

**Major Required 62 units**

CE1001 - Civil Engineering (1)  
 CE1001L - Civil Engineering Laboratory (1)  
 CE1011 - Surveying Engineering (3)  
 CE1011L - Surveying Engineering Laboratory (1)  
 CE2011 - Technical Communications (3)  
 CE2030 - Civil Engineering Materials (2)  
 CE2030L - Civil Engineering Materials Laboratory (1)  
 CE2041 - Engineering Statics (3)  
 CE2051 - Mechanics of Materials (3)  
 CE2061 - Fluid Mechanics (3)  
 CE2070 - Computer Programming and Numerical Methods (3)  
 CHM1210 - General Chemistry I (3) (B1)  
 CHM1210L - General Chemistry Laboratory I (1) (B3)  
 EGR4810 - Project Design Principles and Applications (1) (B5)  
 EGR4820 - Project Design Principles and Applications (1) (B5)  
 EGR4830 - Project Design Principles and Applications (1) (B5)  
 GSC3210 - Engineering Geology I (2) (B5)  
 GSC3210L - Engineering Geology I Laboratory (1) (B5)  
 IME3011 - App. of Stats in Engineering (2)  
 IME4020 - Ethical Concepts in Technology and Applied Science (3) (B5 or C3)  
 MAT1140 - Calculus I (4) (B4)  
 MAT1150 - Calculus II (4) (B4)  
 MAT2140 - Calculus III (4)  
 MAT2240 - Elementary Linear Algebra and Differential Equations (3)  
 PHY1510 - Introduction to Newtonian Mechanics (3) (B1)  
 PHY1510L - Newtonian Mechanics Laboratory (1) (B3)  
 PHY1520 - Introduction to Electromagnetism and Circuits (3)  
 PHY1520L - Introductory Laboratory on Electromagnetism and Circuits (1)

**Subplan/Option Required 18 units**

CE2021 - Infrastructure Economics and Public Policy (3)  
 CE3401 - Geotechnical Engineering (3)  
 CE3401L - Geotechnical Engineering Laboratory (1)  
 CE3501 - Structural Analysis I (3)  
 CE3501L - Structural Design Laboratory (1)  
 CE3601 - Transportation Engineering (3)  
 CE3601L - Transportation Engineering Laboratory (1)  
 EGR4050 - Role of Design Professionals in Society (3) (D4)

**Subplan/Option Electives 17 units**

Select 17 units from the following three lists:

**List One (select 3 units from the following courses):**

CE3101 - Construction Engineering (2)  
 CE3101L - Construction Engineering Laboratory (1)  
 CE3201 - Environmental Engineering (3)  
 CE3201L - Environmental Engineering Laboratory (1)  
 CE3211 - Water Resources Engineering (3)  
 CE3301 - Engineering Geomatics (3)

**List Two (select 6 units from the following courses):**

CE4400 - Foundation and Retaining Wall Design (3)  
 CE4510 - Structural Design - Reinforced Concrete (3)  
 CE4811 - Design of Transportation Facilities (3)  
 CE4811L - Design of Transportation Facilities Laboratory (1)

**List Three (select 8 units from the following courses):**

CE3121 - Building Systems (2)  
 CE3140 - Construction Estimating (3)  
 CE3140L - Construction Estimating Laboratory (1)  
 CE3150 - Construction Equipment and Safety (3)  
 CE3510 - Structural Analysis II (3)  
 CE3510L - Structural Testing Laboratory (1)  
 CE4020 - Civil Engineering Internship (2)  
 CE4031 - Sustainable Buildings and Infrastructure (3)  
 CE4120 - Construction Scheduling (2)  
 CE4130 - Construction Contracts (3)  
 CE4140 - Construction Project Management and Accounting (3)  
 CE4171 - Virtual Design Construction and Management - BIM (2)  
 CE4171L - Virtual Design Construction and Management - BIM Laboratory (1)  
 CE4120L - Construction Scheduling Laboratory (1)  
 CE4201 - Water and Wastewater Engineering (3)  
 CE4201L - Water and Wastewater Engineering Laboratory (1)

