

SECTION THREE: CURRICULUM FOR THE BACHELOR'S DEGREE

For a Bachelor's Degree in Construction, refer below.

For an Associate Degree in Construction, refer to Appendix A.

For a Master's Degree in Construction, refer to Appendix M.

For an Associate Degree in HVACR, refer to Appendix H-A.

For a Bachelor's Degree in HVACR, refer to Appendix H-B.

STANDARD 3: The Degree Program shall contain a required curriculum that includes business and management courses as well as construction courses that address all prescribed student learning outcomes.

To meet this standard, the curriculum of the Degree Program shall:

- Account for the semester hours (or quarter hours) of the categories specified in [Table 3.3.1](#)
- Contain required Construction Courses that have learning outcomes that address all the student Learning Outcomes listed in [Section 3.4](#).

Briefly, describe how the Degree Program complies with the above standard. List the courses and course descriptions along with corresponding semester or quarter hours that are to be counted toward the Construction and Business categories as shown in Table 3.3.1.

The Bachelor of Science in Construction Management (BSCM) at Cal Poly meets ACCE Standard 3 by providing a comprehensive, integrated curriculum that includes required coursework in construction, business, and general education. The curriculum is intentionally designed to address all ACCE Student Learning Outcomes (SLOs) through a combination of foundational knowledge, applied learning, and interdisciplinary experiences. The program exceeds the minimum requirements of 18 quarter hours in business and management and 75 quarter hours in construction, ensuring graduates are well-prepared for professional practice.

3. REQUIREMENTS

3.1. DEGREE PROGRAMS

It is the Degree Program's responsibility to develop its own goals, objectives, and particular emphasis, and prescribe the number of courses for graduation, sequencing of study, course numbers, and titles.

3.1.1. The Degree Program shall be consistent with the teaching philosophy and the purposes of both the Educational Unit and the Institution.

Learn by Doing has always been Cal Poly's core philosophy. The Academic Senate has defined it as a deliberate process in which students acquire knowledge and skills through active engagement, hands-on experience, and self-reflection inside and outside of the classrooms. In alignment with Cal Poly's learn-by-doing philosophy, CM students are engaged in numerous types of hands-on learning, including BIM 3-D modeling, design-build courses, studios and lab courses, and co-op internships. These experiences give exposure to the full range of construction projects and help them learn construction means and methods.

The goal of the CM program is to provide educational and professional opportunities with a specific commitment to professionalism, problem-solving, leadership, communication, and excellence, resulting in graduates who are ready to perform in the industry from "Day One." The CM program employs various hands-on learning components as well as innovative pedagogies to achieve the institutional mission.

3.1.2. The Degree Program curriculum shall be related to the needs of society and the construction profession.

The CM program provides the students with a broad education designed to consider the needs of society while at the same time teaching the skills necessary to enter the construction profession. Through the General Education Breadth Requirements (see <https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/#generaleducationtext>), our students are introduced to many aspects of society and societal needs. These concepts lay a foundation for many of our courses where sustainability, multi-stakeholder engagement and management, ethical decision making, fiscal responsibility, project management, and professional leadership are emphasized.

3.1.3. If the Degree Program curriculum requires specific General Education courses for graduation, provide a list of these courses, and a description of how each course supports the construction curriculum.

The table below includes the courses specified by the General Education (GE) Program at Cal Poly. A complete list of the GE courses is available at <http://www.catalog.calpoly.edu/generalrequirementsbachelorsdegree/#General-Education-Courses>.

Table 3.1.3 General Education Courses

General Education Requirements	CM Specific Requirements	Units
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	PHYS 141	4
B2 Life Science		4
B3 One lab taken with either a B1 or B2 course		
B4 Mathematics/Quantitative Reasoning	MATH 141	4
Upper-Division B	CM 317	4
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	ECON 201	4
Upper-Division D	CM 318	4
Area E Lifelong Learning and Self-Development		
Lower-Division E	EDES 123	4
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	MATH 182	4
GE Electives		4
TOTAL UNITS		72

3.2. BUSINESS AND MANAGEMENT

3.2.1. Only general and fundamental business topics can be used for this requirement and are intended as foundational knowledge for construction business practices. These topics shall be taught outside of the Degree Program unless the courses are unavailable at the Institution.

The CM curriculum meets the requirements for the Core Subject Area of Business and Management. Table 3.2.1 shows the business and management courses that are taught external to the degree program.

