### 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>
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**Technical Electives**

Select from the following: 11-12

- 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

**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.

**Total units:** 21-22

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).