CE4211 - Applied Hydrology (3)  
 CE4220 - Solid and Hazardous Waste Engineering (3)  
 CE4231 - Water Reclamation and Desalination (3)  
 CE4241 - Environmental Remediation (3)  
 CE4261 - Air Quality Engineering (3)  
 CE4271 - Unit Operations and Processes in Environmental Engineering (3)  
 CE4281 - River Mechanics (3)  
 CE4301 - Digital Mapping (2)  
 CE4301L - Digital Mapping Laboratory (1)  
 CE4321 - Subdivision Engineering and Land Survey Descriptions (3)  
 CE4321L - Subdivision Engineering and Land Survey Descriptions Laboratory (1)  
 CE4331 - GIS Applications in Engineering and Remote Sensing (2)  
 CE4331L - GIS Applications in Engineering and Remote Sensing Laboratory (1)  
 CE4341 - Satellite Surveying in Engineering (2)  
 CE4341L - Satellite Surveying in Engineering Laboratory (1)  
 CE4350 - Photogrammetry (2)  
 CE4350L - Photogrammetry Laboratory (1)  
 CE4451 - Pavement Design and Construction (3)  
 CE4461 - Rock Mechanics (3)  
 CE4470 - Slope Stability and Earth Dams (3)  
 CE4520 - Masonry Design (3)  
 CE4530 - Structural Design - Timber (2)  
 CE4530L - Structural Design-Timber Laboratory (1)  
 CE4540 - Bridge Design (3)  
 CE4560 - Structural Design - Steel (3)  
 CE4571 - Introduction to Earthquake Engineering and Structural Dynamics (3)  
 CE4580 - Architectural Engineering Interdisciplinary Design -Timber (1)  
 CE4580L - Architectural Engineering Interdisciplinary Design-Timber Laboratory (2)  
 CE4590 - Architectural Engineering Interdisciplinary Design - Precast Concrete (1)  
 CE4590L - Architectural Engineering Interdisciplinary Design - Precast Concrete Laboratory (2)  
 CE4631 - Transportation Systems Design and Operation (3)  
 CE4640 - Transportation Planning and Management (3)  
 CE4640L - Transportation Planning and Management Laboratory (1)  
 CE4671 - Intelligent Transportation Systems (3)  
 CE4681 - Multimodal Traffic Analysis (3)  
 CE4690 - Traffic Engineering (3)  
 CE4690L - Traffic Engineering Laboratory (1)  
 EGR3321 - CA Boundary Law and Public Lands (3) (D4)  
 EGR3321A - CA Boundary Law and Public Lands Activity (1)

**General Education Requirements 48 Units**

Students should consult the Academic Programs website

<https://www.cpp.edu/~academic-programs/general-education-course-listings.shtml>

for current information regarding this requirement. Unless specific courses are required, please refer to the list of approved courses under General Education Requirements, Areas A through E.

**Area A. English Language Communication and Critical Thinking (9 units)**

At least 3 units from each sub-area

1. Oral Communication
2. Written Communication
3. Critical Thinking (Satisfied by completion of undergraduate Engineering degree)

**Area B. Scientific Inquiry and Quantitative Reasoning (12 units)**

At least 3 units from B1, B2, B4, and B5 including 1 unit of lab from B1 or B2 to fulfill B3

1. Physical Sciences
2. Life Sciences
3. Laboratory Activity
4. Mathematics/Quantitative Reasoning
5. Science and Technology Synthesis

**Area C. Arts and Humanities (12 units)**

At least 3 units from each sub-area and 3 additional units from sub-areas 1 and/or 2

1. Visual and Performing Arts
2. Literature, Modern Languages, Philosophy and Civilization
3. Arts and Humanities Synthesis

**Area D. Social Sciences (12 units)**

At least 3 units from each sub-area

1. U.S. History and American Ideals
2. U.S. Constitution and California Government
3. Social Sciences: Principles, Methodologies, Value Systems, and Ethics
4. Social Science Synthesis

**Area E. Lifelong Learning and Self-Development (3 units)**
**Interdisciplinary General Education 21 Units**

An alternate pattern for partial fulfillment of GE Areas A, C, and D available for students is the Interdisciplinary General Education (IGE) program. Students should see an advisor for specific GE coursework required by their major. Please refer to the University Catalog General Education Program section for additional information.

**How IGE fulfills General Education Requirements:**

Year	Completion of IGE Courses	Satisfies GE Requirements
First	IGE 1100, IGE 1200	A2 and C2
Second/Third	IGE 2100, IGE 2200	C1 and C2
	IGE 2300, IGE 2400	D1 and D3
Third/Fourth	IGE 3100	C3 or D4

**American Institutions 6 Units**

Courses that satisfy this requirement may also satisfy GE Area D1 and D2.

**American Cultural Perspectives Requirement 3 Units**

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**

All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the semester following completion of 60 units for undergraduates.