Applicants should submit the following:

- An undergraduate cumulative grade-point average of 3.0 or better on a 4.0 scale, and scores from the GRE are required for admission.
- Applicants must be graduates of an accredited university and must meet the admission requirements as set by Penn State's Graduate School.
- A minimum of 31 credits at the 400, 500, 600, or 800 level is required, including 24 course credits with at least 15 credits at the 500 level, 1 credit of ME 590, and 6 credits of thesis research (ME 600 or ME 610).

Graduation Requirements

**Master of Science (M.S.)**

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (https://gradschool.psu.edu/graduate-education-policies/)

A minimum of 31 credits at the 400, 500, 600, or 800 level is required, including 24 course credits with at least 15 credits at the 500 level, 1 credit of ME 590, and 6 credits of thesis research (ME 600 or ME 610).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMCH 524A</td>
<td>Mathematical Methods in Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ME 590</td>
<td>Colloquium</td>
<td>1</td>
</tr>
</tbody>
</table>

Students take 9 credits in one of the following concentrations.

A list of courses that will count towards these concentrations is maintained by the program office.

**Electives**

Students take 12 credits of electives from a list of approved electives maintained by the program office. To incorporate breadth into the program, students are required to take at least one elective course in a Concentration Area other than the one they complete.

**Culminating Experience**

- ME 600 Thesis Research
- or ME 610 Thesis Research Off Campus

**Total Credits**

31

A maximum of 3 400-level courses (9 credits) can be counted towards the degree requirements for the M.S. A minimum of 12 credits must be earned in 400- and 500-level courses in Mechanical Engineering.

Students who have deficiencies in the use of spoken or written English may be required to take courses in these areas in addition to the specified degree requirements. Credits earned to remediate deficiencies cannot be applied towards requirements for the M.S. degree.

Degree requirements must be completed within six years of admission to degree status.

**Minor**

A graduate minor is available in any approved graduate major or dual-title program. The default requirements for a graduate minor are stated in Graduate Council policies listed under GCAC-600 Research Degree Policies (https://gradschool.psu.edu/graduate-education-policies/) and GCAC-700 Professional Degree Policies (https://gradschool.psu.edu/graduate-education-policies/), depending on the type of degree the student is pursuing.
• GCAC-611 Minor - Research Doctorate (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-611-minor-research-doctorate/)
• GCAC-641 Minor - Research Master's (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-641-minor-research-masters/)
• GCAC-709 Minor - Professional Doctorate (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-709-professional-doctoral-minor/)
• GCAC-741 Minor - Professional Master's (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-741-masters-minor-professional/)

Student Aid
Graduate assistantships available to students in this program and other forms of student aid are described in the Tuition & Funding (https://gradschool.psu.edu/graduate-funding/) section of The Graduate School's website. Students on graduate assistantships must adhere to the course load limits (https://gradschool.psu.edu/graduate-education-policies/gsad/gsad-900/gsad-901-graduate-assistants/) set by The Graduate School.

Courses
Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Mechanical Engineering (ME) Course List (https://bulletins.psu.edu/university-course-descriptions/graduate/me/)

Learning Outcomes
1. KNOW - Graduates will be able to demonstrate broad mastery of core principles in mechanical engineering as well as in-depth mastery in selected mechanical engineering topics.
2. CRITICAL THINKING - Graduates will be able to critically and creatively conceptualize, evaluate and formulate mechanical engineering problems, as well as perform the analyses required for problem definition.
3. APPLY/CREATE - Graduates will be able to apply advanced knowledge, techniques, skills and state of the practice tools to solve mechanical engineering problems.
4. COMMUNICATE - Graduates will be able to effectively communicate, both orally and in writing, project outcomes, such as ideas, requirements, designs, analyses, findings, and justification for decisions.
5. PROFESSIONAL PRACTICE - Graduates will be able to demonstrate an understanding of professional and ethical responsibility and conduct themselves accordingly.

Contact

Campus Harrisburg
Graduate Program Head Vahid Motevalli
Director of Graduate Studies (DGS) Brian Allen Maicke
or Professor-in-Charge (PIC)

Program Contact
Casey M. McDowell
W 239 Olmsted- Penn State
Harrisburg
777 W Harrisburg Pike
Middletown PA 17057
cmm8969@psu.edu
(717) 948-6116

Program Website
View (https://harrisburg.psu.edu/science-engineering-technology/me-met/masters-science-mechanical-engineering/)