## CONSTRUCTION MANAGEMENT (CMGT)

See Course Description Symbols and Terms (https://catalog.csuchico.edu/academic-standards-policies/course-description-symbols-terms/) for an explanation of course description terminology and symbols, the course numbering system, and course credit units.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisite</th>
<th>Typically Offered</th>
<th>Course Attributes</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMGT 100</td>
<td>Concepts of Construction</td>
<td>3</td>
<td>CMGT 105</td>
<td>Fall and spring</td>
<td>Lower Division</td>
<td>This course introduces fundamental construction management concepts including the roles and responsibilities of project stakeholders, project delivery systems, contract types, estimating, scheduling, safety, quality control, cost management, trade coordination, and documentation of the work. 3 hours discussion. (002055)</td>
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<tr>
<td>CMGT 101</td>
<td>Construction Management Career Preparation</td>
<td>1</td>
<td></td>
<td>Fall and spring</td>
<td>Lower Division</td>
<td>This course helps Construction Management students prepare for careers in the construction industry. It provides students with the opportunity for creating their resumes, learning successful interviewing techniques, obtaining internships, and exploring the many different possible careers in the construction industry. 3 hours laboratory. (020453)</td>
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<tr>
<td>CMGT 105</td>
<td>Computer Applications in Construction Management</td>
<td>3</td>
<td>CMGT 100</td>
<td>Fall and spring</td>
<td>Lower Division</td>
<td>This course introduces industry foundation technical computing for Construction Managers. It introduces commercial software commonly used in the management and control of construction projects. Application areas include office suite of programs, paperless workflows, estimating, and scheduling. 2 hours activity, 2 hours discussion. (022069)</td>
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<tr>
<td>CMGT 110</td>
<td>Construction Graphics</td>
<td>3</td>
<td>CMGT 100, CMGT 105 both with a grade of C or higher</td>
<td>Fall and spring</td>
<td>Lower Division; Laptop required</td>
<td>This course introduces the use of lines, symbols, and annotations in construction drawings. It also includes 3D modeling software to visualize and build a model of a commercial building from a set of construction documents. This model is used to produce 2D construction documents. 2 hours activity, 2 hours discussion. (002056)</td>
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<tr>
<td>CMGT 210</td>
<td>Analysis of Construction Drawings and Specifications</td>
<td>3</td>
<td>CMGT 110, CMGT 135 both with a grade of C or higher</td>
<td>Fall and spring</td>
<td>Lower Division; Laptop required</td>
<td>This course includes a detailed and interactive study of construction drawings and specifications. Software is utilized to aid in understanding the plans and specifications and extract key project information with emphasis on material quantity takeoff. 2 hours activity, 2 hours discussion. (002058)</td>
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<tr>
<td>CMGT 235</td>
<td>Electrical and Mechanical Systems</td>
<td>3</td>
<td>CMGT 210 with a grade of C or higher</td>
<td>Fall and spring</td>
<td>Lower Division; Laptop required</td>
<td>This course includes an introduction to mechanical, electrical, and plumbing systems; integration of these systems into the building design and construction process; with an emphasis on sustainability. 3 hours discussion. (002059)</td>
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<tr>
<td>CMGT 275W</td>
<td>Architectural History (W)</td>
<td>3</td>
<td></td>
<td>Fall and spring</td>
<td>GE, W</td>
<td>This course presents a study of architectural history with an emphasis on contemporary projects. 3 hours discussion. (021203)</td>
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</tbody>
</table>

**Course Attributes:**
- Lower Division
- Laptop required
- Writing Course

**Corequisites:**
- CMGT 100
- CMGT 105
- CMGT 110
- CMGT 135

**Typically Offered:**
- Fall and spring

**Grade Basis:**
- Graded

**Repeatability:**
- You may take this course for a maximum of 3 units
  - CMGT 100, CMGT 105 both with a grade of C or higher.
  - CMGT 110, CMGT 135 both with a grade of C or higher.

**Prerequisite:**
- CMGT 100, CMGT 105 both with a grade of C or higher.
- CMGT 110, CMGT 135 both with a grade of C or higher.