Table 3.2.1 Business and Management Courses That Are Taught Outside of the CM Program

Course No.	Course Title and Description	Credit Hours
BUS 207	Legal Responsibilities of Business Examination of the American legal system and important legal principles for business operations, such as those involved with contracts, torts, agency, business organizations, and employment. Emphasis on how legal principles help define socially responsible conduct.	4
BUS 214	Financial Accounting The course prepares students to understand and interpret financial statement information. Financial reporting standards are explored to give students an understanding of how financial events are reflected in financial statements.	4
BUS 215	Managerial Accounting Applications of accounting for making business decisions. Content includes planning and control issues including cost behavior, budget preparation, performance reporting; addresses social responsibility and employee motivational and behavioral considerations. Preparation of spreadsheet applications useful for decision-making.	4
ECON 201	Survey of Economics Basic principles of microeconomics and macroeconomics. Emphasis on applications to current national and global economic issues.	4
BUS, ECON, ITP Elective	Students may choose any upper level division Business, Economics, or Industrial Technology and Packaging Course.	4
Total Credit Hours		20

A minimum of 12 semester hours (18 quarter hours) is required in the business and management core subject area.

3.2.2. They shall be separate and distinct and are not to be confused or intermingled with the construction business and management topics.

The CM curriculum includes separate and distinct CM courses covering construction business and management topics as listed in Table 3.2.2.

Table 3.2.2 Construction Business and Management Courses

Course No.	Course Title and Description	Credit Hours
CM 334	Construction Law Intersection of law and the construction industry. Survey of most major legal issues potentially encountered during construction activity.	2
CM 335	Construction Accounting Fundamentals of construction accounting principles to include income recognition, job cost control, cash flow analysis and associated cost reports.	2

3.3. CONSTRUCTION

Required courses counted in the core subject area of construction shall address all the Student Learning Outcomes listed in Section 3.4.

A minimum of 50 semester hours (75 quarter hours) is required in the construction core subject area.

Table 3.3. Summary of Category Semester (Quarter) Hour Requirements:

Curriculum Categories	Bachelor's Degree Requirement		Program Actual
	SH*	QH**	
3.2 Business & Management	12	18	20
3.3 Construction	50	75	78

* Semester Hour

** Quarter Hour

The table below shows all of the required CM courses included in the CM curriculum. The total quarter units of CM courses are 78.

Required CM Courses			
Course #	Title	Course Description	Credit Hours
CM 102	Introduction to Construction Management	Introduction to the fundamental concepts and overview of the essential elements associated with the construction profession, to include construction trends, ethics, safety and health issues, and professional practice methods.	2
CM 113	Construction Materials and Assemblies	Exploration of the various materials, assemblies, and processes used and applied in the building construction process. Includes presentation, discussion, analysis, study and research of construction materials and assemblies.	2
CM 114	Construction Materials and Assemblies Laboratory	Exploration of the various materials, assemblies, and processes used and applied in the building construction process. Includes presentation, discussion, analysis, study and research of construction materials and assemblies.	2
CM 115	Fundamentals of Construction Management	Production of drawings and specifications for residential and light commercial construction. Integration of scheduling, estimating, codes, and contracts with a project based approach. Manual drawing techniques and computer aided drafting with building information modeling develop visualization skills for architectural systems.	6

Required CM Courses			
Course #	Title	Course Description	Credit Hours
CM 214	Residential Construction Management	Materials, methods, and techniques associated with residential and light commercial construction operations. Topics include shallow foundations, timber and masonry framing, roofing, and exterior and interior finishes. Scheduling, estimating, and construction contracts are integrated into a project based approach.	5
CM 232	Evaluation of Cost Alternatives	Basic principles of economic evaluations using fundamental concepts of time value of money to compare cost alternatives related to construction, design, and real property development.	3
CM 239	Construction Surveying	Theory and practice of plane surveying with an emphasis on construction applications. Topics include property use and care of survey equipment and instruments, distance measurement, leveling, angular measurement, construction layout, basic roadwork, and as-built surveys.	4
CM 280	Building Information Modeling	Use of building information modeling software to emphasize residential, commercial, and heavy civil assembly methods and techniques. BIM drafting applications integrated with construction materials, details, and assemblies supporting the understanding of the construction building process.	2
CM 313	Commercial Construction Management	Materials, methods, and techniques associated with large commercial and institutional construction operations. Topics include building systems analysis of foundations, waterproofing, structural framing, exterior cladding, and finishes. Scheduling, estimating, and construction contracts are integrated into a project based approach.	5
CM 314	Heavy Civil Construction Management	Materials, methods, and techniques associated with civil engineering projects and heavy construction operations. Topics include tunnel, bridge, dam, and road construction; equipment selection; and temporary structures. Scheduling, estimating, and construction contracts are integrated into a project based approach.	5

