Master of Science

Engineering Management (MS)

Web Site: https://www.odu.edu/engineering-management-systems-engineering (https://www.odu.edu/engineering-management-systems-engineering/)

Contact Information

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Master of Science Degree

The Master of Science in Engineering Management (MS) provides the foundation and the necessary skills, knowledge, and abilities required to design and manage the technology-based, project-driven enterprise. The Master of Science (M.S.) program requires thesis research, and the student is expected to identify an advisor and work with him/her starting from the first semester. 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 coursework is designed to produce graduates capable of addressing issues related to the design, operation, analysis, and transformation of complex problems. Core coursework in the Master of Science in Engineering Management program concentrates on developing the knowledge and skills required by graduates to provide the project and program leadership and management necessary for an organization to develop and manage technologies.

Program Overview

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. The complete M.S. program is available through ODUGlobal and through the Commonwealth Graduate Engineering Program.

Additional Information

Graduate Student Program Handbook: For additional information, please contact the Graduate Program Director (emse@odu.edu).

Additional Graduate Student Resources (Graduate School): The Graduate School has extensive additional resources for graduate students at https://www.odu.edu/graduateschool/graduate-student-resources (https://www.odu.edu/graduateschool/graduate-student-resources/)

Program Financial Aid: Our programs offer graduate assistantships with stipends that are awarded to students after a competitive review process. The level of award is determined on the basis of previous experience and performance as a graduate assistant and on the student's academic achievement and potential in the field. In addition, a number of teaching and research positions are available for financial support of graduate assistants during the summer months (June and July).

Accelerated Study (Dual Dominion Program): Undergraduate students in the Frank Batten College of Engineering and Technology can apply for entry into the Dual Dominion Program, which permits students to begin pursuit of a graduate degree in Civil Engineering while they are still pursuing their undergraduate degree in a complementary discipline. Subject to the approval of the undergraduate and graduate program directors, a student enrolled in the Dual Dominion program can count up to six credit hours of course work towards both the undergraduate and the graduate degrees. Full-time students may be able to complete the requirements for the bachelor's degree in four years and the master's degree in one additional year. Students who are matriculated in an undergraduate major in the Frank Batten College of Engineering and Technology with a GPA of at least 3.00 overall and 3.00 in the major are eligible to apply for admission to a Dual Dominion Bachelor's/Master's program. Additional Undergraduate Catalog information on the Dual Dominion program can be found at https://catalog.odu.edu/undergraduate/registrationrequirementsandprocedures/linked_programs/.

Admission Information

Application Process

Summary: Applications for graduate study in the Master of Science in Engineering Program (Engineering Management Concentration) should be made through the general ODU Application Portal (https://www.odu.edu/apply/). Additional materials supporting your application (outlined below) will be required. Once complete, your application package will be reviewed and forwarded to the Engineering Management and Systems Engineering Master Programs' Graduate Program Director (emse@odu.edu) for consideration. Questions regarding the general application process can be directed to admissions@odu.edu (on-campus) or globaladmissions@odu.edu (online).

General ODU Requirements

General ODU Requirements: General requirements for graduate admission to the Master of Science in Engineering Program can be found on the ODU Graduate Admissions (https://www.odu.edu/admission/graduate/) website.

Additional details can be found in the Admissions section of the Graduate Catalog (https://catalog.odu.edu/graduate/graduateadmission/).

Additional Program Requirements:

Admission to the Master of Science in 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.

Prior Degrees: 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.

Transcripts: Official transcripts from all post-secondary institutions attended are required.

Examination/Test Scores: Submission of Graduate Record Examination (GRE) scores is nominally required. However, this requirement is waived if the applicant holds an engineering degree from an ABET-accredited institution in the USA, at the discretion of GPD.

Language Proficiency Requirements: TOEFL (or IELTS) scores are required for all applicants whose native language is not English unless their BS degrees are from USA institutions. These applicants must meet University admission requirements (IELTS: 6.5 or TOEFL iBT: 79); please refer to the website: https://www.odu.edu/admissions/proficiency (https://www.odu.edu/admissions/proficiency/) for additional details.

Résumé: A résumé or CV detailing relevant experience is required.

Personal Statement: Each applicant must submit an essay of 500 words or less describing personal and academic goals, professional objectives, preparation for graduate study, and how the chosen program will help the applicant achieve these goals and objectives.

Recommendation Letters: Two letters of recommendation must be submitted. At least one must be from former or current professors, and one could alternatively be from an employment supervisor.

Provisional Admission: Students not meeting the above requirements may be admitted provisionally. Only the Graduate Program Director (GPD) can waive an admission requirement. Please reach out directly to the GPD if you think you are eligible for a waiver from a requirement. The GPD may request additional information, including GRE scores. Provisionally

admitted students may be required to complete additional prerequisite course requirements to prepare them for the graduate curriculum in the discipline.

Curriculum Requirements

The Master of Science in Engineering Management (MSEM) is in accordance with the general requirements for master's degrees as specified in this Catalog. Students are required to identify an advisor as part of the program requirements. 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. 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 30 credits.

Curricular Requirements

The Master of Science in Engineering Management requires 30-credit hours of work (8 three-credit courses plus 2 three-credit thesis research courses).
At least three-fifths (3/5) of coursework must be at the 600- or 700-level.
Students must identify an advisor within the completion of 9 credit hours.
Students must maintain a GPA of 3.00 or better. Students must meet all University continuance requirements.

The following table delineates the specific course requirements for this program.

M.S. Courses

Master's Core Course *		**6**
ENMA 711	Engineering Research Methodology	
ENMA 720	Multivariate Statistics for Engineering	
Electives		**12**
Select four of the following:		
ENMA 600	Cost Estimating and Financial Analysis	
ENMA 601	Analysis of Organizational Systems	
ENMA 603	Operations Research	
ENMA 604	Project Management	
ENMA 614	Quality Systems Design	
ENMA 715	Systems Analysis	
Open Electives *		**6**
Select electives		
Thesis Research **		**6**
Complete thesis research		
Total Credit Hours		**30**

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

** M.S. students take six credits of thesis research, ENMA 699, or project hours ENMA 698, which must be spread over a minimum of two semesters.

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. Master of Science students must also pass a final examination in front of a thesis committee approved by the graduate program director.