MS Programs

NEW STUDENT ORIENTATION

Winter 2014

Department of Industrial & Systems Engineering
Necessity: Mother of [re]invention

No one knows reinvention like Detroit. We’ve come a long way from the automotive empires that put us on the map. Today, industrial and systems engineers from Wayne State University are revolutionizing alternative energy, health care technology, manufacturing, and many other fields, elevating Detroit back to a position of global leadership.
Overview

- ISE Department has excellent MS Programs designed to help students excel in both industry and academia:
  - **MS in Industrial Engineering** (MSIE): 4 degree specializations
  - **MS in Manufacturing Engineering** (MSMfgE): 5 degree specializations
  - **MS in Engineering Management** (MSEM)
Programs Overview

MS-Engineering Management
Engineering Business Management

MS-Manufacturing (Systems) Engineering
Production Life Cycle Integration

<table>
<thead>
<tr>
<th>MS Thesis</th>
<th>Integrated Product Engineering</th>
<th>Quality Engineering</th>
<th>Advanced Manufacturing Systems</th>
<th>General Option</th>
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MS-Industrial Engineering
Extended Enterprise Integration

<table>
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<tr>
<th>MS Thesis</th>
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<tr>
<td>Lean Operations Management</td>
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<tr>
<td>Healthcare Systems Engineering</td>
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<tr>
<td>General Option</td>
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CORE OPERATIONS

Design  Test  Build

BUSINESS PROCESSES

BUSINESS MANAGEMENT
SE/IT/PE/HE

Other Cutting-Edge Areas
ISE Website

http://engineering.wayne.edu/ise/index.php
Academic Administration

- Placement Test (Probability & Statistics)
- Course Registration: Pipeline
- Plans of Work
  - Core Courses / Electives / Thesis Option / Directed Studies
  - Changing Specializations / Programs
  - On-line Courses
- Good Academic Standing
- CPT (Internships) & OPT
  - Internship vs. Plan of Work Credits / IPF
- Filing for Graduation
- Academic Honesty/Integrity
  - http://ted.coe.wayne.edu/drbob/plagiarism.html
Selection of Courses

- Core courses first
- Plan of Work (POW) intended to assist the student in structuring the course work for the MS degree
  - POW should be filed by all students in the program before completing 12 credits
- Discuss program and specialization with Graduate Director, faculty, seniors
POW & Other Forms

http://engineering.wayne.edu/ise/resources/forms.php
ISE Course Syllabi & Terms

ISE Course Syllabi

The department is constantly reviewing and improving our course offerings to best meet the needs of our students as the company is increasingly competitive, global technical climate. Please select the links below for our current course offerings syllabi, including class description, topics covered, and instructor contact information.

- E 3120 Work Environment
- E 4120 Human Factors Engineering
- E 4230 Probability Models & Data Analysis
- E 4130 Production Control
- E 4330 Facilities Design
- E 4420 Systems Simulation
- E 4550 Operations Research
- E 4750 Leadership in the Workplace
- E 4755 Labor Relations Practice
- E 4800 Senior Design Project I & II
- E 4850 Engineering Economy
- E 5855 Project Management - Intro for Engineers
- E 6240 Quality Management Systems
- E 6270 Engineering Experimental Design
- E 6310 Lean Operations
- E 6465 Integrated Product Development

Winter Semester
- E 8210 Applied Engineering Economics
- E 8450 Supply Chain Systems
- E 8510 Lean Operations I & II
- E 8600 Engineering Management Leadership Program
- E 8830 Advanced Engineering Statistics
- E 8910 Thesis Research and Creation

Graduate Fall Semester
- E 8210 Applied Engineering Economics
- E 8450 Supply Chain Systems
- E 8510 Lean Operations I & II
- E 8600 Engineering Management Leadership Program
- E 8830 Advanced Engineering Statistics
- E 8910 Thesis Research and Creation

Wayne State University
Placement Exam

On-line placement exam is expected from Fall 2012.
Blackboard Website

http://blackboard.wayne.edu
Blackboard Website ...

http://blackboard.wayne.edu

Course Content Mgmt. System

Login with Access ID
Facilities

- Simulation lab
- Human factors lab
- Design lab
- Collaborative manufacturing lab
- PACE computer teaming center
- Engineering Development Center
- Etc.
Scholarships

- Graduate Professional Scholarships (GPS): March 3, 2014 Deadline
  - [http://gradschool.wayne.edu/funding/professional-scholarship.php](http://gradschool.wayne.edu/funding/professional-scholarship.php)

- Graduate Student Assistantships (GSA)

- Fellowships, scholarships, internships and trainee-ships may also be available
  - [http://gradschool.wayne.edu/funding/index.php](http://gradschool.wayne.edu/funding/index.php)

- Students are encouraged to contact individual faculty members for additional opportunities
Industry Internships

- Sponsored internships - an excellent way of building work experience in a targeted field
- Typically 20-40 hours per week, depending on company’s need and student’s class schedule
- Internships can be paid (~$20/hour) or unpaid
- International Students:
  - Curricular Practical Training (IE6991)
Career & Placement Services

[Image of Wayne State University's Career Services webpage]
Optional Practical Training (OPT)

F1 Visa Students

http://oiss.wayne.edu/immigration-visas/f-1_opt_form.pdf
Prepare for Professional Success

- Maintain good GPA
- Participate in Special Projects / Competitions
- Join Professional Societies
  - IIE, SME, INFORMS, ASQ, APICS ...
- Actively read Professional Magazines
- Follow leading professional Web Portals
Consider Certifications

- INFORMS Certified Analytics Professional (CAP)
  - [https://www.informs.org/Certification-Continuing-Education-Analytics-Certification](https://www.informs.org/Certification-Continuing-Education-Analytics-Certification)

- APICS Certified Supply Chain Professional (CSCP)

- APICS Certified Fellow in Production & Inventory Management (CFPIM):

- ASQ (CQE, CRE, Master Black Belt …)
  - [http://cert.asq.org/certification/control/right-for-you](http://cert.asq.org/certification/control/right-for-you)

- Others
Q & A