Required CM Courses			
Course #	Title	Course Description	Credit Hours
CM 317	Sustainability and the Built Environment	Interdisciplinary analysis of sustainable strategies and technologies to enhance the built environment. A systems approach to green building science that includes sustainable site development, water use efficiency, renewable energy, improving material use, indoor environmental quality, and design innovation.	4
CM 318	Housing and Communities	An overview of the social, economic, environmental and cultural impacts of housing on communities and nations. Students are presented with varied perspectives to understand the different facets of housing and their impacts on the human experience.	4
CM 334	Construction Law	The intersection of law and the construction industry. Topics of study include a survey of most major legal issues potentially encountered during construction activity.	2
CM 335	Construction Accounting	Fundamentals of construction accounting principles to include income recognition, job cost control, cash flow analysis and associated cost reports.	2
CM 411	Specialty Contracting Construction Management	Materials, methods, and techniques associated with mechanical, electrical, and plumbing systems. Topics include heating, ventilating, air conditioning, power distribution, grounding, lighting, communication, fire detection/protection, and plumbing. Integration of scheduling, estimating, and construction subcontracts with a project based approach.	5
CM 413	Jobsite Construction Management	Management activities applicable to the construction process involving techniques, applications, and theory needed in a jobsite environment. Addresses the relationships, roles, and perspectives of all stakeholders. Integrated utilization of temporary structures associated with field construction.	5
CM 443	Management of the Construction Firm	Applications of strategic management techniques and business strategy for managing and long-range planning of the construction firm.	3

Required CM Courses			
Course #	Title	Course Description	Credit Hours
CM 450	Integrated Project, Design and Program Management	Evaluation of roles and relationships of owner, designer, and construction professionals over project life cycles. Modeling, conceptual estimating, lean scheduling, contract selection, integrated delivery, design management, program management, and influential leadership strategies and techniques.	5
CM 460	Senior Project Methodology	Introduction to senior project processes, timelines, requirements, and best practices including topic selection, literature review, methodology, and paper formatting.	2
CM 461	Senior Project I	Selection and completion of a comprehensive project under faculty supervision. Problems to involve the student's technical and creative skills. Student proposals must be submitted and approved by project advisor prior to registration for course. Construction and team projects encouraged.	1
CM 462	Senior Project II	Selection and completion of a comprehensive project under faculty supervision. Problems to involve the student's technical and creative skills. Student proposal must be submitted and approved by project advisor prior to registration for course. Construction and team projects encouraged.	1
CM 42x	CM Tech Electives	Professional practice related to the construction management industry. Goals and objectives achieved through analysis, study, and preparation for a particular professional practice. The Class Schedule will list topic selected. Total credit limited to 8 units. Course may be offered in classroom-based, online, or hybrid format. 1 to 6 activities.	8
	Total Units of Construction Courses:		78

3.4. STUDENT LEARNING OUTCOMES

- 3.4.1. Provide an index, cross-tab, curriculum map, or other form of summary clearly relating courses used to meet the 50 semester hours (75 quarter hours) construction core requirements to the SLOs. The Educational Program must demonstrate that required construction courses adequately prepare graduates to be able to achieve all required SLOs.**

The Outcomes Assessment and Course Mapping Matrix are available on the ACCE OneDrive folder. The CM Program Learning Outcomes (PLOs) were developed to meet or exceed the ACCE SLOs while also supporting the program's Degree Program Objectives, Cal Poly's University Learning Objectives, and WSCUC core competencies. The CM PLOs include all ACCE-required SLOs and five additional learning outcomes that emphasize societal impact, lifelong learning, leadership, cultural awareness, and respect for diversity, reflecting the program's broader educational mission.

The ACCE SLOs are introduced, reinforced, and mastered throughout the required construction core courses in the CM curriculum, which includes more than 75 quarter hours of required construction coursework, exceeding ACCE minimum requirements. The Outcomes Assessment and Course Mapping Matrix illustrate how required construction courses collectively address all ACCE SLOs and ensure graduates are adequately prepared for professional practice. The Program Learning Outcomes are assessed through course-embedded assignments, direct assessments, AIC examination results, senior exit surveys, employer feedback, and faculty review as part of the department's continuous improvement process.

- 3.4.2. Provide a syllabus for each course used in fulfillment of the required 50 semester hours (75 quarter hours) in Construction (reference Table 3.3.1) in the corresponding folder on the ACCE OneDrive at:**

Semester - Institution - Self-Study Documents / Section 3 – Curriculum / Course Syllabi

Syllabi for the courses taught by the program shall include the following:

- CLOs in relation to the SLOs,
- Instructional methods,
- Topical outline,
- Method(s) of assessment of CLOs, and
- Grade performance criteria.

All the course syllabi are available on the ACCE OneDrive folder.