**Corequisites:**
- CMGT 105

**Typically Offered:**
- Fall and spring

**Grade Basis:**
- Graded

**Repeatability:**
- You may take this course for a maximum of 3 units

**Course Attributes:**
- Lower Division
- Writing Course

[University Catalog 2023-2024](https://catalog.csuchico.edu/academic-standards-policies/course-description-symbols-terms/)
CMGT 330 Soil Mechanics, Concrete, and Construction Surveying 3 Units
Prerequisite: CHEM 107 or CHEM 111, CMGT 210 (with a grade of C or higher), MATH 120 (with a grade of C- or higher), PHYS 202A or PHYS 204A.
Typically Offered: Fall and spring
This course includes a study of the properties and behaviors of soils, aggregates, and concrete when used as construction materials. Introduction to concrete including mix design, slump tests, and compressive strength. Fundamentals of surveying including staking, layout, and elevation control. 2 hours discussion, 3 hours laboratory. (002063)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 332 Construction Method Analysis 3 Units
Prerequisite: GE Oral Communication (A1) requirement; CMGT 210, CMGT 235 both with a grade of C or higher.
Typically Offered: Fall and spring
This course analyzes methods and techniques of a construction project in a multi-team planning environment. Using Building Information Modeling, students analyze constructability through jobsite logistics, clash detection, log books, and short term resource scheduling. Jobsite labor risk is studied with a focus on productivity tracking, analysis, methods improvement, and safety. 2 hours activity, 2 hours discussion. (002064)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 335 Construction Equipment 3 Units
Prerequisite: CMGT 330, CIVL 411, or faculty permission.
Typically Offered: Fall and spring
This course includes a study of the equipment used in the construction industry. Included are the types, capabilities, selection, purchase/lease/rent options, and balancing of equipment. 3 hours discussion. (002066)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 350 Principles of Statics and Strength of Materials 3 Units
Prerequisite: MATH 120 (with a grade of C- or higher), PHYS 202A or PHYS 204A.
Typically Offered: Fall and spring
This course includes a study of applied engineering mechanics including forces, static equilibrium, and simple truss analysis. An emphasis is placed on the concepts and mathematical calculations of stress, strain, and deflection within structural elements encountered in construction. The rationale and factors of safety for sizing and design of these elements is reviewed. 3 hours discussion. (022067)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 352 Electrical and Mechanical Construction Estimating 3 Units
Prerequisite: CMGT 235.
Typically Offered: Fall and spring
Costs dictated by the contract documents for the electrical and mechanical systems in residential, commercial, industrial, specialty, and line construction projects are studied. 2 hours discussion, 2 hours laboratory. (002073)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 360W Construction Project Management (W) 3 Units W
Prerequisite: GE Oral Communication (A1) requirement, GE Written Communication (A2) requirement, ACCT 201, CMGT 210 (with a grade of C or higher).
Typically Offered: Fall and spring
This course reinforces the construction project life-cycle from conception through completion. The processes to effectively manage a construction project are introduced and practiced, including: project delivery systems and contracts, pre-construction services, construction safety practices, RFI’s and submittals, quality control processes, cost control, project closeout, and commissioning. 3 hours lecture. (020325)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required; Writing Course

CMGT 380 Green Building Practices and LEED Certification 3 Units
Typically Offered: Fall only
This course explores how new buildings are designed and constructed using green building strategies. Students learn how LEED Accredited Professionals manage the building certification process and the documents required by the US Green Building Council to verify that the requirements for LEED certification are met. The course also prepares students to take the USGBC LEED AP Certification exam. 3 hours lecture. (020504)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Sustainable Course; Laptop required

CMGT 385 Concepts of Sustainable Construction 3 Units
Prerequisite: CMGT 235 with a grade of C or higher.
Typically Offered: Fall and spring
This course evaluates green building techniques, sustainable practices, and Lean Construction throughout the entire project life cycle. Students are introduced to the various requirements for green building rating systems and certifications. Content is provided to assist students in their self-study to take the LEED Green Associate exam. 3 hours lecture. (022068)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Sustainable Course; Laptop required

CMGT 389 Internship in Construction Management 3 Units
Prerequisite: Department Permission.
Typically Offered: Spring, summer, fall
This course requires the student to do one summer internship for a minimum of 10 weeks with an approved heavy construction company. 3 hours lecture. (002062)
Grade Basis: Credit/No Credit
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division
CMGT 398 Special Topics 1-3 Units
Prerequisite: Faculty permission.
Typically Offered: Fall and spring
This course is for special topics offered for 1.0-3.0 units. Typically the topic is offered on a one-time-only basis and may vary from term to term and be different for different sections. See the Class Schedule for the specific topic being offered. 3 hours lecture. (002070)
Grade Basis: Graded
Repeatability: You may take this course more than once
Course Attributes: Upper Division

CMGT 399 Special Problems 1-3 Units
Prerequisite: Faculty permission.
Typically Offered: Fall and spring
This course is an independent study of special problems offered for 1.0-3.0 units. You must register directly with a supervising faculty member. 9 hours supervision. (002071)
Grade Basis: Credit/No Credit
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Upper Division

