Mechanical Engineering & Applied Mechanics is the study of forces, deformation, and motions of solid bodies and fluids (liquids and air), heat & energy generation and transport. Mechanical engineers are equipped with knowledge to design and develop everything you think of as a device, mechanism, or machine, including wind turbines, rocket engines, robots, 3D printers, micro-engines, nanomotors, and more. We assure safety in systems people use day to day, from transportation to appliances to medical devices.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/mechanical-engineering-and-applied-mechanics/

**Mechanical Engineering and Applied Mechanics (MEAM) Major Requirements**

37 course units are required.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEAM Core</td>
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<tr>
<td>MEAM 202</td>
<td>Introduction to Thermal and Fluids Engineering</td>
<td>1</td>
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<tr>
<td>MEAM 203</td>
<td>Thermodynamics I</td>
<td>1</td>
</tr>
<tr>
<td>MEAM 210</td>
<td>Statics and Strength of Materials</td>
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<tr>
<td>MEAM 211</td>
<td>Engineering Mechanics: Dynamics</td>
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<tr>
<td>MEAM 247</td>
<td>Mechanical Engineering Laboratory I</td>
<td>0.5</td>
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<tr>
<td>MEAM 248</td>
<td>Mechanical Engineering Lab I</td>
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</tr>
<tr>
<td>MEAM 347</td>
<td>Mechanical Engineering Design Laboratory</td>
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<tr>
<td>MEAM 348</td>
<td>Mechanical Engineering Design Laboratory</td>
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</tr>
<tr>
<td>MEAM 445</td>
<td>Mechanical Engineering Design Projects</td>
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<tr>
<td>MEAM 446</td>
<td>Mechanical Engineering Design Projects</td>
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</table>

**Concentration**

Select only one track from the options below in the Concentration area. You must formally declare a concentration by submitting the MEAM Concentration form. Students who do not declare a concentration will default into the General Concentration.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>Math and Natural Science</td>
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<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
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<td>MATH 114</td>
<td>Calculus, Part II</td>
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<td>MATH 240</td>
<td>Calculus, Part III</td>
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<td>ENM 251</td>
<td>Analytical Methods for Engineering</td>
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<tr>
<td>or MATH 241</td>
<td>Calculus, Part IV</td>
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<tr>
<td>MEAM 110</td>
<td>Introduction to Mechanics and Introduction to Mechanics Lab</td>
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</tr>
<tr>
<td>Code</td>
<td>Title</td>
<td>Course Units</td>
</tr>
<tr>
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</tr>
<tr>
<td>MEAM 333</td>
<td>Heat and Mass Transfer</td>
<td></td>
</tr>
<tr>
<td>MEAM 354</td>
<td>Mechanics of Solids</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Mechanics of Materials, Structures and Design Concentration</th>
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<tbody>
<tr>
<td>MEAM 321 Dynamic Systems and Control</td>
</tr>
<tr>
<td>MEAM 354 Mechanics of Solids</td>
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<tr>
<td>MEAM 300-level breadth elective</td>
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<td>MEAM Upper Level</td>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2020 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.