



## College of Engineering and Science

# Master of Science in Product Development

### Program Summary

The University of Detroit Mercy Product Development Program leads to a Master of Science degree for professional engineers who seek to lead their organization's product development, manufacturing, quality and supply management among others. The Product Development Program will educate a new class of technologically grounded leaders: individuals with a special blend of engineering and management skills required to conceive and create today's increasingly complex products and manufacturing systems -- it covers "end-to-end" product development process from customers needs identification to product design, development, manufacturing, marketing, quality, purchasing and customer support with emphasis on "systems" and customer focus throughout.

The program features both technical content and intense classroom interactions with an array of seminars and case studies conducted in conjunction with industry. The curriculum is challenging and rigorous.

**Launch Experience** This two week, full-time experience occurs during January as the student's first program activity. It introduces students to the systems concepts through their application to a real design project and other experiences specifically directed toward the development of team building and creativity skills. Completion of this initial experience in its entirety is a requirement of the program.

### Admissions Requirements

The MPD program requires the support of the applicant's supervisor/manager. Program applicants are required to meet Detroit Mercy's normal graduate admission standards, plus have at least five years of engineering work experience (three years if the applicant possesses a Master's Degree). Previous graduate studies are highly desirable. The applicant's supervisor should be prepared to accommodate the study and learning demands placed on their employees in this rigorous academic program as well as participate in a program orientation.

The completed application and a letter of support from his/her supervisor should be returned to the MPD Program Office at Detroit Mercy. Prospective students are encouraged to submit their application as early as possible.

### Degree Requirements

**Core Courses (3):** Three required core courses explore systems thinking, philosophy and strategies related to product design, analysis, manufacturing, and management:

<b>MPD 5600:</b>	Product Planning and Development	3 cr. hrs.
<b>MPD 5100:</b>	Systems Engineering	3 cr. hrs.
<b>MPD 5200:</b>	Systems and Project Management	3 cr. hrs.

**Fundamental Courses (6):** Six required courses develop a broad fundamental knowledge of concepts, methods and tools related to product and manufacturing systems, organizations, marketing and finance:

<b>MPD 5300:</b>	Systems Optimization	3 cr. hrs.
<b>MPD 5350:</b>	Organizational Processes	3 cr. hrs.
<b>MPD 5400:</b>	Finance and Managerial Accounting	3 cr. hrs.
<b>MPD 5450:</b>	Marketing Management	3 cr. hrs.
<b>MPD 5500:</b>	Operations Management	3 cr. hrs.
<b>MPD 5050:</b>	Systems Architecture	3 cr. Hrs.

Cont.

**Elective Courses:** Students choose two electives to broaden their understanding of areas of special interest and utility to them and their companies:

Electives

<b>MENG 5925:</b>	Modeling of Complex Systems	3 cr. hrs.
<b>MPD 5460:</b>	Six Sigma Level I	3 cr. hrs.
<b>EMGT 5040:</b>	Administration of Technical Businesses	3 cr. hrs.
<b>MPD 5750:</b>	Design for 'X' (DFX)	3 cr. hrs.
<b>ENGR 5790:</b>	Mechatronics and Simulation	3 cr. hrs.

The above electives were selected based on the degree to which courses meet the objectives of the curriculum for the Detroit Mercy Product Development Program. The electives are changed as needed to better reflect the competitive industrial environmental.

**Capstone/Thesis Project:** All students complete a capstone project describing a real initiative in one or more core aspects of engineering enterprise. This provides an integrative experience whereby students can both confirm and increase their understanding of previous program knowledge and demonstrate their ability to apply their knowledge, skills, attitudes and behaviors essential to competent leadership in an engineering enterprise.

Contact

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