3.5. COURSES DELIVERED BY ALTERNATE FORMS OF DELIVERY

If the program offers courses by alternate means (to the traditional face-to-face classroom), list each course and indicate how each course meets the following conditions:

- 3.5.1. List any alternative courses, indicating if they are acceptable for transfer credit or inclusion in the program.**

There are five required courses in the CM curriculum that have been taught by alternative means at regular terms:

- CM 280 – Building Information Modeling
- CM 317 – Sustainability in the Built Environment
- CM 318 – Housing and Communities
- CM 334 – Construction Law
- CM 335 – Construction Accounting

Courses offered online, hybrid, or other alternative delivery formats are designed to be academically equivalent to their face-to-face counterparts. Courses with the same course number utilize identical Course Learning Outcomes (CLOs), comparable assessment methods, and equivalent instructional materials, assignments, and student work expectations regardless of the mode of delivery. Faculty teaching these courses maintain consistency in course content, rigor, grading criteria, and learning activities to ensure that students achieve the same SLOs independent of delivery format. Representative course materials, assessment examples, and samples of student work are available for review by the Visiting Team

In addition, Cal Poly's Academic Senate passed several resolutions during the COVID-19 pandemic to manage online instruction, temporarily suspending the formal review process for online courses. Key resolutions included enabling faculty to choose virtual modes (AS-904-20) and suspending the formal "eLearning addendum" requirement for temporary pandemic virtual instruction (AS-903-20). More recently, AS-970-24 extended a similar suspension for curricular review of online modalities specifically for summer terms through 2026. Hence, the courses listed below are approved to be delivered as in-person, hybrid, and online courses during the summer terms:

- CM 280 – Building Information Modeling
- CM 334 – Construction Law
- CM 335 – Construction Accounting
- CM 413 – Jobsite Management
- CM 421 – Emerging Trends
- CM 450 - Integrated Project, Design and Program Management

3.5.2. Provide comparative course material for evaluation of alternative courses as set forth in this document for alternative courses versus its traditionally offered version. Online course materials, including examples of student work, may be presented for review in online format as long as they are readily accessible to the Visiting Team and are accurately identified with course number and semester (or quarter).

Online access to the courses delivered by alternate forms of delivery listed in Section 3.5.1. will be provided for the Visiting Team at the time of the site visit.

3.5.3. Demonstrate that courses with the same course number have consistent content and CLOs.

The Construction Management (CM) program ensures that all courses offered under the same course number maintain consistent content, CLOs, and assessment methods regardless of instructor, term, or delivery format. This consistency is achieved through a combination of standardized course documentation, faculty coordination, and program-level oversight. A copy of the syllabus for courses delivered by alternate form of delivery is available on the ACCE OneDrive folder.

3.6. MULTIPLE CAMPUS DEGREE PROGRAM DELIVERY

If the Degree Program is offered on split or dual campus, indicate how the program meets the following conditions:

- 3.6.1.** Provide examples of student diplomas and transcripts from all campuses demonstrating all campuses included in this accreditation are authorized through the same Institution.

Not Applicable

- 3.6.2.** Confirm that the Degree Program is led by a single qualified administrator from the home campus.

Not Applicable

- 3.6.3.** Confirm that the Degree Program administrator has sufficient authority and experience to be able to provide the required leadership and supervision that allows the development of a strong academic Degree Program.

Not Applicable

- 3.6.4.** Demonstrate that there are adequate faculty and staff to successfully facilitate the Degree Program at different geographic campus locations.

Not Applicable

- 3.6.5.** Confirm that the Degree Program curriculum, SLOs, and the degree requirements are the same on all campuses.

Not Applicable

- 3.6.6.** If multiple Educational Units are involved to support the Degree Program,

Not Applicable

- Demonstrate that they use only one academic quality plan to identify the process used for the continuous improvement of the Degree Program.

Not Applicable

- The goals and objectives of the Educational Units need to be aligned to facilitate the success of the Degree Program and its continual improvement.

Not Applicable

- 3.6.7.** One Educational Unit shall be identified as the home for the Degree Program. Describe how this unit is responsible for the successful delivery of the Degree Program and is the geographical base for Degree Program operations.

Not Applicable

3.7.DUAL OR SECOND DEGREES

If there is a second-Degree Program, track, emphasis, area or specialization, or modified curricula, indicate how the modified degree paths for those students fulfills the curriculum requirements required by the standard. Modified degree paths that do not meet the curriculum requirements in the standard must be identified in any marketing materials as not included under the Program's ACCE accreditation.

Not Applicable

When this Section is complete, upload to the appropriate sub-folder within your institution's folder on the ACCE internet-accessible file space:

Semester - Institution - Self-Study Documents / Section 3 – Curriculum