

BS CONSTRUCTION MANAGEMENT

Program Learning Outcomes

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline.
3. Create a construction project safety plan.
4. Create construction project cost estimates.
5. Create construction project schedules.
6. Analyze professional decisions based on ethical principles.
7. Analyze construction documents for planning and management of construction processes.
8. Analyze methods, materials, and equipment used to construct projects.
9. Apply construction management skills as a member of a multidisciplinary team.
10. Apply electronic-based technology to manage the construction process.
11. Apply basic surveying techniques for construction layout and control.
12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand construction quality assurance and control.
16. Understand construction project control processes.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the basic principles of sustainable construction.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical and piping systems.
21. Understand the role construction managers play in enhancing the needs of society.
22. Understand the importance of creating and planning for continuing education and lifelong learning.
23. Understand the key leadership characteristics that are successful in building and strengthening construction management teams.
24. Understand the importance of recognizing cultural differences and the role culture plays in influencing project success for a construction team.
25. Understand the benefits of respecting the unique and diverse backgrounds individuals bring to a construction team.

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/generalrequirementsbachelorsdegree/#generaleducationtext>) section of this catalog, including:

- 60 units of upper-division courses
- Graduation Writing Requirement (GWR)

- 2.0 GPA
- U.S. Cultural Pluralism (USCP)

Note: No Major or Support courses may be selected as credit/no credit.

MAJOR COURSES

CM 102	Introduction to Construction Management	2
CM 113	Construction Materials and Assemblies	2
CM 114	Construction Materials and Assemblies Lab	2
CM 115	Fundamentals of Construction Management	6
CM 214	Residential Construction Management	5
CM 232	Evaluation of Cost Alternatives	3
CM 280	Building Information Modeling	2
CM 313	Commercial Construction Management	5
CM 314	Heavy Civil Construction Management	5
CM 317	Sustainability and the Built Environment (Upper-Division B) ¹	4
CM 318	Housing and Communities (Upper-Division D) ¹	4
CM 334	Construction Law	2
CM 335	Construction Accounting	2
CM 411	Specialty Contracting Construction Management	5
CM 413	Jobsite Construction Management	5
CM 443	Management of the Construction Firm	3
CM 450	Integrated Project, Design and Program Management	5
CM 460	Senior Project Methodology	2
CM 461	Senior Project I	1
CM 462	Senior Project II	1

Technical Electives

Select from the following:		8
CE 413	Advanced Civil Computer-Aided Site Design	
CE 429	Highway Pavement Designs	
CE 474	Environmental Compliance and Permitting	
CM 420	Service / Experiential Learning	
CM 421	Emerging Trends	
CM 422	Professional Preparation	
CM 423	Construction Materials / Assemblies	
CM 424	Construction Technology	
CM 425	Sustainability and Environment	
CM 426	International Construction Studies	
CM 475	Real Property Development Principles	
CM 485	Cooperative Education Experience (6 units maximum)	

SUPPORT COURSES

Select from the following:	6
ARCE 211 & ARCE 212	Structures I and Structures II (3, 3)
ME 211 & CE 204	Engineering Statics and Mechanics of Materials I (3, 3)
ARCE 226	Introduction to Structural Systems
ARCE 315	Introduction to Structural Design
ARCE 421	Soil Mechanics
BRAE 239	Engineering Surveying
or CM 239	Construction Surveying
BUS 207	Legal Responsibilities of Business
BUS 212	Financial Accounting for Nonbusiness Majors
or BUS 214	Financial Accounting
BUS 215	Managerial Accounting
ECON 201	Survey of Economics (D2) ¹
EDES 123	Principles of Environmental Design (E) ¹
ENGL 310	Corporate Communication (GWR)
GEOL 201	Physical Geology
MATH 141	Calculus I (B4) ¹
MATH 182	Calculus for Architecture and Construction Management (GE Electives) ^{1,2}
PHYS 141	General Physics I
Select from the following:	4
PHYS 142	General Physics II (B1 & B3) ¹
CHEM 124	General Chemistry for Physical Science and Engineering I (B1 & B3) ¹
CHEM 127	General Chemistry for Agriculture and Life Science I (B1 & B3) ¹
STAT 251	Statistical Inference for Management I
or STAT 312	Statistical Methods for Engineers
Select any upper-division (300-400 level) BUS, ECON, ITP course	4
GENERAL EDUCATION (GE)	
(See GE program requirements below.)	44
FREE ELECTIVES	
Free Electives	0
Total units	189

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

² MATH 142 Calculus II substitutes for MATH 182.

General Education (GE) Requirements

- 72 units required, 28 of which are specified in Major and/or Support.
- If any of the remaining 44 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/generalrequirementsbachelorsdegree/#generaleducationtext>).
- A grade of C- or better is required in one course in each of the following GE Areas: A1 (Oral Communication), A2 (Written

Communication), A3 (Critical Thinking), and B4 (Mathematics/Quantitative Reasoning).

Area A	English Language Communication and Critical Thinking	
A1	Oral Communication	4
A2	Written Communication	4
A3	Critical Thinking	4
Area B	Scientific Inquiry and Quantitative Reasoning	
B1	Physical Science (4 units in Support) ¹	0
B2	Life Science	4
B3	One lab taken with either a B1 or B2 course	
B4	Mathematics/Quantitative Reasoning (4 units in Support) ¹	0
Upper-Division B (4 units in Major) ¹		0
Area C	Arts and Humanities	
Lower-division courses in Area C must come from three different subject prefixes.		
C1	Arts: Arts, Cinema, Dance, Music, Theater	4
C2	Humanities: Literature, Philosophy, Languages other than English	4
Lower-Division C Elective - Select a course from either C1 or C2		4
Upper-Division C		4
Area D	Social Sciences - Select courses in Area D from at least two different prefixes	
D1	American Institutions (Title 5, Section 40404 Requirement)	4
D2	Lower-Division D (4 units in Support) ¹	0
Upper-Division D (4 units in Major) ¹		0
Area E	Lifelong Learning and Self-Development	
Lower-Division E (4 units in Support) ¹		0
Area F	Ethnic Studies	
F	Ethnic Studies	4
GE Electives in Areas B, C, and D		
Select courses from two different areas; may be lower-division or upper-division courses.		
GE Electives (4 units in Support plus 4 units in GE) ¹		4
Total units		44

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