BACHELOR OF SCIENCE WITH A MAJOR IN MECHANICAL ENGINEERING

Mechanical engineering encompasses a vast range of industrial activities. Mechanical engineers conceive, plan, design, and direct the manufacture, distribution, and operation of complex systems. Applications include aerospace, energy conversion, computer-aided design and manufacturing, power and propulsion systems, robotics, and control systems. The Department of Mechanical and Aerospace Engineering offers the bachelor of science with a major in mechanical engineering degree program to prepare students for work in these fields. The program is accredited by ABET (Accreditation Board for Engineering and Technology).

Visit the program website (http://www.mae.seas.gwu.edu/programs-degrees) for additional information.

Bachelor of Sciences with a Second Major in Mechanical Engineering

Any undergraduate student who is enrolled at GW may declare a second major in mechanical engineering only if their primary degree is a bachelor of science. The student must meet the degree requirements for a bachelor of science in mechanical engineering, including SEAS general, major, technical electives, humanities/social science, and SEAS/technical GPA requirements. Students earning other bachelor’s degrees (e.g., BA, BBA, BFA) must meet the requirements for a double degree (http://bulletin.gwu.edu/university-regulations/#DDegrees).

Graduation grade-point average criteria:
To satisfactorily complete a second major in biomedical engineering, a student must have a minimum grade-point average of 2.2 in all technical engineering courses outlined in the fifth, sixth, seventh, and eighth semesters of the curriculum.

REQUIREMENTS

Recommended program of study

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td><strong>First semester</strong></td>
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<tr>
<td>CHEM 1111</td>
<td>General Chemistry I *</td>
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<tr>
<td>MAE 1001</td>
<td>Introduction to Mechanical and Aerospace Engineering</td>
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<tr>
<td>MATH 1231</td>
<td>Single-Variable Calculus I *</td>
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<tr>
<td>SEAS 1001</td>
<td>Engineering Orientation</td>
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<tr>
<td>UW 1020</td>
<td>University Writing</td>
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<td><strong>Second semester</strong></td>
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<td>MAE 1004</td>
<td>Engineering Drawing and Computer Graphics</td>
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<tr>
<td>MATH 1232</td>
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<td>MATH 2184</td>
<td>Linear Algebra I</td>
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<td>PHYS 1021</td>
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<tr>
<td>APSC 2057</td>
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<td>APSC 2113</td>
<td>Engineering Analysis I</td>
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<td>MAE 2117</td>
<td>Engineering Computations</td>
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<tr>
<td>MATH 2233</td>
<td>Multivariable Calculus *</td>
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<td>PHYS 1022</td>
<td>University Physics II *</td>
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<tr>
<td>APSC 2058</td>
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<tr>
<td>CE 2220</td>
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<tr>
<td>ECE 2110</td>
<td>Circuit Theory</td>
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<td>APSC 3115</td>
<td>Engineering Analysis III</td>
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<td>MAE 3126</td>
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<td>MAE 3166</td>
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<td>MAE 3191</td>
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<td>MAE 3192</td>
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<td><strong>Sixth semester</strong></td>
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<td>MAE 3120</td>
<td>Methods of Engineering Experimentation</td>
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<td>MAE 3134</td>
<td>Linear System Dynamics</td>
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<tr>
<td>MAE 3167W</td>
<td>Mechanics of Materials Lab</td>
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<tr>
<td>MAE 3187</td>
<td>Heat Transfer</td>
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<tr>
<td>MAE 3193</td>
<td>Mechanical Systems Design</td>
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**Humanities or social sciences elective**

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<th>Seventh semester</th>
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<tbody>
<tr>
<td>MAE 4149</td>
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<td>MAE 4151</td>
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<tr>
<td>MAE 4182</td>
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<tr>
<td>Technical elective †</td>
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**Eighth semester**

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<td>Humanities or social sciences elective **</td>
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<tr>
<td>Humanities or social sciences elective **</td>
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*Course satisfies the University General Education Requirement in math, science, and writing.

**To satisfy the SEAS Humanities and Social Science requirement, all Mechanical Engineering students must take one (1) humanities course and two (2) social Sciences courses from University General Education requirement; PHIL 2135, and two (2) additional humanities or social science or non-technical courses from the MAE Department's pre-approved list of electives. All courses selected to satisfy this requirement must be at least 3-credits each. **NOTE: **Students in the Patent Law concentration must take MAE 2170 in lieu of one of the additional humanities or social science or non-technical course.**

†All technical electives must be approved by the undergraduate advisor. On a case-by-case basis, technical electives may be chosen from other departments if approved by both the undergraduate advisor and the department chair.

Technical electives are chosen from MAE courses in the 3000, 4000, and 6000 series, excluding:

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<tr>
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<tbody>
<tr>
<td>MAE 3171</td>
<td>Patent Law for Engineers</td>
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<td>MAE 4172</td>
<td>Engineering Design and the Patent System</td>
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<tr>
<td>MAE 6298</td>
<td>Research</td>
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