### Suggested Course Plan for a UC Riverside Major in MECHANICAL ENGINEERING

#### Catalog Year: 2024

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Units</th>
<th>Winter Quarter</th>
<th>Units</th>
<th>Spring Quarter</th>
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<td><strong>FIRST YEAR</strong></td>
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<tr>
<td>ENGL 001A</td>
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<td>ENGL 001B</td>
<td>4</td>
<td>ENGL 001C or Alternate*</td>
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<td>Beginning Composition</td>
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<td>Intermediate Composition</td>
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<td>MATH 009A</td>
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<tr>
<td>ME 009</td>
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<td>ME 018A</td>
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<td>ME 002</td>
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<tr>
<td>Engineering Graphics &amp; Design</td>
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<td>Intro to Engineering Computation</td>
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<td>Intro to Mechanical Engineering</td>
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<td>PHYS 040A</td>
<td>5</td>
<td>PHYS 040B</td>
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<tr>
<td>Physics (Mechanics)</td>
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<td>Physics (Heat/Waves/Sound)</td>
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<td><strong>SECOND YEAR</strong></td>
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<tr>
<td>CHEM 001A &amp; CHEM 01LA</td>
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<td>CHEM 001B &amp; CHEM 01LB</td>
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<td>ME 010</td>
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<tr>
<td>General Chemistry &amp; Lab</td>
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<td>Statics</td>
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<td>MATH 046</td>
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<td>MATH 010A</td>
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<td>MATH 010B</td>
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<td>Differential Equations</td>
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<td>Multivariable Calculus</td>
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<td>PHYS 040C</td>
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<td>ME 018B</td>
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<td>STAT 010</td>
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<tr>
<td>Physics (Electricity/Magnetism)</td>
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<td>Intro Engr. Comp. Modeling</td>
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<td>Introduction to Statistics</td>
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<td>Breadth</td>
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<td>EE 005</td>
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<td>Humanities/Social Sciences</td>
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<td>Circuits and Electronics</td>
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<td>Biological Science</td>
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<td><strong>THIRD YEAR</strong></td>
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<tr>
<td>ME 100A</td>
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<td>ME 103</td>
<td>4</td>
<td>ME 116A</td>
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<td>Thermodynamics</td>
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<td>Dynamics</td>
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<td>Heat Transfer</td>
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<td>ME 110</td>
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<td>ME 113</td>
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<td>ME 170A</td>
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<td>Mechanics of Materials</td>
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<td>Fluid Mechanics</td>
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<td>ME 114</td>
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<td>ME 174</td>
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<td>ME 135</td>
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<td>ME 175B or 175C</td>
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<td>Humanities/Social Sciences</td>
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</tbody>
</table>

1 May be attempted concurrently with ME 175A

**Maximum units:** 223

**Total Units:** 190

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**ENGLISH COMPOSITION**

A C or better is required in all English Composition courses to satisfy the graduation requirement. Please consult with your Academic Advisor for ENGL 1C alternatives.

**BREADTH REQUIREMENTS**

For an approved list of Breadth courses, go to [http://student.engr.ucr.edu/policies/requirements/breadth.html](http://student.engr.ucr.edu/policies/requirements/breadth.html).

**Humanities: (3 courses)**

A. World History: ____________

B. Fine Arts, Lit., PHIL or RLST: ____________

C. Human Persp. on Science: ____________

**Social Sciences: (3 courses)**

A. ECON or POSC: ____________

B. ANTH, PSYC, or SOC: ____________

C. General Social Science: ____________

**Ethnicity: (1 course)**

1. ____________

**Upper Division: (2 courses)**

1. ____________

2. ____________

**TECHNICAL ELECTIVES**

Please note that Technical Electives may be offered throughout the Academic Year. Consult with your Academic Advisor about potential offerings. See approved technical electives on back.

Course Plan is subject to change.

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To earn a B.S., you must complete all College and University requirements. For a full list of requirements, refer to [www.catalog.ucr.edu](http://www.catalog.ucr.edu).

