ENVIRONMENTAL 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
MAJOR COURSES		
ENVE 1111	Introduction to Environmental Engineering	1
ENVE/CE 1112	Spatial Visualization and Drawing	3
ENVE/CE 2251	Computational Applications in Civil and Environmental Engineering	2
ENVE 2325	Air Quality Engineering and Measurements	4
ENVE 2331	Fundamentals of Environmental Engineering	2
ENVE 3309	Noise Control and Occupational Safety and Health	3
ENVE/CE 3336	Environmental Fluid Mechanics and Hydraulic Systems	4
ENVE/CE 3337	Water Resources & Environmental Engineering	4
ENVE 3450	Sustainable Systems Engineering	3
ENVE 3434	Chemistry of Environmental Systems	4
ENVE 3421	Transfer Phenomena and Process Thermodynamics	4
ENVE 3438	Water and Wastewater Treatment Design	4
ENVE/CE 3465	Infrastructure Systems	2
ENVE 4437	Fate, Transport & Control of Environmental Pollutants	3
ENVE 4439	Solid and Hazardous Waste Management	3
ENVE 4466	Senior Project Design I	2
ENVE 4467	Senior Project Design II	2
Technical Electives		
Select from the following:		13
A minimum of 6 units of any 3000, 4000, or 5000 level ENVE class not taken to satisfy other curriculum requirements, with the following exceptions: ENVE 5500, ENVE 5591 & ENVE 5592, ENVE 5597, ENVE 5599, or classes that satisfy a General Education requirement. [2]		
A minimum of 6 units from the following:		
CE 3321	Fundamentals of Transportation Engineering	
CE 3352	Structural Analysis	
CE 3375	Fundamentals of Construction Engineering and Management	
CE 3381	Geotechnical Engineering	
CE 4400	Special Problems [2]	
CE 4413	Advanced Civil Computer-Aided Site Design	
CE 4433	Open Channel Hydraulics	
CE 4434	Groundwater Hydraulics and Hydrology	
CE 4435	Engineering Hydrology and Stormwater Management	
CE 4440	Hydraulic Systems Engineering	
CE 4474	Environmental Compliance and Permitting	
CE 4475	Mechanical, Electrical, and Energy Systems in Buildings	
CE 5536	Advanced Modeling in Water Resources	
CE 5537	Groundwater Contamination	

CE 5538	Urban Water Systems	
CE 5539	Environmental Hydraulics	
CE 5541	Extreme Events and Climate Change in Water Resources	
SUPPORT COURSES		
CHEM 1120	Fundamentals of Chemical Structure and Properties (5A & 5C) [1]	4
CHEM 1122	Fundamentals of Chemical Reactivity	4
ENGR 2211	Introduction to Mechanics	4
MATH 1261	Calculus I (2) [1]	4
MATH 1262	Calculus II	4
MATH 2341	Linear Analysis	4
MCRO 2221	Introduction to Microbiology (5B & 5C)	4
PHYS 1141	General Physics I	4
PHYS 1143	General Physics II	4
STAT 3210	Engineering Statistics (Upper-Division 2/5)	3
GENERAL EDUCATION (GE)		
(See GE program requirements below)		30
FREE ELECTIVES		
Free Electives		0
Total Units		**132**

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

[2] A combined maximum of 4 units from ENVE 4400, ENVE 4405, and ENVE 4407 may count towards technical electives.

General Education (GE) Requirements

General Education (GE) Requirements

- 43 units required, 13 of which are specified in Major and/or Support.
- If any of the remaining 30 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 units in Support) [1]	0
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		**30**

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