MECHANICAL ENGINEERING

Building 13, Room 254  •  805-756-1334  •  me.calpoly.edu

PROGRAM DESCRIPTION
The profession of mechanical engineering is directed toward the design, manufacture and system integration of a wide variety of equipment ranging from manufacturing machinery and power generation equipment to consumer goods. Of central concern to mechanical engineers is the sound application of basic principles of solid mechanics, fluid mechanics and thermal sciences in the design, manufacture and application of this equipment.

OUR MISSION
To impart knowledge in the art and science of mechanical engineering through a comprehensive curriculum true to the traditional Cal Poly Learn by Doing philosophy that produces mechanical engineers of high ethics and skill, fully prepared for entry into industry, government, graduate school and private enterprise.

ASSOCIATED CLUBS
• American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) — ashrae.calpoly.edu
• American Society of Mechanical Engineers (ASME) — calpolyasme.com
• ASME Human Powered Vehicle (HPV) — hpv.calpoly.edu
• Cal Poly Amusement Park Engineers and Designers (CAPED) — facebook.com/SLOCAPED
• Cal Poly Bike Builders — calpolybikebuilders.com
• Cal Poly Robotics — calpolyrobotics.com
• Electric Porche Club — facebook.com/cplelectricporsche
• Pi Tau Sigma — calpolyslopitasigma.weebly.com
• Society of Automotive Engineers (SAE) — calpolyracing.org
• Society of Women Engineers — swe.calpoly.edu
• Supermileage — supermileage.calpoly.edu
• Tau Beta Pi — tbp.calpoly.edu

U.S. News and World Report ranked Cal Poly mechanical engineering as the No. 2 undergraduate program in the nation among all non-Ph.D.-granting universities in 2020.

1,210 undergraduate students

39 graduate students

enrolled in mechanical engineering

enrolled in the blended B.S. and M.S. programs
**B.S. IN MECHANICAL ENGINEERING**

Suggested Four-year Academic Flowchart - 2022-2026 Catalog

### FRESHMAN

<table>
<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Intro to ME I ME 128* (1) (Concurrent: MATH 141)</td>
<td>Intro to ME II ME 129* (1) (Concurrent: MATH 120)</td>
<td>Intro to ME III ME 130* (1) (Concurrent: MATH 120)</td>
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<tr>
<td>Orientation to ME II ME 163* (1) (Concurrent: MATH 120)</td>
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*### Calculus I MATH 141 (4) = [B4] (Prerequisite)*

### Sophomore

<table>
<thead>
<tr>
<th>Fall</th>
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<th>Spring</th>
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<tbody>
<tr>
<td>Calculus II MATH 142 (4) (MATH 141 w/ C- or Inst. Consent)</td>
<td>Calculus III MATH 143 (4) (MATH 142 or Inst. Consent)</td>
<td>Calculus IV MATH 241 (4) (MATH 143)</td>
</tr>
<tr>
<td>General Physics I PHYS 141 (4) (ADJ # A1)</td>
<td>General Physics II PHYS 142 (4) (PHYS 141 or MATH 143)</td>
<td>General Physics II PHYS 142 (4) (PHYS 141 or MATH 143)</td>
</tr>
<tr>
<td>Intro to Digital Design ME 251 (2) (IME 141 or IME 142)</td>
<td>ME 210 (3) &amp; MATE 215 (1)</td>
<td>ME 210 (3) &amp; MATE 215 (1)</td>
</tr>
<tr>
<td>Intro to Manufacturing Processes: Materials Joining IME 142 (2)</td>
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*### Calculus IV MATH 241 (4) = [B4] (Prerequisite)*

