

# BS IN CONSTRUCTION MANAGEMENT

Units required for Major: 105 (includes units required for Minor in Business Administration)

Total units required for BS: 134

## Program Description

The Sacramento State University Construction Management degree prepares students for managerial positions with contractors and other organizations involved in the construction process. For a graduate, this preparation can combine with experience and lead to recognition as a construction professional, a Constructor. The construction professional is responsible for the execution of construction work, for the creation of completed projects from plans prepared by design professionals such as architects and engineers. What is to be built is defined by design professionals; how the work is to be accomplished is the concern of the Constructor. A Constructor determines the methods to be used and directs the economical application of resources in the construction of timely and safe projects at satisfactory prices, and to the required standards of quality.

The immediate objective of the program is to provide university-level preparation for managerial positions in construction and a foundation for continued learning. The curriculum emphasizes subject areas that are significant to the Constructor: engineering fundamentals, construction management, business administration, humanities and social sciences, and the development of analytical and communication skills.

**Note:** Students graduating with a BS in Construction Management will not be subject to the University's Foreign Language Graduation Requirement. Students who change major may be subject to the University's Foreign Language Graduation Requirement.

**Note:** Students graduating with a BS in Construction Management consecutively earn a Minor in Business Administration.

## Program Requirements

Code	Title	Units
<b>Required Lower Division Courses (51 Units)</b>		
ACCY 1	Accounting Fundamentals	3
ACCY 2	Managerial Accounting <sup>1</sup>	3
CM 9	Construction Surveying and Layout	3
CM 10	The Construction Industry	1
CM 15	Fundamentals of Construction Management	3
CM 20	Construction Materials and Processes	3
CM 21	Construction Graphics	3
CM 22	Construction Documents	3
CM 30	Engineering Mechanics--Statics	3
CM 40	Properties of Construction Materials	3
ECON 1A	Introduction to Macroeconomic Analysis <sup>1</sup>	3
or ECON 1B	Introduction to Microeconomic Analysis	
ENVS 10	Introduction to Environmental Science <sup>1</sup>	3
MATH 26A	Calculus I for the Social and Life Sciences <sup>1</sup>	3
MGMT 10	Introduction to Business Law	3
PHYS 5A	General Physics: Mechanics, Heat, Sound <sup>1</sup>	4

PHYS 5B	General Physics: Light, Electricity and Magnetism, Modern Physics <sup>1</sup>	4
STAT 1	Introduction to Statistics <sup>1</sup>	3
<b>Computer Literacy and Competency (3 Units) <sup>2</sup></b>		
MIS 1	Word Processing	1
MIS 2	Spreadsheets	1
MIS 3	Presentation Graphics	1
<b>Required Upper Division Courses (45 Units) <sup>3</sup></b>		
CM 110	Legal Aspects of Construction	3
CM 111	Construction Labor Relations	3
CM 120	Construction Operations and Methods Analysis	3
CM 121	Fundamentals of Construction Estimating	3
CM 124	Engineering Construction	3
CM 125	Advanced Estimating and Bidding	3
CM 126	Construction Project Management	3
CM 127	Planning, Scheduling and Control	3
CM 129	Senior Project	3
CM 130	Structures I – Design Principles and Structural Steel Design	3
CM 135	Soils and Foundations	3
CM 136	Principles of Mechanical and Electrical Engineering	3
CM 140	Structures II – Timber and Formwork Design	3
HROB 101	The Management of Contemporary Organizations	3
MGMT 117	Business, Ethics and Society <sup>1</sup>	3
<b>Electives (6 Units)</b>		
Select any 100 level BA course		3
Select one of the following:		3
FIN 101	Business Finance	
MKTG 101	Principles Of Marketing	
OPM 101	Operations Management	
<b>Total Units</b>		<b>105</b>

<sup>1</sup> Course also satisfies General Education (GE)/Graduation Requirement. For the degree, students must satisfy all the University's General Education requirements for Construction Management. Students should contact the program office for a complete list of these requirements. A second year foreign language course (2A or equivalent) may also satisfy 3 units of GE when the course is being taken to comply with the Sacramento State foreign language requirement. Students should consult with an advisor for exact GE eligibility of these courses.

<sup>2</sup> All majors and pre-majors shall demonstrate computer literacy and competency prior to taking 100-level construction management or business courses. This requirement is met by passing scores on examinations as administered by the College of Business Administration in each of the following areas:

- Basic understanding and manipulation skills for operating system, Email system, and browser (covered in MIS 1);
- Basic facility with spreadsheets using the College of Business Administration's standard spreadsheet package (covered in MIS 2);
- Word processing and presentation graphics (covered in MIS 3).

