

# 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/>). The program is intended for the practicing engineer or technical leader with an undergraduate degree from an accredited engineering program, who possesses at least two years of full-time work experience. The work experience requirement is waived for U.S. based students who are currently working full-time in an engineering type job.

## 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

### Plan A - Thesis

Minimum thirty-six credits including six to eight thesis credits (IE 8999). 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. To register for business courses, students need to talk to Gail Evans about signing up for a graduate business 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.

Code	Title	Credits
<b>Required Industrial Engineering Courses (18 credits)</b>		<b>18</b>
IE 6310	Lean Operations and Manufacturing	
IE 6560	Deterministic Optimization	
IE 6840	Project Management	
IE 6720	Engineering Risk and Decision Analysis	
IE 6830	Management of Technology Change	
(At least) One course of the following:		
IE 6240	Quality Management Systems	
IE 6611	Fundamentals of Six Sigma	
<b>At least 3 Business Courses out of the following:</b>		<b>6</b>
BA 6000	Introduction to Accounting and Financial Reporting	
BA 6005	Basics of Financial Management	
BA 6015	Marketing Foundations	
BA 6020	Contemporary Principles of Management	
<b>Elective Courses</b>		<b>12</b>
9 Credits of IE Elective Courses		
3 Credits of IE or Business Elective Courses		
<b>Total Credits</b>		<b>36</b>

## Plan C - Coursework

Minimum thirty-six credits. To register for business courses, students need to talk to Gail Evans about signing up for a graduate business 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.

Code	Title	Credits
<b>Required Industrial Engineering Courses (18 credits)</b>		<b>18</b>
IE 6310	Lean Operations and Manufacturing	
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IE 6240	Quality Management Systems	
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<b>At least 3 Business Courses out of the following</b>		<b>6</b>
BA 6000	Introduction to Accounting and Financial Reporting	
BA 6005	Basics of Financial Management	
BA 6015	Marketing Foundations	
BA 6020	Contemporary Principles of Management	
<b>Elective Options</b>		<b>6-12</b>

<b>OPTION 1: Elective Courses</b>		
9 Credits of IE Elective Courses		
3 Credits of IE or Business Elective Courses		
<b>OPTION 2: Project at Your Company plus Electives</b>		
3 Credits of IE Elective Courses		
3 Credits of IE or Business Elective Courses		
IE 7999	Engineering Management Leadership Project	6
<b>Total Credits</b>		<b>36-42</b>

## 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 6255	Quality Engineering	3
IE 6490	Introduction to Systems Engineering in Design	3
IE 6510	Information Systems for the Manufacturing Enterprise	3
IE 6275	Reliability Estimation	3
IE 6325	Supply Chain Management	3
IE 6420	CAD/CAM	3
IE 6422	Flexible Manufacturing Systems	3
IE 6430	Computer Simulation Methods	3
IE 6442	Facilities Design and Materials Flow	3
IE 6850	Manufacturing Strategies	3
IE 6220	Value Engineering	3
IE 6270	Engineering Experimental Design	3
IE 6405	Integrated Product Development	3
IE 6425	Product Lifecycle Management and Sustainable Design	3

## 3 Credits of Business Electives (with Permission)

Code	Title	Credits
BA 7050	Marketing Strategy	3
BA 7020	Corporate Financial Management	3
BA 7040	Managing Organizational Behavior	3
BA 7000	Managerial Accounting	3