### MECHANICAL ENGINEERING - GENERAL CONCENTRATION

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 255</td>
<td>Energy Conversion Electromagnetics</td>
<td>3</td>
</tr>
<tr>
<td>EE 295</td>
<td>Energy Conversion Electromagnetics Laboratory</td>
<td>1</td>
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<tr>
<td>ME 428</td>
<td>Senior Design Project I</td>
<td>2</td>
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<tr>
<td>ME 429</td>
<td>Senior Design Project II</td>
<td>2</td>
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<tr>
<td>ME 430</td>
<td>Senior Design Project III</td>
<td>2</td>
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</tbody>
</table>

**Technical Electives**

Select 3 to 4 units of non-ME courses from:

Any upper division or graduate level course in the College of Engineering with the exception of GE Area F, ENGR 301, senior project, thesis, special problems, and coop courses.

Select from the following:

- ME 305: Introduction to Mechatronics
- ME 359: Fundamentals of HVAC Systems
- ME 401: Stress Analysis
- ME 402: Orthopedic Biomechanics
- ME/CE 404: Applied Finite Element Analysis
- ME 405: Mechatronics
- ME 410: Experimental Methods in Mechanical Design I
- ME 412: Composite Materials Analysis and Design
- ME 415: Energy Conversion
- ME 416: Ground Vehicle Dynamics and Design
- ME 423: Robotics: Fundamentals and Applications
- ME 431: Mechanical Design Techniques
- ME 434: Enhanced Oil Recovery
- ME 435: Drilling Engineering
- ME 436: Petroleum Production Engineering
- ME 441: Single Track Vehicle Design
- ME 442: Design of Machinery
- ME 443: Turbomachinery
- ME 444: Combustion Engine Design
- ME 450: Solar Thermal Power Systems
- ME 456: HVAC Air and Water Distribution System Design
- ME 457: Refrigeration Principles and Design
- ME 458: Building Heating and Cooling Loads
- ME 488: Wind Energy Engineering
- ME 501/CE 511: Continuum Mechanics and Elasticity
- ME 503/CE 513: Inelastic Stress Analysis
- ME/CE 504: Finite Element Analysis
- ME 506: System Dynamics
- ME 507: Mechanical Control System Design
- ME 517: Advanced Vibrations
- ME 518: Machinery Vibration and Rotor Dynamics
- ME 540: Viscous Flow
- ME 541: Advanced Thermodynamics
- ME 542: Dynamics and Thermodynamics of Compressible Flow

**Total units**: 21-22

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1. Consultation with advisor is recommended prior to selecting technical electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
2. ME 470, ME 471, ME 570 and ME 571 are variable topics courses and may or may not count as ME electives. Please contact instructor for additional information. A course substitution form is required. Note, substitutions have been approved for the following topics:
   - ME 470: Introduction to Building Energy Modeling; Pressure Water Nuclear Reactor; Advanced Topics in HVAC&R; and Rehabilitation Engineering
   - ME 471: Introduction to Building Energy Modeling; Rehabilitation Engineering Lab
3. ME 400 and ME 500 are independent study classes and may be acceptable for technical elective credit. A course substitution form is required.
4. ENGR 459, ENGR 460 and ENGR 461 (6) may substitute for ME 428, ME 429 and ME 430 (6).