<sup>3</sup> Upper division Construction Management courses are open only to students who have satisfactorily completed all required lower division preparation and have been admitted to the major.

#### Notes:

- High school chemistry (one year), mechanical drawing (one year), and trigonometry (one-half year) also required. Students without this high school preparation must take the necessary courses in addition to those listed above.
- The recommended course sequence may change. Students should consult the Construction Management program for current information.

Business Administration lower and upper division courses apply both to the major and to a Business Administration minor. Students interested in pursuing a pre-MBA sequence should contact the Degree Program Center in the College of Business Administration.

## General Education Requirements <sup>1</sup>

Code	Title	Units
<b>Area A: Basic Subjects (9 Units)</b>		
A1	Oral Communication	3
A2	Written Communication	3
A3	Critical Thinking	3
<b>Area B: Physical Universe and Its Life Forms (3 Units)</b>		
B1	Physical Science <sup>2</sup>	0
B2	Life Forms <sup>2</sup>	0
B3	Lab (Note: Lab experience to be taken with one of the following: B1, B2 or B5 <sup>2</sup> )	0
B4	Math Concepts <sup>2</sup>	0
B5	Additional Course (Any B to reach 12 units) - Take upper-division course to complete Area & upper division requirements.	3
<b>Area C: Arts and Humanities (12 Units)</b>		
C1	Arts	3
C2	Humanities	3
C1/C2	Area Course C	3
C1/C2	Area C Course - Take upper-division course to complete Area & upper division requirements.	3
<b>Area D: The Individual and Society (3 Units)</b>		
Area D Course		3
Area D Course <sup>2</sup>		0
Area D Course	Take upper-division course to complete Area & upper division requirements. <sup>2</sup>	0
<b>Area E: Understanding Personal Development (3 Units)</b>		
Area E Course		3
<b>Area F: Ethnic Studies (3 Units)</b>		
Area F Course		3
<b>Total Units</b>		<b>33</b>

<sup>1</sup> To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (<https://catalog.csus.edu/colleges/academic-affairs/general-education/>).

**Note:** There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be

visited online (<http://www.csus.edu/acad/>), by phone (916) 278-1000, or email ([advising@csus.edu](mailto:advising@csus.edu)).

<sup>2</sup> Required in Major; also satisfies GE.

## Graduation Requirements <sup>1</sup>

Code	Title	Units
<b>Graduation Requirements (required by CSU) (6 Units)</b>		
American Institutions: U.S. History		3
American Institutions: U.S. Constitution & CA Government		3
Writing Intensive (WI) <sup>2</sup>		0
<b>Graduation Requirements (required by Sacramento State) (6 Units)</b>		
English Composition II		3
Race and Ethnicity in American Society (RE)		3
Foreign Language Proficiency Requirement <sup>3</sup>		0

<sup>1</sup> To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (<https://catalog.csus.edu/colleges/academic-affairs/general-education/>).

**Note:** There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be visited online (<http://www.csus.edu/acad/>), by phone (916) 278-1000, or email ([advising@csus.edu](mailto:advising@csus.edu)).

<sup>2</sup> Required in Major; also satisfies Graduation Requirement.

<sup>3</sup> If not satisfied before entering Sacramento State, it may be satisfied in General Education Area C2 (Humanities). "C- or better required." The alternative methods for satisfying the Foreign Language Proficiency Requirement are described here: <https://www.csus.edu/college/arts-letters/world-languages-literatures/foreign-language-requirement.html>

**Note:** Students with a declared major of BS in Construction Management are exempt from the Foreign Language Graduation Requirement.

**Career Options:** Construction Manager, Cost Estimator

The following roadmaps are sample planning resources. Please consult your academic advisor and Academic Catalog for graduation requirements as you develop your individualized academic plan.

