BACHELOR OF SCIENCE WITH A MAJOR IN MECHANICAL ENGINEERING, BIOMECHANICAL OPTION

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 bachelor of science with a major in mechanical engineering, biomechanical option degree program prepares students to work in the biomedical industry or to pursue graduate study in biomedical engineering. It provides a strong foundation in human anatomy and physiology, biomechanics, biomaterials, and design of biomedical devices.

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, Biomedical Option

Any undergraduate student who is enrolled at GW may declare a second major in mechanical engineering only if his or her primary degree is a BS. 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 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

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First semester</td>
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<tr>
<td>MAE 1001</td>
<td>Introduction to Mechanical and Aerospace Engineering</td>
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<td>SEAS 1001</td>
<td>Engineering Orientation</td>
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<tr>
<td>CHEM 1111</td>
<td>General Chemistry I</td>
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<tr>
<td>MATH 1231</td>
<td>Single-Variable Calculus I *</td>
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<td>UW 1020</td>
<td>University Writing *</td>
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<td>MAE 1004</td>
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<td>MATH 1232</td>
<td>Single-Variable Calculus II *</td>
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<tr>
<td>MATH 2184</td>
<td>Linear Algebra I</td>
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<td>PHYS 1021</td>
<td>University Physics I *</td>
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<td>Humanities or Social Sciences Elective 2</td>
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<td>Third semester</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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<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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<td>CE 2220</td>
<td>Introduction to the Mechanics of Solids</td>
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<td>Introduction to C Programming</td>
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<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>
<td>Fluid Mechanics I</td>
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<td>MAE 3166</td>
<td>Materials Science and Engineering</td>
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<td>MAE 3191</td>
<td>Mechanical Design of Machine Elements</td>
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<td>MAE 3192</td>
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<td>MAE 3120</td>
<td>Methods of Engineering Experimentation</td>
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<td>MAE 3128</td>
<td>Biomechanics I</td>
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<td>MAE 3134</td>
<td>Linear System Dynamics</td>
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<td>MAE 3167W</td>
<td>Mechanics of Materials Lab</td>
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<td>MAE 3193</td>
<td>Mechanical Systems Design</td>
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<td>MAE 3171</td>
<td>Patent Law for Engineers</td>
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<td>MAE 4149</td>
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<td>MAE 3187</td>
<td>Heat Transfer</td>
<td>Eighth</td>
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<tr>
<td>MAE 4152W</td>
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<td>Two humanities or social sciences electives</td>
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1 Course satisfies the university general education requirement in math, science, and writing.
2 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.