DOCTOR OF PHILOSOPHY IN THE
FIELD OF SYSTEMS ENGINEERING
(STEM, ON-CAMPUS)

The systems engineering program provides a broad knowledge of
the "systems approach" for designing and managing large-scale
engineering systems throughout the life cycle, with faculty and
students exploring case studies and methodologies from NASA, the

Graduate students can pursue their degrees in one of two focus
areas: operations research and management science or systems
engineering and integration.

The doctoral program is individually tailored for each student. It is
designed to provide students with the ability to perform substantive
research in their areas of choice. Students benefit from working
closely with faculty members whose applications research has been
successfully used by major organizations.

GW’s graduate-level systems engineering programs are offered at
the University’s campus in Arlington, VA. They are also offered on-
site at U.S. corporate offices and facilities.

This is a STEM designated program.

- For additional on-campus program information, visit the on-
campus program website (https://www.emse.seas.gwu.edu/
doctor-philosophy/).
- For additional online program information, visit the online
program website (https://seasonline.gwu.edu/doctoral-
degrees/doctor-of-philosophy/).

ADMISSIONS

The admission requirements below are for the on-campus program.
Admission requirements for the online program are available at
the online programs website (https://seasonline.gwu.edu/apply-
today/phd-program/).

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. (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 required:

- Three (3) 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:

Please write a comprehensive essay of 400 to 600 words, indicating your primary and supporting fields of study, your specialized interests, and the general subject area of your planned dissertation or professional project.

Additional requirements:

Applicants whose highest earned degree is a master’s degree should have a grade-point average of at least 3.5. Applicants without a master’s degree must have a bachelor’s degree with a GPA of at least 3.3 on a 4.0 scale. All applicants should choose an area of focus that most closely matches their interests and note this on the online application. Applicants to the doctoral program should identify one to three faculty members whose research interests most closely match their own and note this on the online application. All applicants must submit a résumé or CV. International applicants requiring a visa from GW are not eligible to apply for admission to the graduate certificate program, but may apply for the M.S., Ph.D., or professional degrees (App. Sc. or Engr.) in systems engineering.

International applicants only:

Please review International Applicant Information (https://graduate.admissions.gwu.edu/international-student-application-requirements/) carefully for details on required documents, earlier deadlines for applicants requiring an I-20 or DS-2019 from GW. International applicants requiring a visa from GW are not eligible to apply for admission to the graduate certificate program, but may apply for the M.S., Ph.D., or professional degrees (App. Sc. or Engr.) in systems engineering.

* A limited number of doctoral applicants are accepted for the summer. Please contact the admissions office for details. International applicants who require a visa from GW are eligible to apply for admission in fall and spring only (not summer).

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

202-994-1802 (phone)
202-994-1651 (fax)

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

The following requirements must be fulfilled:

The general requirements stated under School of Engineering, Doctoral Program Regulations (https://bulletin.gwu.edu/engineering-applied-science/#seasregulationstext). Students entering the program with a relevant master’s degree spend a minimum of three years in full-time residency for PhD studies. During that time they take a minimum of 36 credits in coursework, including at least 18 credits in dissertation research. Students entering the program with a master’s degree that is not relevant are required to take up to 24 credits in additional coursework. Students entering with only a bachelor’s degree are required to take 24 credits in additional coursework.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSE 6765</td>
<td>Data Analysis for Engineers and Scientists</td>
<td></td>
</tr>
<tr>
<td>EMSE 8000</td>
<td>Research Formulation in Engineering Management and Systems Engineering</td>
<td></td>
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<tr>
<td>EMSE 8001</td>
<td>Research Methods for Engineering Management and Systems Engineering</td>
<td></td>
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<tr>
<td>Electives</td>
<td>At least 9 credits in courses selected in consultation with the academic advisor.</td>
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</tr>
<tr>
<td>Dissertation research</td>
<td>EMSE 8999</td>
<td>Dissertation Research (taken for a minimum of 18 credits)</td>
</tr>
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</table>

Additional requirements

1. To advance to the research phase, students must achieve a minimum GPA of 3.4 with no grade below B- at the completion of their coursework.
2. Coursework must be finished within three years (five years for direct admits) of the start of the PhD program.
3. Within three years of the start of the program (five years for direct admits), students must attempt the doctoral qualifying examination and have a maximum of two attempts to pass the exam.
4. Within five years of the start of the program (seven years for direct admits), students must complete their research proposal and successfully defend it to a committee of three members, at least two of which must be from the EMSE Department. Students

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have a maximum of two attempts to successfully pass their research proposal defense.

5. Within seven years of the start of the program (nine years for direct admits), students must complete their research dissertation and successfully defend it to a committee of five members, at least three of which must be from the EMSE Department and one from outside the EMSE Department. Students have a maximum of two attempts to successfully pass their dissertation defense.