

M.S. in Engineering Management

The Master of Science in Engineering Management (MSEM) degree is designed for working professionals who desire to add management skill to their prior degrees in engineering, math, physical science, computer science, or another STEM field. The degree is designed to assist those students to move into managerial roles in technical organizations. The degree expands on the student's existing technical abilities, adding management knowledge and skills.

Technical organizations require managers who understand the technical nature of the firm's business. Upon completion of the multi-disciplinary degree, students will have the knowledge to become managers in a technical organization.

The degree program will be comprised of three sections. The first section will be comprised of 9 credit hours focused on high reliability organizations (HRO). High reliability organizations focus on risk, managing risk and resiliency. Concepts from these courses can be applied to all organizations. The second block of the MSEM will be the engineering management core. The third block consist of a certificate in the area of the student's choice and provides the opportunity for students to focus their studies to match their career goals.

The Master of Science in Engineering Management with a certificate in Project Management is accredited by the PMI Global Accreditation Center for Project Management Education Programs (GAC). Degree programs that achieve GAC accreditation must demonstrate and meet the GAC's rigorous global standards of accreditation, which include an assessment of each program's objectives and outcomes, faculty and student evaluations, onsite and online resources, annual self-evaluation, and proof of continuous improvements in the area of project management education. GAC accreditation ensures the quality of academic degree programs and their graduates in order to meet the standards of the rapidly growing field of project management.

Estimated Cost of Attendance

Students will:

- Apply management techniques tailored to the STEM environment.
- Perform financial analysis for engineering projects and ongoing technical operations.
- Employ quantitative analysis to solve engineering management problems.
- Evaluate the role of ethics and professional responsibility in engineering management.
- Appraise quality management systems.
- Develop plans for global STEM projects and operations.

DEGREE REQUIREMENTS

Core/Major

High Reliability Organization

HROM 510	Enterprise Risk Management	3
HROM 520	Organizational Resilience	3
HROM 530	Modeling and Decision-Making	3
Total Credits		9

Engineering Management Core

EMGT 500	Managing in the STEM Environment	3
EMGT 520	Quality for Projects and Operations	3
EMGT 530	Project Scheduling and Risk Management	3
FINE 610	Budgeting and Finance for R&D	3

EMGT 620	Technology and Innovation Management	3
Total Credits		15

Certificate Option

Certificate Options: (Choose from list)	12
Total Degree Requirement (With Certification)	36

- Business Intelligence and Analytics
- Finance
- Human Resources
- Information Systems Security
- International Business
- Leadership
- Marketing
- Project Management
- Systems Engineering

-OR-

Non-Certificate Option

Non-Certificate Option:	6
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6 credit hours of graduate level course work options include the capstone (EMGT 690), ERAU courses, or transfer credit.

Total Degree Requirements	30
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Plan of Study (MSEM)

Year One

Term 1		Credits
HROM 510	Enterprise Risk Management	3
	Credits Subtotal	3.0
Term 2		
HROM 520	Organizational Resilience	3
	Credits Subtotal	3.0
Term 3		
HROM 530	Modeling and Decision-Making	3
	Credits Subtotal	3.0
Term 4		
EMGT 500	Managing in the STEM Environment	3
	Credits Subtotal	3.0
Term 5		
EMGT 530	Project Scheduling and Risk Management	3
	Credits Subtotal	3.0
	Credits Total:	15.0

Year Two

Term 1		Credits
EMGT 520	Quality for Projects and Operations	3
	Credits Subtotal	3.0
Term 2		
EMGT 620	Technology and Innovation Management	3
	Credits Subtotal	3.0
Term 3		
FINE 610	Budgeting and Finance for R&D	3
	Credits Subtotal	3.0
Term 4		
	Elective/Certificate	3
	Credits Subtotal	3.0

Term 5

Capstone/Elective/Certificate	3
Credits Subtotal	3.0
Credits Total:	15.0

Total Degree Requirements	30
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Fast Track Plan of Study (MSEM)**Year One**

Term 1		Credits
EMGT 500	Managing in the STEM Environment	3
HROM 510	Enterprise Risk Management	3
	Credits Subtotal	6.0
Term 2		
EMGT 530	Project Scheduling and Risk Management	3
HROM 520	Organizational Resilience	3
	Credits Subtotal	6.0
Term 3		
EMGT 520	Quality for Projects and Operations	3
HROM 530	Modeling and Decision-Making	3
	Credits Subtotal	6.0
Term 4		
EMGT 620	Technology and Innovation Management	3
	Elective/Certificate	3
	Credits Subtotal	6.0
Term 5		
FINE 610	Budgeting and Finance for R&D	3
	Capstone/Elective/Certificate	3
	Credits Subtotal	6.0
	Credits Total:	30.0