

# Engineering Management - M.S.

Leading and managing projects in a technical environment needs qualified professionals who possess a blend of analytical and project management skills combined with an understanding of engineering processes and product development.

The online Engineering Management Master of Science degree program is an interdisciplinary program that integrates the fields of engineering, technology and business. It is designed for engineering and other STEM (Science, Technology, Engineering and Math) related bachelor's degree recipients as well as professionals in the field with bachelor's degrees in business who are seeking to take on leadership and management roles in a technology environment.

The program includes core courses in statistical analysis, finance, decision making, leadership and innovation, new product development, and project management principles for the engineering and technology industry. In this program, students gain the theoretical, quantitative and analytical skills and tools they will need to be an effective leader of an engineering management team.

The Engineering Management Master of Science degree program emphasizes management and leadership skills specifically for the engineering and technology industry. Students use electives to tailor their degree to their interest. Electives can also be chosen to create a focus area in either Artificial Intelligence and Computer Vision, Data Analytics, Finance, or Operations & Supply Chain Management. Focusing electives in a specific area can be designed to give a more in-depth perspective that enhances technical expertise and positions students well for the business challenges facing the engineering manager in the global marketplace.

Upon completion of the program, graduates are expected to:

- Demonstrate quantitative, analytical and critical thinking skills and techniques in engineering management.
- Apply a multidisciplinary approach when making engineering management decisions.
- Demonstrate organizational and leadership skills needed to manage projects and processes.

## Engineering Management

### Master of Science

#### Foundation Courses \*

Choose one of the following:	3
DATA5025	Tools for Data Analytics
ISA5085	Principles of Programming

#### Core Courses

DATA5100	Statistical Analysis	3
EMGT5005	New Product Development	3
EMGT5010	Engineering Leadership & Innovation Management	3
EMGT5020	Economics & Finance for Engineering Management	3
EMGT6010	Engineering Decision Management and Risk Analysis	3
EMGT6020	Engineering Management Capstone	3
MGMT6210	Project Management	3

#### Elective Courses

Choose three of the following:**	9
Artificial Intelligence & Computer Vision	
AICV5550	Topics in Artificial Intelligence
AICV5560	Computer Vision and Image Processing
AICV5570	Machine Learning
Data Analytics	
DATA5150	Data Mining (Data Analytics)
DATA5200	Data Visualization
DATA5400	Introduction to Predictive Modeling
DATA5515	Advanced Topics in Predictive Analytics
DATA5550	Optimization Simulation
Finance	
FISV5600	Financial Management
FISV5720	Financial Reporting and Control
FISV6050	Strategic Financial Planning
Operations & Supply Chain Management	
MGMT5575	Operations Management
MGMT6225	Team Dynamics
MGMT6310	Designing & Managing Supply Chains

MGMT6320	Global Strategic Sourcing
MGMT6330	Global Logistics
MGMT6340	Lean Production and Quality Control
Total Credits	30-33 credits

\* Students without evidence of coursework in programming from at least a bachelor's degree level program will need to take one of these courses prior to taking core courses.

\*\* Students can choose any combination of three courses that they have prerequisites for from the listing of Artificial Intelligence & Computer Vision, Data Analytics, Finance, or Operations and Supply Chain Management courses, to earn the M.S. in Engineering Management degree.