ENGINEERING MANAGEMENT (M.S.)

The department offers two options for a Master of Science in Engineering Management (EMMP). Students should read both sections carefully to determine which program they are eligible for.

On-campus Program

The on-campus Master of Science in Engineering Management program is designed to build both technical competence and business acumen. The program builds understanding and skills critical to the support of fast-to-market strategies, which also guarantee product quality, and cost minimization. A systematic analytical framework is developed and coupled with tools for managing the engineering and technical functions within manufacturing-based companies. This cross-disciplinary program draws from the expertise of the College of Engineering and the School of Business Administration.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (http://bulletins.wayne.edu/graduate/general-information/admission/).

Recommended Work Experience: This program is designed to enrich the learning journey by integrating students' professional backgrounds. While we highly encourage applicants to possess two years of full-time work experience and/or significant internship/co-op/research experiences, it is not a mandatory requirement for admission.

On-site Program (Automotive Supplier)

The on-site (automotive supplier) Master of Science in Engineering Management program is limited to working professionals at organizations with a partnership agreement with the Department of Industrial and Systems Engineering. Engineers with high potential are selected by management to participate in a three-year, two-evenings-per-week curriculum. The courses are team based, and include two years of class studies and team projects in areas such as leadership, quality management, global marketing, robust design, and information systems. The final year of the program involves a team capstone project, which provides application of the knowledge gained to a current strategy or opportunity within their organization.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (http://bulletins.wayne.edu/graduate/general-information/admission/) and is limited to management selected individuals from partner organizations. For more information on admission or becoming a partner organization, please contact the EMMP program chair.

On-site Program (Automotive Supplier)

Plan B: Thirty-nine credits including a six to nine credit final project. There are four core segments: engineering management, business cognate, engineering cognate, and capstone project. All course work must be completed in accordance with the regulations of the Graduate School (http://bulletins.wayne.edu/graduate/general-information/academic-regulations/) and the College of Engineering (http://bulletins.wayne.edu/graduate/college-engineering/academic-regulations/).

On-campus Program

The on-campus program requires a minimum thirty-six credits. To register for business courses, students should speak to a graduate advisor (https://engineering.wayne.edu/resources/students/advising/#graduate) about enrolling in the Graduate Certificate in Business (http://bulletins.wayne.edu/graduate/school-business/programs/business-graduate-certificate/). All course work must be completed in accordance with the regulations of the Graduate School (http://bulletins.wayne.edu/graduate/general-information/academic-regulations/) and the College of Engineering (http://bulletins.wayne.edu/graduate/college-engineering/academic-regulations/). Up to six additional credits may be earned in courses outside the Industrial and Systems Engineering Department, and require approval of the graduate advisor.

See below for a list of IE Electives (p. 2) and a list of recommended Business Electives (p. 2).

Note: M.S. students pursuing IE 6991 Industrial Internship for curriculum practical training (CPT) may use a maximum of six IE 6991 credits towards the M.S in Engineering Management degree requirements. Except in specific cases, IE 6991 must be taken in 2 credit blocks. IE 6991 credits will substitute for and replace the equivalent number of elective course credits. Total thesis credits and IE 6991 credits cannot exceed the total number of elective course credits.

Plan A - Thesis

Code	Title	Credits
Required Industrial Engineering Courses		
IE 6310	Lean Operations and Manufacturing	3
IE 6560	Deterministic Optimization	3
IE 6840	Project Management	3
IE 6720	Engineering Risk and Decision Analysis	3
IE 6830	Management of Technology Change	3
or MGT 7040	Managing Organizational Behavior	
(At least) One course of the following:		3
IE 6240	Quality Management Systems	
IE 6611	Fundamentals of Six Sigma	
Required Business Courses		
Select 3 from the following courses:		7-8
ACC 6000	Introduction to Accounting and Financial Reporting	
FIN 6005	Basics of Financial Management	
MGT 6020	Contemporary Principles of Management	
MKT 6015	Marketing Foundations	
Elective Courses		
Plan A - Thesis requires six to eight thesis credits (IE 8999). These thesis credits will substitute for, and replace, the equivalent number of credits of the elective courses. To register for ISE thesis credits, students must submit the thesis credit registration approval form to their appropriate M.S. program chair or graduate advisor.		
Select 7-8 credits of IE Elective Courses		7-8
Select 8 credits if core Business Course credits is 7. Otherwise, select 7 credits of IE elective courses.		
Select 3 Credits of IE or Business Elective Courses		3

Plan C - Coursework

Code	Title	Credits
Required Industrial Engineering Courses		
IE 6310	Lean Operations and Manufacturing	3
IE 6560	Deterministic Optimization	3
IE 6840	Project Management	3
IE 6720	Engineering Risk and Decision Analysis	3
IE 6830	Management of Technology Change	3

or MGT 7040	Managing Organizational Behavior	
(At least) One course of the following:		3
IE 6240	Quality Management Systems	
IE 6611	Fundamentals of Six Sigma	
Required Business Courses		
Select 3 from the following courses:		7-8
ACC 6000	Introduction to Accounting and Financial Reporting	
FIN 6005	Basics of Financial Management	
MGT 6020	Contemporary Principles of Management	
MKT 6015	Marketing Foundations	
Electives		
Select one of the following elective options:		10-11
OPTION 1: Elective Courses		
7-8 Credits of IE Elective Courses		
- Select 8 credits if core Business Course credit is 7. Otherwise, select 7 credits of IE elective courses.		
3 Credits of IE or Business Elective Courses		
OPTION 2: Project at Your Company plus Electives		
1-2 Credits of IE Elective Courses		
- Select 2 credits if core Business Course credit is 7. Otherwise, select 1 credits of IE elective courses.		
3 Credits of IE or Business Elective Courses		
IE 7999	Engineering Management Leadership Project (6 credits)	

Recommend IE Electives in Manufacturing and/or Product Design

Code	Title	Credits
IE 6125	Human Factors Engineering	3
IE 6210	Applied Engineering Statistics	3
IE 6220	Value Engineering	3
IE 6255	Quality Engineering	3
IE 6270	Engineering Experimental Design	3
IE 6275	Reliability Estimation	3
IE 6325	Supply Chain Management	3
IE 6405	Integrated Product Development	3
IE 6420	CAD/CAM	3
IE 6422	Flexible Manufacturing Systems	3
IE 6425	Product Lifecycle Management and Sustainable Design	3
IE 6430	Computer Simulation Methods	3
IE 6442	Facilities Design and Materials Flow	3
IE 6510	Information Systems for the Manufacturing Enterprise	3
IE 6850	Manufacturing Strategies	3
IE 7811	Data Mining: Algorithms and Applications	3
IE 7990	Directed Study	1-2
SYE 6490	Introduction to Systems Engineering in Design	3

Business Electives (with Permission)

Code	Title	Credits
ACC 7000	Managerial Accounting	3
FIN 7020	Corporate Financial Management	3
MGT 7040	Managing Organizational Behavior	3
MKT 7050	Marketing Strategy	3