## Construction Management, BS: 4-Year Roadmap

Course	Title	Units
<b>Year 1</b>		
<b>First Semester</b>		
CM 10	The Construction Industry	1
CM 15	Fundamentals of Construction Management	3
MATH 26A	Calculus I for the Social and Life Sciences	3
MIS 1	Word Processing	1
MIS 2	Spreadsheets	1
PHYS 5A	General Physics: Mechanics, Heat, Sound	4
GE Area 6 - Ethnic Studies <sup>2</sup>		3
<b>Units</b>		<b>16</b>
<b>Second Semester</b>		
ACCY 1	Accounting Fundamentals	3
CM 20	Construction Materials and Processes	3
MIS 3	Presentation Graphics	1

MIS 10	Business Applications	2
PHYS 5B	General Physics: Light, Electricity and Magnetism, Modern Physics	4
GE Area 1A - English Composition <sup>2</sup>		3

**Units** 16

## Year 2

### First Semester

ACCY 2	Managerial Accounting	3
CM 21	Construction Graphics	3
CM 40	Properties of Construction Materials	3
ENGL 20	College Composition II	3
MGMT 10	Introduction to Business Law	3
GE Area 1C - Oral Communication <sup>2</sup>		3

**Units** 18

### Second Semester

CM 22	Construction Documents	3
CM 30	Engineering Mechanics--Statics	3
CM 9	Construction Surveying and Layout	3
ENVS 10	Introduction to Environmental Science	3
STAT 1	Introduction to Statistics	3
ECON 1A or ECON 1B	Introduction to Macroeconomic Analysis <sup>3</sup> or Introduction to Microeconomic Analysis	3

**Units** 18

## Year 3

### First Semester

CM 120	Construction Operations and Methods Analysis	3
CM 121	Fundamentals of Construction Estimating	3
CM 130	Structures I -- Design Principles and Structural Steel Design	3
CM 136	Principles of Mechanical and Electrical Engineering	3
HROB 101	The Management of Contemporary Organizations	3
GE Area 3A - Arts <sup>2</sup>		3

**Units** 18

### Second Semester

CM 111	Construction Labor Relations	3
CM 125	Advanced Estimating and Bidding	3
CM 127	Planning, Scheduling and Control	3
CM 135	Soils and Foundations	3
CM 140	Structures II -- Timber and Formwork Design	3
GR American Institutions (US History) <sup>2</sup>		3

**Units** 18

## Year 4

### First Semester

CM 110	Legal Aspects of Construction	3
CM 124	Engineering Construction	3
CM 126	Construction Project Management	3
MGMT 117	Business, Ethics and Society	3
GR American Institutions (GOVT) <sup>2</sup>		3

**Units** 15

### Second Semester

CM 129	Senior Project	3
CM Elective - Select any 100 level BA course <sup>3</sup>		3
FIN 101 or MKTG 101 or OPM 101	Business Finance <sup>3</sup> or Principles Of Marketing or Operations Management	3
Upper Division GE Area 3 - Arts or Humanities <sup>2</sup>		3
GE Area 3B - Humanities <sup>2</sup>		3

**Units** 15

**Total Units** 134

## Construction Management, BS: 2-Year Roadmap

Course	Title	Units
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### Year 1

#### First Semester

CM 120	Construction Operations and Methods Analysis	3
CM 121	Fundamentals of Construction Estimating	3
CM 130	Structures I -- Design Principles and Structural Steel Design	3
CM 136	Principles of Mechanical and Electrical Engineering	3
HROB 101	The Management of Contemporary Organizations	3

**Units** 15

#### Second Semester

CM 111	Construction Labor Relations	3
CM 125	Advanced Estimating and Bidding	3
CM 127	Planning, Scheduling and Control	3
CM 135	Soils and Foundations	3
CM 140	Structures II -- Timber and Formwork Design	3

**Units** 15

### Year 2

#### First Semester

CM 124	Engineering Construction	3
CM 126	Construction Project Management	3
CM 110	Legal Aspects of Construction	3
MGMT 117	Business, Ethics and Society	3
GR American Institutions (US History) <sup>2</sup>		3

**Units** 15

#### Second Semester

CM 129	Senior Project	3
FIN 101 or MKTG 101 or OPM 101	Business Finance <sup>3</sup> or Principles Of Marketing or Operations Management	3
CM Elective - Select any 100 level BA course <sup>3</sup>		3
Upper Division GE Area 3 - Arts or Humanities <sup>2</sup>		3
GR American Institutions (GOVT) <sup>2</sup>		3

**Units** 15

**Total Units** 60

- Any course not completed in the first semester should be taken in the second or a later semester.
- Please see General Education/Graduation Requirement **course options** (<https://catalog.csus.edu/colleges/engineering-computer-science/engineering-civil/bs-in-civil-engineering/colleges/academic-affairs/general-education/>).

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<sup>3</sup>. Please see an academic advisor for elective options.