Mechanical Engineering Master of Science Program –

Industrial & Systems Engineering option (Professional Science Master’s)

The Industrial & Systems Engineering option within the Mechanical Engineering Master of Science program is designed to provide graduate education to working engineering professionals to advance in their careers in industrial and systems engineering. The program provides an integrated approach to engineering and management of production systems and engineering organizations. Graduates of the program will achieve professional competence in concepts, knowledge, methodologies and skills required for production systems design/operations, quality assurance, and management in an engineering environment.

Curriculum
The program requires 33 credits constituted as follows:

- 18 credits (six graduate courses) offered by the Mechanical Engineering Department from the list below;
- 9 credits (three graduate courses) offered by the Charlton College of Business from the list below;
- 6 credits pursuant to the completion of a master’s project under the guidance of academic faculty.

Students who complete the curriculum with a 3.00 cumulative GPA or higher will earn a Master of Science degree in Mechanical Engineering – Industrial & Systems Engineering option.

Courses offered by the Mechanical Engineering Department:

- MNE 530 – Simulation Modeling
- MNE 532 – Advanced Robotics
- MNE 533 – Manufacturing Automation
- MNE 535 – Advanced Statistical Quality Control
- MNE 537 – Manufacturing Systems Design
- MNE 538 – Manufacturing Planning and Control
- MNE 539 – Engineering Optimization
- MNE 540 – Advanced Simulation Modeling
- MNE 560 – Methods of Experimental Research
- MNE 561 – Systems Engineering
- MNE 562 – Stochastic Processes
- MNE 590 – Master’s Project
Courses offered by the Charlton College of Business:

- POM 651 – Advanced Operations Analysis
- POM 675 – International Supply Chain Management
- POM 676 – Business Process Design
- POM 677 – Logistics Strategy and Management
- POM 686 – Strategic Project Management
- POM 688 – Risk Management in Projects
- MIS 671 – Managing Systems
- MGT 501 – Operations Management
- MGT 671 – Management of Organizational Change
- MGT 677 – Leading, Motivating and Empowering Others

Admission

To apply, submit the following:

- Application form.
- Application fee.
- Official transcripts from all post-secondary institutions attended, including proof of a Bachelor of Science or equivalent degree in engineering or a closely related field. Applicants with non-engineering undergraduate degrees will be considered on a case-by-case basis.
- Three letters of recommendation from people who have observed the applicant in an academic or professional setting.
- Personal statement indicating study objectives, research interests/experience, and business or industry experience (300 word minimum).
- Official GRE scores unless the applicant earned his/her Bachelor of Science degree in Mechanical Engineering from UMass Dartmouth.
- Official TOEFL scores unless the applicant has earned a college or university degree in the U.S. or any English-speaking country, or will have completed an academic year of college or university study in the U.S. before beginning study at UMass Dartmouth.

Contact

For questions about the application process, contact the Office of Graduate Studies & Admissions (graduate@umassd.edu, 508-999-8604).

For questions about program objectives and curriculum, contact Prof. Wenzhen Huang, Dept. of Mechanical Engineering (whuang@umassd.edu, 508-910-6568).