## Master of Engineering Management

# Engineering Management (MEM)

## Degree Description

The Master of Engineering Management (MEM) provides a foundation and the necessary skills, knowledge, and abilities required to design and manage the technology-based, project-driven enterprise. Fundamentally, the engineering management program focuses on problems, design, and management of projects and complex operations. The program is grounded in solid principles of systems science while exploiting the tools of management science and project management. The Master of Engineering Management emphasizes the concept of technological leadership. Technological leadership's vision looks to the creation of new products, processes, and services which, in turn, will create new markets or enable domination of existing ones. Core coursework in the Master of Engineering Management program concentrates on developing the knowledge and skills required by graduates to provide the project and program leadership and management necessary to develop and manage technology intensive organizational settings.

The degree is directed at working professionals and traditional full-time students with technical undergraduate degrees. The degree is available on campus in a live setting as well as online through synchronous web delivery. Courses are scheduled in the evenings and can be attended from off-campus sites, including the Peninsula Higher Education Center in Hampton and the Virginia Beach Higher Education Center. The complete M.E.M. program is available through ODUGlobal and through the Commonwealth Graduate Engineering Program. Both programs transmit courses to educational, industrial, and government locations throughout Virginia and via a web-based platform.

## Admission Requirements

Admission to the master of Engineering Management program is in accordance with Old Dominion University and Frank Batten College of Engineering and Technology requirements for master's programs as specified in this catalog.

Admission requirements specific to this program include the following:

1. Official transcripts from all post-secondary institutions attended.
2. Undergraduate degree from a U.S. ABET-accredited program in engineering or engineering technology with a GPA of 3.00 (out of 4.00) or better. Students who hold bachelor's degrees in other disciplines or who do not meet the GPA requirement may be considered for admission based on transcript evidence of applicable physics and calculus courses, a résumé indicating relevant work experience in an engineering discipline, and/or satisfactory GRE quantitative scores.
3. Résumé detailing relevant work experience.
4. Personal Statement that outlines the rationale for applying to the program and how it aligns with the student's professional goals.
5. Students not meeting the above requirements may be admitted provisionally. The Graduate Program Director may request additional information, including GRE scores.
6. International students must meet University admission requirements; please refer to the website: https://www.odu.edu/admissions/proficiency (https://www.odu.edu/admissions/proficiency/).

## Curriculum Requirements

### General Requirements

The Master of Engineering Management is in accordance with the general requirements for master's degrees as specified in this Catalog. All students must have mathematics coursework through the level of integral calculus, matrix algebra or differential equations, and ENMA 420 or equivalent calculus-based probability and statistics. Students who have not had a calculus-based probability and statistics course will be required to include ENMA 420, or equivalent, as part of their plan of study *in addition to the required 31 credit hours.* All students are expected to communicate effectively both orally and in written documents, that are correct in grammar, style, and mechanics. Those deemed insufficient may be required to take remedial speech or writing courses. The engineering management curriculum has been designed around six core areas that develop the skill sets identified earlier and prepare graduates to assume positions within technology-based enterprises.

### Curricular Requirements

The Master of Engineering Management (M.E.M.) program requires 31 credits of coursework (10 three-credit courses plus a one-credit capstone course). At least three-fifths (3/5) of coursework must be at the 600- or 700-level for the M.E.M. degree. Students must maintain a 3.00 GPA or better. Students must meet all University continuance requirements.

**M.E.M. Courses**

| | | |
|---|---|---|
| **Prerequisite** * | | |
| Complete prerequisite requirements | | |
| **Core** | | |
| ENMA 600 | Cost Estimating and Financial Analysis | 3 |
| ENMA 601 | Analysis of Organizational Systems | 3 |
| ENMA 603 | Operations Research | 3 |
| ENMA 604 | Project Management | 3 |
| ENMA 646 | Information Science for Systems and Engineering Management | 3 |
| Select one of the following: | | 3 |
| ENMA 614 | Quality Systems Design | |
| ENMA 715 | Systems Analysis | |
| ENMA 724 | Risk Analysis | |
| Electives * | | 12 |
| **Capstone** | | |
| ENMA 605 | Program Capstone (required final semester) | 1 |
| **Total Credit Hours** | | **31** |

* Students must select twelve credit hours of elective coursework for the M.E.M. These electives may be selected from the available graduate-level ENMA courses.

## Additional Requirements

### Requirements for Graduation

In addition to completing all the required courses, all graduate students must complete the Collaborative Institutional Training Initiative (CITI) basic course, Responsible Conduct of Research for Engineers. The basic course includes the following modules: Misconduct (falsification, fabrication, and plagiarism); Data acquisition, management, sharing and ownership; Mentor/trainee relationships; Publication practice and responsible authorship; Peer review; Conflicts of interest; and Collaborative research. The RCR modules must be completed prior to completion of 12 semester hours. Students who fail to complete this requirement will have a registration hold placed on their records.