## 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:

1. ME 305 Introduction to Mechatronics
2. ME 359 Fundamentals of HVAC Systems
3. ME 401 Stress Analysis
4. ME 402 Orthopedic Biomechanics
5. ME/CE 404 Applied Finite Element Analysis
6. ME 405 Mechatronics
7. ME 410 Experimental Methods in Mechanical Design I
8. ME 412 Composite Materials Analysis and Design
9. ME 415 Energy Conversion
10. ME 416 Ground Vehicle Dynamics and Design
11. ME 423 Robotics: Fundamentals and Applications
12. ME 431 Mechanical Design Techniques
13. ME 434 Enhanced Oil Recovery
14. ME 435 Drilling Engineering
15. ME 436 Petroleum Production Engineering
16. ME 441 Single Track Vehicle Design
17. ME 442 Design of Machinery
18. ME 443 Turbomachinery
19. ME 444 Combustion Engine Design
20. ME 450 Solar Thermal Power Systems
21. ME 456 HVAC Air and Water Distribution System Design
22. ME 457 Refrigeration Principles and Design
23. ME 458 Building Heating and Cooling Loads
24. ME 488 Wind Energy Engineering
25. ME 501/CE 511 Continuum Mechanics and Elasticity
26. ME 503/CE 513 Inelastic Stress Analysis
27. ME/CE 504 Finite Element Analysis
28. ME 506 System Dynamics
29. ME 507 Mechanical Control System Design
30. ME 517 Advanced Vibrations
31. ME 518 Machinery Vibration and Rotor Dynamics
32. ME 540 Viscous Flow
33. ME 541 Advanced Thermodynamics
34. 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).