

ARCHITECTURAL 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		
ARCE 1110	Introduction to Architectural Engineering	2
ARCE 1121	Structural Principles I	3
ARCE 2211	Structural Principles II	3
ARCE 2212	Structural Principles II Laboratory	1
ARCE 2222	Structural Systems Laboratory	2
ARCE 2223	Structural Drawings	2
ARCE 3311	Structural Analysis	3
ARCE 3312	Structural Analysis Laboratory	1
ARCE 3331	Timber Design	2
ARCE 3332	Timber Design and Constructability Laboratory	2
ARCE 3341	Steel Design	2
ARCE 3353	Soil Mechanics and Foundation Design	4
ARCE 4411	Structural Dynamics	3
ARCE 4412	Structural Dynamics Computing Laboratory	1
ARCE 4413	Seismic Analysis and Design	3
ARCE 4421	Architectural Engineering Building Systems	2
ARCE 4442	Steel Structures Design Laboratory	2
ARCE 4461	Reinforced Concrete and Masonry Design	4
ARCE 4462	Senior Project - Reinforced Concrete and Masonry Laboratory	2
ARCE Electives		
Select any 3000-5000 level ARCE course		3
SUPPORT COURSES		
ARCH 1101	Architectural Design I	6
& ARCH 1131	and Architectural Representation I	
Select from the following: (3A)		3
ARCH 2221	History of World Architecture I: Prehistory to 17th Century	
ARCH 2222	History of World Architecture II: 17th Century to the Present	
ARCE 2280	History of Structures	
CHEM 1120	Fundamentals of Chemical Structure and Properties (5A & 5C)	4
CM 1115	Fundamentals of Construction Management	4
CSC 1031	Programming for Engineers	2
MATH 1261	Calculus I (2) ¹	4
MATH 1262	Calculus II	4
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)	3



Total Units		128-131
Free Electives		0
FREE ELECTIVES		
(See GE program requirements below)		30
GENERAL EDUCATION (GE)		
ME 2212	Engineering Dynamics	
MATH 2263	Calculus III	
IME 2315	Financial Decision Making for Engineers	
GEOL 3305	Seismology and Earth Structure	
GEOL 2240	Physical Geology	
Select from the following:		5-6
FE Technical Electives		
CM 2239	Construction Surveying	
BRAE 2237	Introduction to Engineering Surveying	
BRAE 1239	Engineering Surveying	
Select from the following:		2-3
FE/PE Surveying Elective		
Select any 3000-5000-level ARCH, CI	M, CRP, or LA course up to 3 units	
ARCE 4486	Collaborative Design Laboratory	
ARCE 4484	Interdisciplinary Project	
Select from the following:		2-3
CAED Interdisciplinary Electives		

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

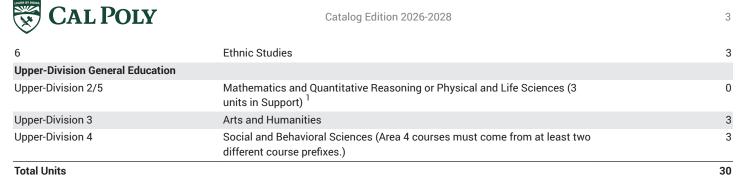
General Education (GE) Requirements

- 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
10	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 units in Support) 1	0
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	





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