

CIVIL 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)

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
MAJOR COURSES		
CE 1111	Introduction to Civil Engineering	1
CE/ENVE 1112	Spatial Visualization and Drawing	3
CE 2251	Computational Applications in Civil and Environmental Engineering	2
CE 2259	Civil Engineering Materials	3
CE 3321	Fundamentals of Transportation Engineering	4
CE/ENVE 3336	Environmental Fluid Mechanics and Hydraulic Systems	4
CE/ENVE 3337	Water Resources & Environmental Engineering	4
CE 3352	Structural Analysis	4
CE 3355	Reinforced Concrete Design	3
CE 3375	Fundamentals of Construction Engineering and Management	4
CE 3381	Geotechnical Engineering	4
CE/ENVE 3465	Infrastructure Systems	2
CE 4466	Senior Design Project I	1
CE 4467	Senior Design Project II	3
Technical Electives		
Select from the following:		18
Select any 4000-5000 level CE or ENV	E course not required in major	
SUPPORT COURSES		
CHEM 1120	Fundamentals of Chemical Structure and Properties (5A & 5C) $^{ m 1}$	4
ENGR 2211	Introduction to Mechanics	4
ENGR 2212	Introduction to Engineering Dynamics	2
GEOL 2240	Physical Geology	3
MATH 1261	Calculus I (2) 1	4
MATH 1262	Calculus II	4
MATH 2263	Calculus III	3
MATH 2341	Linear Analysis	4
PHYS 1141	General Physics I	4
PHYS 1143	General Physics II	4
STAT 3210	Engineering Statistics (Upper-Division 2/5) 1	3
GENERAL EDUCATION (GE)		
(See GE program requirements below)		33
FREE ELECTIVES		
Free Electives		0
Total Units		132

Required in Major or Support; also satisfies General Education (GE) requirement.



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

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

Required in Major or Support; also satisfies General Education (GE) requirement.