A C or better is required in all English Composition courses to satisfy the graduation requirement. Please consult with your Academic Advisor for ENGL 1C alternatives.

For an approved list of Breadth courses, go to [http://student.engr.ucr.edu/policies/requirements/breadth.html](http://student.engr.ucr.edu/policies/requirements/breadth.html).

**Humanities: (3 courses)**

A. World History:

B. Fine Arts, Lit., PHIL or RLST:

C. Human Persp. on Science:

**Social Sciences: (3 courses)**

A. ECON or POSC:

B. ANTH, PSYC, or SOC:

C. General Social Science:

**Ethnicity: (1 course)**

1. ____________

**Upper Division: (2 courses)**

1. ____________

2. ____________

**TECHNICAL ELECTIVES**

Please note that Technical Electives may be offered throughout the Academic Year. Consult with your Academic Advisor about potential offerings. See approved technical electives on back.

Course Plan is subject to change.
Mechanical Engineering Technical Electives and Focus Areas

You must complete 4 courses (at least 16 units) of Technical Elective coursework from one Focus Area.

### General Mechanical Engineering
- ME 100B: Thermodynamics (4)
- ME 116B: Heat Transfer (4)
- ME 121: Feedback Control (4)
- ME 122: Vibrations (4)
- ME 130: Kinematic and Dynamic Analysis of Mechanisms (4)
- ME 131: Design of Mechanisms (4)
- ME 133: Introduction to Mechatronics (4)
- ME 134: Microstructural Transformations in Materials (4)
- ME 137: Environmental Fluid Mechanics (4)
- ME 138: Transport Phenomena in Living Systems (4)
- ME 140: Ship Theory (4)
- ME 144: Introduction to Robotics (4)
- ME 145: Robotics Planning and Kinematics (4)
- ME 153: Finite Element Methods (4)
- ME 156: Mechanical Behavior of Materials (4)
- ME 157: Failure Analysis and Prevention (4)
- ME 158: Advanced Solidification Processing (4)
- ME 175D: Technological Entrepreneurship (4)
- ME 176: Sustainable Product Design (4)
- ME 180: Optics and Lasers in Engineering (4)
- *ME 197: Research for Undergraduates

### Materials and Structures
- ME 100B: Thermodynamics (4)
- ME 116B: Heat Transfer (4)
- ME 121: Feedback Control (4)
- ME 122: Vibrations (4)
- ME 134: Microstructural Transformations in Materials (4)
- ME 153: Finite Element Methods (4)
- ME 156: Mechanical Behavior of Materials (4)
- ME 157: Failure Analysis and Prevention (4)
- ME 158: Advanced Solidification Processing (4)
- ME 180: Optics and Lasers in Engineering (4)
- *ME 197: Research for Undergraduates

### Design and Manufacturing
- ME 121: Feedback Control (4)
- ME 122: Vibrations (4)
- ME 130: Kinematic and Dynamic Analysis of Mechanisms (4)
- ME 131: Design of Mechanisms (4)
- ME 133: Introduction to Mechatronics (4)
- ME 140: Ship Theory (4)
- ME 144: Introduction to Robotics (4)
- ME 145: Robotics Planning and Kinematics (4)
- ME 153: Finite Element Methods (4)
- ME 156: Mechanical Behavior of Materials (4)
- ME 175D: Technological Entrepreneurship (4)
- ME 176: Sustainable Product Design (4)
- ME 180: Optics and Lasers in Engineering (4)
- *ME 197: Research for Undergraduates

### Energy and Environment
- ME 100B: Thermodynamics (4)
- ME 116B: Heat Transfer (4)
- ME 137: Environmental Fluid Mechanics (4)
- ME 138: Transport Phenomena in Living Systems (4)
- *ME 197: Research for Undergraduates

*To enroll in and earn Technical Elective credit for ME 197, students must complete a project abstract using a standard template. The abstract must be signed by the project faculty advisor and submitted to the Undergraduate Program Committee chair at least one week prior to the start of the quarter of enrollment. A final project report is required. For format details, please go to: http://www.me.ucr.edu/undergrad/opportunities.html.