Master of Engineering in Engineering Science

Designed to provide a broad, advanced education in the engineering sciences by permitted practicing engineers to obtain advanced studies through evening classes, with specialization in the student’s area of interest, including civil, electrical, environmental, or mechanical engineering, as well as mathematics and computer science. This interdisciplinary blend differs from a traditional disciplinary master’s degree in that it offers a broader perspective to the student, while still allowing him/her to focus on one area in depth, if desired.

In addition to the ability to forge a custom graduate degree, the M.Eng. in Engineering Science also contains an independent research component. Each student is assigned an advisor in the engineering or science discipline that they find most interesting.

Contact
Administrative Support Assistant
Melinda Hughes-Rorapaugh
mmh190@psu.edu
717-948-4344

Professor-in-Charge
Scott Van Tonningen, Ph.D.
szv2@psu.edu
+1 717 948 6091

Program Website: https://harrisburg.psu.edu/eng-sci
Curriculum
Credit requirements will be satisfied by an appropriate combination of core courses and elective courses. The core courses include offerings in mathematics and in several branches of engineering that have been selected because of their general character and breadth of applicability to all engineering fields.

A minimum of 30 credits is required, of which at least 18 must be at the 500-level and 6 credits of mathematics at the 400 or 500 level. Of the 30 credits, 6 credits of mathematics and a scholarly written report (3 credits) must be completed.

This program should be distinguished from the graduate program in Engineering Science at University Park campus, which offers the M.S. degree.

Transfer Credits and Course Substitutions
Up to 9 credits of graduate work may be transferred from other institutions provided (a) credits are suitable for the particular engineering discipline, and (b) students have earned a grade of B or better.

Grade-Point Average and Time Limit
Students must have a 3.00 grade-point average in core and elective courses approved by the program to graduate. While most students pursue the program on a part-time basis, it is possible to complete the program within two years, based on completion of two courses a semester.

Courses Overview
Courses in the Master of Engineering program are offered on a rotating basis. Some courses are offered every year, but many are only offered every two or three years. This means students must plan their schedule carefully with regard to prerequisite courses. Certain specialty courses are offered on perceived need as well as in response to requests by students and faculty.

A representative list of courses includes those in mathematics, civil engineering, environmental engineering, engineering mechanics, computer engineering, electrical engineering, physics, industrial engineering, mechanical engineering, metallurgy, nuclear engineering, environmental pollution control, and computer science. Please see the program office for a list of recommended courses and their tentative schedule.

The program requirements are summarized as follows:
- Five courses: 500-level course from Mathematics, Computer Science, or Engineering – 15 credits
- Two courses: 400 or 500-level course from Mathematics – 6 credits
- Two courses: 400 or 500-level course from Mathematics, Computer Science, or Engineering – 6 credits
- One course: M.Eng. paper – 3 credits
- Program total – 30 credits

Students can enroll in 400 or 500-level courses in: Civil Engineering (C E), Computer Science (COMP), Electrical Engineering (E E), Environmental Engineering (ENVE), Mathematical Science (MATH), and Mechanical Engineering (M E).

Prerequisite Courses
Students may be admitted to the program from various disciplines. Students applying for admission are expected to have completed the following core courses:
- physics through modern physics;
- mathematics through differential equations;
- one course in engineering thermodynamics;
- one course in electrical circuits;
- basic courses in engineering statics, dynamics, and strength of materials;
- computer programming.

Program Requirements for Admission

<table>
<thead>
<tr>
<th>Requirements</th>
<th>More Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>Students with a 3.0 junior/senior grade-point average (on a 4.00 scale) and with appropriate course backgrounds will be considered for admission. Exceptions to the minimum grade-point average may be made for students with special backgrounds, abilities, and interests.</td>
</tr>
<tr>
<td>Supporting Materials</td>
<td>Three letters of reference, especially those from faculty who can evaluate academic potential.</td>
</tr>
<tr>
<td></td>
<td>A personal statement of technical interest, goals, and experience.</td>
</tr>
<tr>
<td></td>
<td>Graduate Record Examination (GRE) scores are required for those indicating interest in an assistantship.</td>
</tr>
</tbody>
</table>

The best-qualified applicants will be accepted up to the number of spaces that are available for new students.

Application Deadline
This program has rolling admission, that is, no specific deadline. Students are accepted to begin in Fall or Spring terms; summer admission is not offered for this program. Note that it may take 4-6 weeks to receive transcripts and process an application.