

# GENERAL ENGINEERING (BS)

## Degree Requirements and Curriculum

In addition to the program requirements listed on this page, students must also satisfy requirements outlined in more detail in the Minimum Requirements for Graduation (<https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/>) section of this catalog, including:

- 40 units of upper-division courses
- 2.0 GPA
- Graduation Writing Requirement (GWR)
- U.S. Cultural Pluralism (USCP)

Note: No Major or Support courses may be selected as credit/no credit. In addition, no more than 12 units of cooperative or internship courses can count towards your degree requirements.

Code	Title	Units
<b>MAJOR COURSES</b>		
CSC 1032	Programming for Scientists and Engineers	3
EE 2115 & 2115L	Circuits & Electronics for Non-Majors and Circuits & Electronics Laboratory for Non-Majors	4
ENGR 1110	Introduction to Engineering	1
ENGR 2211	Introduction to Mechanics	4
ENGR 2212	Introduction to Engineering Dynamics	2
ENGR 3310	Ethical Engineering for the Anthropocene	2
IME 1140 & IME 1143	Technical Graphics Communication for Design and Manufacturing and Introduction to Design and Manufacturing	3
IME 2315	Financial Decision Making for Engineers	2
MATE 1220 & MATE 1215	Principles of Materials Engineering for Non-Majors and Materials Laboratory I	3
ME 3302	Thermodynamics	3
<b>Senior Project</b>		
ENGR 4460	Interdisciplinary Senior Project I	2
ENGR 4461	Interdisciplinary Senior Project II	2
<b>Approved Electives</b>		
Individualized Course of Study <sup>1</sup>		26
<b>SUPPORT COURSES</b>		
CHEM 1120	Fundamentals of Chemical Structure and Properties (5A & 5C) <sup>2</sup>	4
MATH 1261	Calculus I (2) <sup>2</sup>	4
MATH 1262	Calculus II	4
MATH 2263	Calculus III	3
PHYS 1141	General Physics I	4
PHYS 1143	General Physics II	4
STAT 3210	Engineering Statistics (Upper-Division 2/5) <sup>2</sup>	3
WGQS 3350 or WGQS 3351	Gender, Race, Culture, Science, and Technology Gender, Race, Class, Nation: Critical Computing and Engineering Studies	4
<b>GENERAL EDUCATION (GE)</b>		
(See GE program requirements below)		33
<b>FREE ELECTIVES</b>		
Free Electives		0
<b>Total Units</b>		<b>120</b>

<sup>1</sup> The Individualized Course of Study consists of 26 units of technical electives with a minimum of 18 units at the 3000-4000 level.

<sup>2</sup> Required in Major or Support; also satisfies General Education (GE) requirement.

## Concentrations

### Individualized Course of Study

Offered at: San Luis Obispo Campus

An Individualized Course of Study consists of 26 units of technical electives to be selected by the student in consultation with and approved by the student's faculty advisor. A minimum of 18 of the 26 units must be at the 3000-4000 (upper-division) level. The list of courses is a contract between the student and the Department.

## General Education (GE) Requirements

- 43 units required, 10 of which are specified in Major and/or Support.
- If any of the remaining 33 Units is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the degree.
- See the complete GE course listing (<https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/#generaleducationtext>).
- A grade of C- or better is required in one course in each of the following GE Areas: 1A (English Composition), 1B (Critical Thinking), 1C (Oral Communication), and 2 (Mathematics and Quantitative Reasoning).

### Lower-Division General Education

<b>Area 1</b>	<b>English Communication and Critical Thinking</b>	
1A	Written Communication	3
1B	Critical Thinking	3
1C	Oral Communication	3
<b>Area 2</b>	<b>Mathematics and Quantitative Reasoning</b>	
2	Mathematics and Quantitative Reasoning (3 units in Support) <sup>1</sup>	0
<b>Area 3</b>	<b>Arts and Humanities</b>	
3A	Arts	3
3B	Humanities: Literature, Philosophy, Languages other than English	3
<b>Area 4</b>	<b>Social and Behavioral Sciences (Area 4 courses must come from at least two different course prefixes.)</b>	
4A	American Institutions (Title 5, Section 40404 Requirement)	3
4B	Social and Behavioral Sciences	3
<b>Area 5</b>	<b>Physical and Life Sciences</b>	
5A	Physical Sciences (3 units in Support) <sup>1</sup>	0
5B	Life Sciences	3
5C	Laboratory (may be embedded in a 5A or 5B course) (1 units in Support) <sup>1</sup>	0
<b>Area 6</b>	<b>Ethnic Studies</b>	
6	Ethnic Studies	3
<b>Upper-Division General Education</b>		
Upper-Division 2/5	Mathematics and Quantitative Reasoning or Physical and Life Sciences (3 units in Support) <sup>1</sup>	0
Upper-Division 3	Arts and Humanities	3
Upper-Division 4	Social and Behavioral Sciences (Area 4 courses must come from at least two different course prefixes.)	3
<b>Total Units</b>		<b>33</b>

<sup>1</sup> Required in Major or Support; also satisfies General Education (GE) requirement.