

# MSEM-Engineering Management

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**MSEM 590. Special Topics in Engineering Management. 1-3 Hour.**

Special Topics in Engineering Management.

**MSEM 591. Individual Study in Engineering Management. 1-6 Hour.**

Individual Study in Engineering Management.

**MSEM 640. Systems Engineering. 3 Hours.**

This course will explore systems engineering and systems thinking. Students will learn key topics related to engineering products and design, including requirements development, the project life cycle, system hierarchy, risk analysis, and cost analysis. They will learn that systems engineering is iterative and will develop judgment that will allow them to compare and evaluate engineering alternatives. They will learn to discuss systems engineering methods and processes as well as engage in systems thinking.

**MSEM 650. Technical Project Management. 3 Hours.**

Students will learn the common methodologies used to manage complex projects in technology organizations. They will learn how to successfully plan, schedule, budget, and complete projects. Topics will include the PMP, Six Sigma, Lean, and other methodologies. Students will take part in several class exercises that will allow them to use different project management skills. The format of the class will consist of lecture and general discussion. There will also be significant portions of class time dedicated to project based activities.

**MSEM 660. Professional Development for Engineers. 3 Hours.**

This course prepares students to make the transition from student to working engineer. Students will develop skills in personal branding, career planning, strategic career search, networking, teamwork, leadership, professional communications, time management, measuring value, and professional etiquette. In addition, students will learn how to find and develop opportunities and how to use social media to enhance and protect their personal brand.

**MSEM 670. Applied AI for Engineers: Tools, Strategy & Impact. 3 Hours.**

This course introduces engineering graduate students to the practical use of artificial intelligence (AI) tools, systems, and strategies relevant to a broad range of engineering disciplines. Rather than focusing on coding or algorithm development, students will explore applied AI use cases—including generative tools (e.g., ChatGPT, Midjourney), process automation, data analysis, digital project management, and decision support systems.

**MSEM 695. Engineering Management Design Project. 3 Hours.**

This course is for students who already have a relevant job or internship and are part of the Master of Engineering Management program. The purpose of this course is to be a capstone program where the skills and concepts learned in the MSEM are applied to a real industry issue. This project will be performed in partnership with your current employer by defining a project on the job and working with MSEM faculty to meet core deliverables.

**MSEM 696. Engineering Management Internship. 3 Hours.**

This course is an internship and will be conducted in cooperation with an employer and the School of Engineering's Director of Career Services. Students will work with an industry partner and then provide a final report.