



Building Leaders Who Deliver Strategic Technology-Based Innovative Solutions

**Master of Science in Engineering Management:
Professional Engineering Management Cohort Program**

Department of Industrial Engineering & Management Systems
COLLEGE OF ENGINEERING AND COMPUTER SCIENCE



UCF

The Importance of Technology-Based Innovation

Today's worldly and business challenges require innovative solutions. Technology-based solutions will continue to be a driver for fundamental performance changes. We need visionary leaders who can create and lead interdisciplinary teams focused on the delivery of innovative solutions.

UCF's MSEM, Professional Engineering Management Offering

The MSEM Professional Engineering Management offering is a cohort based program where specific cohorts are established based on the needs of industry. The program is designed as lock-step and to be completed in under 2 years. This program will enable you to deliver and manage complex systems, improve on-the-job performance, and maximize your organization's success. You will integrate project delivery processes through leadership, new product development, systems engineering, and project management. Relevant and connected course materials are taught at the intersection of engineering and management. Since 2009, the Professional Engineering Management program has graduated working professionals from leading employers in the Orlando region such as Harris, Kennedy Space Center, Kratos, Lockheed Martin, Raytheon, Siemens, and Walt Disney World. Over 75% of our alumni have reported career advancement after participating in the program.

Who Should Attend?

The Professional Engineering Management offering focuses on working professionals who want to strengthen their management skills and is suitable for:

- Managers at all levels
- Engineers
- Computer scientists
- Scientists in other fields
- Business executives
- High performers

A Learning Environment Designed for the Working Professional

To support working professionals, we have designed the program with the following characteristics:

- Senior faculty who have made significant contributions to the success of project-based technical organizations
- Industrial scholars (senior level working professionals) participate in the courses to offer their perspectives to the discussions
- Course work with real world applications for the working professional
- Complete the program in 2 years or less
- Class sessions meet every two weeks for 8 hours
- Convenient location close to your home or workplace
- Online course presentations and assignments accessible anytime, anywhere
- Opportunities to participate in social events of the campus life
- Strong peer support

What You Will Learn

You will learn how to drive innovation by organizing scarce resources, work in under market-driven tight deadlines, and increase team performances.

- Lead a project team through change efforts
- Overcome the challenges of a project-based organization
- Navigate the processes to deliver a strategically important project
- Conduct business analytics to make decisions
- Design and develop new products
- Make trade-offs in the systems engineering process
- Define and manage requirements
- Communicate with project stakeholders
- Manage the life-cycle cost of a project
- Connect the entire process together
- Develop new creative ideas

Class Sequence

The courses include:

- **Technology Strategy**
The challenge and core process for delivering projects
- **Technical Communication**
Communicate the solution
- **Engineering Statistics** Conduct business analytics to make decisions
- **Innovation in Engineering Design** Design and develop new products
- **Decision Analysis** Make trades in the systems engineering process
- **Systems Engineering**
Define and manage requirements and risks
- **Systems Architecture**
Model the system, requirements, structure, and behavior
- **Systems Integration and Testing**
Integrate, test, and evaluate the system and its elements
- **Advanced Engineering Economic Analysis**
Manage the life-cycle cost of a project and product
- **Project Engineering**
Project manage the effort
- **Environment of Technical Organizations**
Lead the project team
- **Engineering Management**
Close the loop with the strategy process
- **Capstone**
Apply what you have learned in your work setting



How do I apply?

Admissions criteria can be found by visiting the UCF Graduate Catalog. Enrollment is limited to 30 students. Personal interviews may also be required to support your application.

Contact

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Deadline to apply is March 15, 2020

Master of Science in Engineering Management

Professional Engineering Management (PEM)
College of Engineering and Computer Science

