# Mechanical Engineering Curriculum

**Students entering major FA19 and later**

**(Option A: last Name begins with A-K)**

<table>
<thead>
<tr>
<th>SEMESTER 1</th>
<th>Course</th>
<th>Credits</th>
<th>SEMESTER 2</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FYS First Year Seminar</td>
<td>1</td>
<td>Sci elective</td>
<td>Science Elective (See below)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENGL 015* Rhetoric and Composition</td>
<td>3</td>
<td>ECON 102/104</td>
<td>Micro or Macro Economics (GS)</td>
<td>3</td>
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<tr>
<td></td>
<td>EDSGN 100* Introduction to Engineering Design</td>
<td>3</td>
<td>MATH 141* Calc with Analytic Geometry II</td>
<td>4</td>
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<tr>
<td></td>
<td>AHS course (GA, GH, or GS)</td>
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<td>AHS course (GA, GH, or GS)</td>
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<tr>
<td></td>
<td>MATH 140* Calculus with Analytic Geometry I</td>
<td>4</td>
<td>PHYS 211* Mechanics</td>
<td>4</td>
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<tr>
<td></td>
<td>CHEM 110* Chemical Principles</td>
<td>3</td>
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**Total Semester Credits** 17

<table>
<thead>
<tr>
<th>SEMESTER 3</th>
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<th>Credits</th>
<th>SEMESTER 4</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>CMPSC 200 MATLAB</td>
<td>3</td>
<td>E MCH 212* Dynamics</td>
<td>3</td>
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<tr>
<td></td>
<td>CAS 100A/B* Effective Speech</td>
<td>3</td>
<td>E MCH 213* Strength of Materials</td>
<td>3</td>
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<tr>
<td></td>
<td>E MCH 211* Statics</td>
<td>3</td>
<td>M E 300* Engineering Thermodynamics I</td>
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<tr>
<td></td>
<td>MATH 251* Ordinary and Partial Differential Eq.</td>
<td>4</td>
<td>MATH 231 Calculus of Several Variables</td>
<td>2</td>
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<td></td>
<td>PHYS 212* Electricity and Magnetism</td>
<td>4</td>
<td>MATH 220 Matrices</td>
<td>2</td>
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<td>AHS course (GA/GH/GS)</td>
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**Total Semester Credits** 17

<table>
<thead>
<tr>
<th>SEMESTER 5</th>
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<th>SEMESTER 6</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>I E 312 Product Design &amp; Mfg Processes</td>
<td>3</td>
<td>M E 454* Mechatronics</td>
<td>3</td>
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<tr>
<td></td>
<td>MATSE 259 Properties &amp; Processing of Engr. Mat'l.</td>
<td>3</td>
<td>ENGL 202C* Technical Writing</td>
<td>3</td>
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<tr>
<td></td>
<td>M E 370* Vibrations of Mechanical Systems</td>
<td>3</td>
<td>M E 360* Mechanical Design</td>
<td>3</td>
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<tr>
<td></td>
<td>M E 348* Circuit Analysis, Inst. and Stat.</td>
<td>4/3^</td>
<td>M E 320* Fluid Flow</td>
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<tr>
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<td>ME 390 Academic &amp; Career Dev for ME</td>
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<td>GHW General Health and Wellness</td>
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<td>ME 490 Professional Dev for ME</td>
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**Total Semester Credits** 16.5/15.5

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<thead>
<tr>
<th>SEMESTER 7</th>
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<th>SEMESTER 8</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>ETE Engineering Technical Elective</td>
<td>3</td>
<td>M E 440W Capstone Project</td>
<td>3</td>
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<td></td>
<td>M E 410* Heat Transfer</td>
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<td>AHS course (GA, GH, or GS)</td>
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<tr>
<td></td>
<td>M E 450* Modeling of Dynamic Systems</td>
<td>3</td>
<td>AHS course (GA, GH, or GS)</td>
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<tr>
<td></td>
<td>METE M E Technical Elective</td>
<td>3</td>
<td>GTE General Technical Elective</td>
<td>3</td>
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<tr>
<td></td>
<td>M E Lab ME 435</td>
<td>3</td>
<td>ETE Engineering Tech Elective</td>
<td>3</td>
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<tr>
<td></td>
<td>GHW General Health and Wellness</td>
<td>1.5</td>
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</table>

**Total Semester Credits** 15

* C or higher required

^ ME 348 3-credit will be offered starting fall 2022

- Science elective choices: CHEM 112, BIOL 141, or CHEM 111 and PHYS 214 (3 credits total)
- Completion of E MCH and MATH courses before the 5th semester is important for future course sequencing.
- E MCH 210 or E MCH 210H is not a direct substitute for E MCH 211 and 213 requirements and should not be taken for ME_BS
- Details on the METE, ETE and GTE (including use of 3 completed internship credits) can be found at [https://www.me.psu.edu/students/undergraduate/curriculum-electives.aspx](https://www.me.psu.edu/students/undergraduate/curriculum-electives.aspx)
- Students must take 3 credits of United State Cultures (US) and 3 credits of International Cultures (IL) and 6 credits integrative studies (Interdomain or Linked) in conjunction with AHS courses.