

# MASTER OF SCIENCE IN THE FIELD OF ENGINEERING MANAGEMENT (STEM, ON-CAMPUS)

Earning an engineering management degree online can benefit professionals, whether their experience is in technical or business-oriented roles, expanding on their skills and opening new career opportunities. Graduates apply the leadership principles and engineering skills they learn from GW to guide high-tech businesses toward sustainable growth and promote best practices.

Visit the program website (<https://emse.engineering.gwu.edu/ms-engineering-management/>) for additional information.

This is a STEM designated program.

## ADMISSIONS

**Please note: The admission requirements below are for the on-campus program. Admission requirements for the online program are available at the online programs website (<https://engineeringmasters.online.gwu.edu/admissions/>).**

Admission deadlines: Fall – January 15

Spring – September 1

Summer - March 1 (non-F1 visa seeking applicants)

Standardized test scores: The Graduate Record Examination (GRE) is required of all applicants to the main GW campus (Institution code 5246).

The Test of English as a Foreign Language (TOEFL), the academic International English Language Testing System (IELTS), or the PTE Academic is required of all applicants except those who hold a bachelor's, master's, or doctoral degree from a college or university in the United States or from an institution located in a country in which English is the official language, provided English was the language of instruction. Minimum scores:

- Academic IELTS: an overall band score of 7.0 with no individual score below 6.5; or

- TOEFL: 600 on paper-based or 100 on Internet-based; or

- PTE Academic: 68.

Recommendations: Two recommendations required. If possible, one recommendation should be from your advisor at the institution from which you earned your highest degree.

Prior academic records: Transcripts are required from all colleges and universities attended, whether or not credit was earned, the program was completed, or the credit appears as transfer credit on another transcript. Unofficial transcripts from all colleges and universities attended must be uploaded to your online application. Official transcripts are required only of applicants who are offered admission.

If academic records are in a language other than English, a copy in the original language and an English language translation must be uploaded. Transcript evaluations should not be uploaded. Applicants who have earned a degree from an Indian university are required to submit individual semester marksheets.

Statement of purpose: In an essay of 250 to 500 words, state your purpose in undertaking graduate study at The George Washington University; describe your academic objectives, research interests, and career plans; and discuss your related qualifications, including collegiate, professional, and community activities, and any other substantial accomplishments not already mentioned.

Additional requirements: Bachelor's degree with a GPA of at least 3.0 on a 4.0 scale for the last 60 hours of coursework. A grade of B- or better in MATH 1232 or its equivalent is prerequisite to all graduate programs offered by the Department. The Department requires that the applicant have a suitable bachelor's degree in an area such as engineering, a physical science, or mathematics.

All applicants must submit a resumé or CV. All main campus applicants must choose an area of focus that most closely matches their interests and note this on the online application.

International applicants only: Please follow this link - <https://graduate.admissions.gwu.edu/international-student-application-requirements> (<https://graduate.admissions.gwu.edu/international-student-application-requirements/>) - to review the International Applicant Information carefully for details on required documents, earlier deadlines for applicants requiring an I-20 or DS-2019 from GW.

For additional information about the admissions process visit the SEAS Admissions Frequently Asked Questions (<https://graduate.engineering.gwu.edu/admissions-frequently-asked-questions/>) page.

Contact for questions:

[engineering@gwu.edu](mailto:engineering@gwu.edu)

202-994-1802 (phone)

202-994-1651 (fax)

Hours: 9:00 am to 5:00 pm, Monday through Friday

## REQUIREMENTS

The following requirements must be fulfilled: 36 credits, including 12 credits in required core courses and completion of a single focus area, each consisting of 12 credits in required courses and 12 credits in elective courses.

| Code                         | Title  | Credits |
|------------------------------|--|---------|
| <b>Required core courses</b> |  |         |
| EMSE 6001                    | The Management of Technical Organizations                  |         |
| EMSE 6410                    | Survey of Finance and Engineering Economics                |         |
| EMSE 6820                    | Program and Project Management                             |         |
| EMSE 6099                    | Problems in Engineering Management and Systems Engineering |         |

| Code   | Title  | Credits |
|--|--|---------|
| <b>Crisis, emergency, and risk management focus area</b> |  |         |
| Required   |  |         |
| EMSE 6305  | Crisis and Emergency Management                                  |         |
| EMSE 6310  | Information Technology in Crisis and Emergency Management        |         |
| EMSE 6315  | Risk Management, Hazard Analysis, and Risk-Based Decision Making |         |
| EMSE 6325  | Medical and Public Health Emergency Management                   |         |

Electives

Four courses (12 credits) selected in consultation with the focus area advisor.

| Code  | Title   | Credits |
|---|---|---------|
| <b>Engineering and technology management focus area</b> |   |         |
| Required  |   |         |
| EMSE 6005   | Organizational Behavior for the Engineering Manager |         |
| EMSE 6020   | Decision Making with Uncertainty                    |         |
| EMSE 6035   | Marketing Analytics for Design Decisions            |         |
| EMSE 6801   | Systems Engineering I                               |         |
| Electives   |   |         |

Four courses (12 credits) selected in consultation with the focus area advisor.

| Code  | Title                    | Credits |
|---|--------------------------|---------|
| <b>Environmental and energy management focus area</b> |                          |         |
| Required  |                          |         |
| EMSE 6220   | Environmental Management |         |
| EMSE 6225   | Air Quality Management   |         |
| EMSE 6235   | Water Quality Management |         |
| EMSE 6260   | Energy Management        |         |

Electives

Four courses (12 credits) selected in consultation with the focus area advisor.

| Code   | Title  | Credits |
|--|--|---------|
| <b>Economics, finance, and cost engineering focus area</b> |  |         |
| Required   |  |         |
| EMSE 6020  | Decision Making with Uncertainty               |         |
| EMSE 6420  | Uncertainty Analysis in Cost Engineering       |         |
| EMSE 6430  | Financial Management for Engineers             |         |
| EMSE 6450  | Quantitative Methods in Investment Engineering |         |

Electives

Four courses (12 credits) selected in consultation with the focus area advisor.

### Graduation and scholarship requirements

Students are responsible for knowing the University's minimum GPA requirement for graduation and scholarships. See Graduation and Scholarship Requirements ([https://bulletin.gwu.edu/engineering-applied-science/#graduation\\_requirements\\_ms](https://bulletin.gwu.edu/engineering-applied-science/#graduation_requirements_ms)) in this Bulletin. Students should contact the department for additional information and requirements.

### Program restrictions

Normally, only courses at the 6000 level courses or above count toward the requirements for the graduate degree.