# Suggested Course Plan for a UC Riverside Major in Chemical Engineering

## Catalog Year: 2023

### Fall Quarter

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE 010</td>
<td>1</td>
<td>Intro to Chem. &amp; Envir. Engineering</td>
<td>5</td>
<td>CHEM 001C &amp; CHEM 01LC</td>
</tr>
<tr>
<td>CHEM 001A &amp; CHEM 01LA</td>
<td>5</td>
<td>General Chemistry</td>
<td>4</td>
<td>ENGL 001B</td>
</tr>
<tr>
<td>ENGL 001A</td>
<td>4</td>
<td>Beginning Composition</td>
<td>4</td>
<td>CHEM 001A &amp; CHEM 01LA</td>
</tr>
<tr>
<td>MATH 009A</td>
<td>4</td>
<td>First Year Calculus</td>
<td>5</td>
<td>PHYS 040A</td>
</tr>
</tbody>
</table>

### Winter Quarter

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 001B &amp; CHEM 01LB</td>
<td>5</td>
<td>General Chemistry &amp; Lab</td>
<td>4</td>
<td>ENGL 001B or Alternate*</td>
</tr>
<tr>
<td>ENGL 001B</td>
<td>4</td>
<td>Intermediate Composition</td>
<td>4</td>
<td>MATH 009B</td>
</tr>
<tr>
<td>CHEM 001A &amp; CHEM 01LA</td>
<td>5</td>
<td>General Chemistry &amp; Lab</td>
<td>4</td>
<td>MATH 009C</td>
</tr>
<tr>
<td>MATH 009B</td>
<td>4</td>
<td>First Year Calculus</td>
<td>5</td>
<td>PHYS 040B</td>
</tr>
<tr>
<td>PHYS 040A</td>
<td>5</td>
<td>Physics (Mechanics)</td>
<td>4</td>
<td>CHEM 001A &amp; CHEM 01LA</td>
</tr>
</tbody>
</table>

### Spring Quarter

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 001C &amp; CHEM 01LC</td>
<td>5</td>
<td>General Chemistry &amp; Lab</td>
<td>4</td>
<td>ENGL 001C or Alternate*</td>
</tr>
<tr>
<td>ENGL 001C or Alternate*</td>
<td>4</td>
<td>Applied Intermediate Composition</td>
<td>4</td>
<td>MATH 009C</td>
</tr>
<tr>
<td>MATH 009C</td>
<td>4</td>
<td>First Year Calculus</td>
<td>5</td>
<td>PHYS 040B</td>
</tr>
<tr>
<td>PHYS 040B</td>
<td>5</td>
<td>Physics (Heat/Waves/Sound)</td>
<td>4</td>
<td>CHEM 001A &amp; CHEM 01LA</td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 110A</td>
<td>3</td>
<td>Chemical Process Analysis</td>
<td>3</td>
<td>MATH 101B</td>
</tr>
<tr>
<td>CHEM 008A &amp; CHEM 08LA</td>
<td>4</td>
<td>Organic Chemistry</td>
<td>4</td>
<td>CHEM 008C &amp; CHEM 08LC</td>
</tr>
<tr>
<td>MATH 046</td>
<td>4</td>
<td>Differential Equations</td>
<td>4</td>
<td>CS 009A</td>
</tr>
<tr>
<td>PHYS 040C</td>
<td>5</td>
<td>Physics (Electricity/Magnetism)</td>
<td>4</td>
<td>Breadth</td>
</tr>
<tr>
<td>CHE 100</td>
<td>4</td>
<td>Intro to Programming</td>
<td>4</td>
<td>CHEM 100</td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 005A &amp; BIOL 05LA</td>
<td>5</td>
<td>Cell &amp; Molecular Biology &amp; Lab</td>
<td>4</td>
<td>CHE 116</td>
</tr>
<tr>
<td>CHEM 114</td>
<td>4</td>
<td>Technical Elective**</td>
<td>4</td>
<td>CHE/ENVE 130</td>
</tr>
<tr>
<td>ENGR 118</td>
<td>4</td>
<td>Engineering Modeling &amp; Analysis</td>
<td>4</td>
<td>CHE/ENVE 160A</td>
</tr>
<tr>
<td>Breath</td>
<td>4</td>
<td>Humanities/Social Sciences</td>
<td>4</td>
<td>CHE 122</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
<th>Units</th>
<th>Course Name &amp; Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 175B</td>
<td>4</td>
<td>Chemical Process Design</td>
<td>4</td>
<td>CHE 117</td>
</tr>
<tr>
<td>CHE 160B</td>
<td>3</td>
<td>Technical Elective**</td>
<td>3</td>
<td>CHE 160C</td>
</tr>
<tr>
<td>CHE 175A</td>
<td>4</td>
<td>Chemical Process Design</td>
<td>4</td>
<td>Breath</td>
</tr>
<tr>
<td>Breath</td>
<td>4</td>
<td>Humanities/Social Sciences</td>
<td>4</td>
<td>CHE 175B</td>
</tr>
<tr>
<td>CEE 158</td>
<td>3</td>
<td>Technical Elective**</td>
<td>3</td>
<td>CHEM 001A &amp; CHEM 01LA</td>
</tr>
</tbody>
</table>

## Course Plan is subject to change.

### To earn a B.S., you must complete all College and University requirements. For a full list of requirements, go to catalog.ucr.edu.

### 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.

**Breadth (3 courses)**

- A. World History:
- B. Fine Arts/Lit/Phil/Rlst:
- C. Human Persp. on Sci:

**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 Faculty Mentor about potential offerings. See approved technical electives on back.

Course Plan is subject to change.

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Total Units: 190

Maximum units: 228
**Chemical Engineering-Chemical Engineering Option Technical Electives**

You must complete 16 units of Technical Elective coursework. Select from the list below:

You may choose 3 to 4 courses from Category 1 but only one course from Category 2.

### Category 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE 132</td>
<td>Green Engineering</td>
<td>4</td>
</tr>
<tr>
<td>CEE 136</td>
<td>Aerosol Technology</td>
<td>4</td>
</tr>
<tr>
<td>CHE 102</td>
<td>Catalytic Reaction Engineering</td>
<td>4</td>
</tr>
<tr>
<td>CHE 131</td>
<td>Electrochemical Engineering</td>
<td>4</td>
</tr>
<tr>
<td>CHE 136</td>
<td>Advanced Topics in Heat Transfer</td>
<td>4</td>
</tr>
<tr>
<td>CHE 171</td>
<td>Pollution Control for Chemical Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 120*</td>
<td>Unit Operations and Processes in Environmental Engineering</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 133</td>
<td>Fundamentals of Air Pollution Engineering</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 134*</td>
<td>Technology of Air Pollution Control</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 138*</td>
<td>Combustion Engineering</td>
<td>4</td>
</tr>
</tbody>
</table>

### Category 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE 125</td>
<td>Analytical Methods for Chemical and Environmental Engineers</td>
<td>4</td>
</tr>
<tr>
<td>CEE 135</td>
<td>Chemistry of Materials</td>
<td>4</td>
</tr>
</tbody>
</table>

*Course requires prerequisites not accounted for in curriculum. Please check with the undergraduate faculty advisor about the ability to take this course.