### Required Core Courses
- Required of all students. A 2.0 cumulative GPA is required in core courses in order to receive a degree in the major.
- CHE 131L - Introduction to Chemical Engineering/Laboratory (2/1)
- CHE 132L - Chemical Engineering Analysis/Laboratory (2/1)
- CHE 143L - Chemical Engineering Data Analysis and Design of Experiments Laboratory (1)
- CHE 201/211L - Stoichiometry I/Laboratory (3/1)
- CHE 202/212L - Stoichiometry II/Laboratory (3/1)
- CHE 302 - Chemical Engineering Thermodynamics I (4)
- CHE 303 - Chemical Engineering Thermodynamics II (4)
- CHE 304 - Kinetics and Reactor Design (4)
- CHE 311 - Momentum Transport (4)
- CHE 312 - Energy Transport (3)
- CHE 313 - Mass Transport (3)
- CHE 322L - Transport Laboratory I (1)
- CHE 333L - Transport Laboratory II (1)

### Required Support Courses

**Total Units 62**

The following major support courses should be used to satisfy the indicated GE requirements. If these courses are not used to satisfy GE, the total units to degree may be more than 198 units.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tbody>
<tr>
<td>CHEM 121 - General Chemistry (3) and CHEM 121L - General Chemistry Laboratory (1) (B3)</td>
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<tr>
<td>CHEM 122 - General Chemistry (3) and CHEM 122L - General Chemistry Laboratory (1)</td>
<td></td>
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<tr>
<td>CHEM 123 - General Chemistry (3)</td>
<td></td>
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<tr>
<td>CHEM 314 - Organic Chemistry (3) and CHEM 317L - Organic Chemistry Laboratory (1)</td>
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<tr>
<td>CHEM 315 - Organic Chemistry (3)</td>
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<tr>
<td>CHEM 316 - Organic Chemistry (3)</td>
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<tr>
<td>ECE 231/231L - Elements of Electrical Engineering (3/1)</td>
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<tr>
<td>EGR 481 - Project Design Principles and Applications (2) (B5) and EGR 482 - Project Design Principles and Applications (2) (B5)</td>
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</tr>
</tbody>
</table>

### Required Support Courses Con’t.
- CHE 304 - Kinetics and Reactor Design (4)
- CHE 311 - Momentum Transport (4)
- CHE 312 - Energy Transport (3)
- CHE 313 - Mass Transport (3)
- CHE 322L - Transport Laboratory I (1)
- CHE 333L - Transport Laboratory II (1)
- CHE 425 - Unit Operations I (3) and CHE 435L - Unit Operations I Laboratory (1)
- CHE 426 - Process Controls (3)
- CHE 436L - Process Control Laboratory (3/1)
- CHE 441/451L - Chemical Process Synthesis and Design I Laboratory (4/1)
- CHE 442/452L - Chemical Processes Synthesis and Design III Laboratory (3/1)
- CHE 443/453L - Chemical Process Synthesis and Design III/Laboratory (3/1)
- CHE 483 - Undergraduate Project (2)

### Elective Support Courses

**Upper Division MTE/CHE Elective (3)**

**Total Units 78**

### Interdisciplinary General Education

**Year** | **Completion of IGE Courses** | **Satisfies GE Requirements**
---|---|---
**Freshman** | CHE 100, CHE 110, CHE 111, CHE 112 | A2 plus any 2 courses from C1-C3
**Sophomore** | CHE 120, CHE 121, CHE 122 | D1 (8 units) and D3
**Junior** | CHE 223, CHE 224 | D2 and Area E

**Total Units 20**

### General Education Requirements

**Area A Communication & Critical Thinking (12 units)**
- Oral Communication
- Written Communication
- Critical Thinking

**Area B Mathematics & Natural Sciences (16 units)**
- Physical Science
- Biological Science
- Laboratory Activity
- Math/Quantitative Reasoning
- Science & Technology Synthesis

**Area C Humanities (16 units)**
- Visual and Performing Arts
- Philosophy and Civilization
- Literature and Foreign Language
- Humanities Synthesis

**Area D Social Sciences (20 units)**
- U.S. History, Constitution, American Ideals
  - United States History
  - Introduction to American Government
- History, Economics, and Political Science
- Sociology, Anthropology, Ethnic & Gender Studies
- Social Science Synthesis

**Area E Lifelong Understanding & Self Development (4 units)**

**Total Units 68**

### American Institutions

Courses that satisfy this requirement may also satisfy GE Area D1

### American Cultural Perspectives Requirement

Refer to the University Catalog General Education Program section for a list of courses that satisfy this requirement. Course may also satisfy major, minor, GE, or unrestricted elective requirements.

### Graduation Writing Test (GWT)

All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the quarter following completion of 120 units for undergraduates.