analytics	3

Track 4: Sustainability

Code	Title	Credits
ECS 636	Sustainable Development and Infrastructure Management	3
CEE 663	Introduction to Sustainable Engineering	3
ECS 511	Sustainable Manufacturing	3
ECS 561	Data Centers: Infrastructure Design and Energy Efficiency	3
ECS 650	Managing Sustainability: Purpose, Principles, and Practice	3
ECS 651	Strategic Management and the Natural Environment	3
ECS 759	Sustainability-Driven Enterprise	3

Track 5: Custom Track

Students may select individual courses of their choice to create a custom track. Courses must be approved by advisor/program committee.

Seminar Requirement

MS students must also attend at least two (2) semesters of the MAE graduate seminars or have a professional experience exemption:

- MAE 995 Graduate Seminar 0 credit(s)

GPA Requirement

A minimum GPA of 3.0 for coursework included in the Program of Study for the degree along with a minimum GPA of 2.8 for all credits earned must be achieved to graduate.