

MS ENGINEERING MANAGEMENT

Program Learning Outcomes

1. Summarize, synthesize, and evaluate existing methods/solutions of engineering problems.
2. Solve complex technical and operational problems to meet both business and customer needs.
3. Analyze and interpret quantitative and qualitative data to make sound engineering and business decisions.
4. Lead multidisciplinary teams and projects; assess tools and techniques, resources, and organizational systems for the successful management of projects.
5. Estimate and control engineering cost.
6. Communicate engineering ideas/solutions effectively across the entire enterprise.

Student Learning Objectives

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to design experiments, collect data, analyze and interpret data, and draw conclusions to make sound engineering and business decisions.
3. An ability to function effectively as a leader of a team that establishes goals, plans tasks, meets deadlines, and creates a collaborative and inclusion environment.
4. An ability to communicate effectively with a range of audiences.

Required Courses

IME 503	Applied Statistical Methods in Engineering ¹	4
IME 507	Graduate Seminar	2
IME 520	Advanced Information Systems for Operations	4
IME 544	Advanced Topics in Engineering Economy	4
IME 556	Technological Project Management ²	4
IME 577	Engineering Entrepreneurship	4
IME 580	Manufacturing Systems ³	4
IME 596	Graduate Project/Internship	5

Approved Electives

Select from the following: ⁴		14
IME 500	Individual Study	
IME 510	Systems Engineering I	
IME 527	Design of Experiments	
IME 535	Change Management for Engineering Leaders	
IME 541	Advanced Operations Research	
IME 542	Applied Reliability Engineering	
IME 543	Applied Human Factors	
IME 549	Network Analysis and Optimization	

IME 565	Predictive Data Analytics for Engineers	
Total units		45

- ¹ Students with a B+ or better grade in IME 326 or IME 327 may substitute IME 503 with another statistics related course such as IME 527, STAT 416, STAT 418, STAT 419, STAT 530, or STAT 531 upon approval of the graduate coordinator.
- ² Students with a B+ or better grade in IME 303 may substitute IME 556 with another approved technical elective course.
- ³ Course cannot be taken by students who have already received credit for IME 410.
- ⁴ Students may take other 400 or 500 level courses after consultation with and approval by advisor and the graduate coordinator. At least 4 units must be at 500 level.