### Junior

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<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Linear Analysis I MATH 244 (4) (MATH 143)</td>
<td>Linear Analysis II MATH 245 (4) (MATH 244)</td>
<td>Linear Analysis II MATH 245 (4) (MATH 244)</td>
</tr>
<tr>
<td>Mechanics of Materials I CE 204 (3) MATH 142</td>
<td>Mechanics of Materials II CE 207 (2) MATH 244</td>
<td>Electromagnetics I ME 328 (3) ME 212</td>
</tr>
<tr>
<td>Programming for Engr. Stud. CSC 211 (2) (MATH 142 or MATH 120)</td>
<td>Programming for Engr. Stud. CSC 211 (2) (MATH 142 or MATH 120)</td>
<td>Programming for Engr. Stud. CSC 211 (2) (MATH 142 or MATH 120)</td>
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<tr>
<td>Power Electronics Lab EE 251 (4)</td>
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<tr>
<td>ME 341 (3) ME 343 (4)</td>
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*### General Curriculum ME 303 (3) ME 304 (4) ME 305 (4) |

### Senior

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<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>Thermal Systems Design ME 329 (4) ME 302</td>
<td>Fluid Mechanics I ME 347 (4) ME 212</td>
<td>Fluid Transfer ME 343 (4) ME 212</td>
</tr>
<tr>
<td>Mechanical Vibrations ME 318 (4) ME 212</td>
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</tr>
<tr>
<td>Thermodynamics II ME 302 (3) ME 212</td>
<td>Thermodynamics II ME 302 (3) ME 212</td>
<td>Thermodynamics II ME 302 (3) ME 212</td>
</tr>
<tr>
<td>General Physics I PHYS 141 (4)</td>
<td>General Physics II PHYS 142 (4)</td>
<td>General Physics II PHYS 142 (4)</td>
</tr>
<tr>
<td>Intro to Dynamic Systems ME 322 (4) CSC 231, 233, 241, 251</td>
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</tr>
<tr>
<td>ME 428 (2) MATE 210, 211, 213, 214</td>
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<td>GE (4)</td>
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*### General Curriculum GE (4) GE (4) GE (4) |

### Notes:

- MOST GENERAL EDUCATION COURSES CAN BE TAKEN IN ANY ORDER AS LONG AS PREREQUISITES ARE MET
- * Refer to current catalog for prerequisites.
- ** One course from each of the following GE areas must be completed: A1, A2, A3, B1, B2, C1, C2, Lower-Division C Elective, Upper-Division C, D1, Area D Elective, Lower-Division E, and F.
- Upper-Division C should be taken only after Junior standing is reached (90 units).

Refer to online catalog for GE course selection, United States Cultural Pluralism (USCP) and Graduation Writing Requirement (GWR).

USCP requirement can be satisfied by some (but not all) courses within GE categories: C1, Upper-Division C, D1, D2, Upper-Division D, or E.

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**Competencies:**

- Manufacturing Processes: Materials Joining IME 142
- Manufacturing Processes: Materials Joining IME 142
- Manufacturing Processes: Materials Joining IME 142

*### Calculus IV MATH 241 (4) = [B4] (Prerequisite)*

### Oral Communication

| COMS 101 or 102 (4)** [A1] |

* Can be taken anytime during Freshman Year

### Expository Writing

| ENGL 133 or 134 (4)** [A2] |

* Can be taken anytime during Freshman Year

### Reasoning, Argumentation, & Writing

| COMS 126, 145, ENGL 145, 147, ES 145, PHIL 126, or WQHS 145 (4)** |

* Can be taken anytime between Winter of Freshman and Winter of Sophomore Years.

### Course Registration

- ** Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year.

### Graduation Writing Requirement

- ** Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year.

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### Total: 196-201

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**Legend:**

- **Major (80-81)**
- **Support (68-72)**
- **General Ed. (48)**
- **[GE Area]**

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**Notes:**

1. Course can be taken previously or concurrently.
2. **ME 228, 263, & 264 in lieu of ME 128, 129, 130, and 163; and IME 143 in lieu of IME 145 and 146.
3. **ME 459, 460, and 461 (6 units) or ENGR 462, 464, and 465 (6) may substitute for ME 428, ME 429, and ME 430 (6).
4. **CE 208 may be taken in place of CE 204 and CE 207.**

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**UNLESS A CONCENTRATION IS DECLARED, THE DEFAULT WILL BE GENERAL CURRICULUM IN MECHANICAL ENGINEERING.**