CMGT 440 Temporary Structures 3 Units
Prerequisite: CMGT 350, CIVL 311, or faculty permission.
Typically Offered: Fall and spring
This course includes a study of temporary structures used in construction, including scaffolding, support of excavations, decking and ramps, temporary bridges and trestles, concrete shoring formwork, and support of existing structures. The engineering basis for design is studies, with an emphasis placed on factors affecting cos and risks. 3 hours discussion. (002079)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 450 Building Estimating 3 Units
Prerequisite: ACCT 202, CMGT 332, CMGT 360W, CMGT 385.
Typically Offered: Fall and spring
This course leads the students through the steps of creating a detailed building estimate utilizing construction documents. Direct costs are generated by performing quantity take-offs and pricing with historical construction data, labor, and productivity rates. Students analyze subcontractor bid, generate indirect costs, and apply project margin to complete a building estimate. 2 hours activity, 2 hours discussion. (002080)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 455 Construction Cost Management 3 Units
Prerequisite: CMGT 450, CIVL 302W, or faculty permission.
Typically Offered: Fall and spring
This course studies construction cost monitoring and analysis techniques. The industry tools of budgets, billing instruments, earned value, forecasting and cost data collection are reviewed. Students create a schedule of values, including development of overhead allocation. 2 hours activity, 2 hours discussion. (002081)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 457 Project Scheduling and Control 3 Units
Prerequisite: CMGT 332; CMGT 360W; CIVL 495 or faculty permission.
Typically Offered: Fall and spring
This course involves the study of the methods used to plan and control construction projects. Critical path scheduling techniques, project planning processes, Lean practices of scheduling, and schedule diagramming are developed. Students create and update cash and resource loaded digital schedules using current industry scheduling software. Schedule update reports are analyzed and narratives produced. 2 hours activity, 2 hours discussion. (002078)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 458 Heavy Construction Estimating 3 Units
Prerequisite: CMGT 335 or faculty permission.
Typically Offered: Fall and spring
This course explores the process involved in creating a heavy construction estimate. Direct costs are formulated using production rates developed from cycle time analyses, burdened labor rates, quantity take-off, equipment rates, and material pricing. Estimates are prepared using industry standard unit-price computer applications. Distribution of indirect, overhead, and markup into bid items are applied to complete a unit-price estimate. 2 hours activity, 2 hours discussion. (002072)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 460HW Legal Aspects of Construction - Honors (W) 3 Units W, GW
Prerequisite: Admission to the department's Honors in the Major program, GE Written Communication (A2) requirement, BLAW 203, BLAW 414, faculty permission.
Typically Offered: Fall and spring
This is an Honors in the Major course which is open to students by invitation only. In addition to the course content of CMGT 460, this course involves the selection and start of a significant project in some aspect of construction law. The students select the project topic with the assistance of the faculty member. The project is completed in CMGT 499H. 9 hours supervision. (002076)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Writing Course; Graduation Writing Assessment

CMGT 460W Legal Aspects of Construction (W) 3 Units W, GW
Prerequisite: GE Written Communication (A2) requirement, BLAW 203, MGMT 303, senior standing, BCOM 300W for CMGT majors only.
Typically Offered: Fall and spring
This course provides an overview of basic construction laws, construction-related acts and orders, rules and regulations affecting construction, and construction contracts. Construction risks are identified and methods to allocate and mitigate these risks are developed. 3 hours discussion. (002075)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required; Writing Course; Graduation Writing Assessment
CMGT 462 Construction Contracts 3 Units
Prerequisite: CMGT 460W.
Typically Offered: Fall and spring
This course reviews current contracting systems and documents utilized for construction contracts. Students examine and analyze the US Department of Labor Laws and the California Labor Code as these laws pertain to construction labor contracts, employment regulations, workers' compensation, and safety. 3 hours lecture. (021409)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Laptop required

CMGT 485 Construction Management Competition 3 Units
Typically Offered: Fall and spring
This course prepares interested students for regional and national construction management competitions sponsored by the Associated Schools of Construction, National Association of Home Builders, Associated Builders Contractors, and other competition sponsors. Areas of preparation include construction management business and cost management, contracts, plan reading, specifications, estimating, scheduling, equipment, safety, team building, leadership, and presentation skills. 3 hours lecture. (020396)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Upper Division

CMGT 489 Const Mgmt Cooperative Ed 1-3 Units
Prerequisite: CMGT 210, 60 units within the CMGT major, faculty permission.
Typically Offered: Fall and spring
This course is an internship offered for 1.0-3.0 units. You must register directly with a supervising faculty member. This program is designed to provide the student with management and administrative experiences within the construction industry. 3 hours lecture. (002074)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 15 units
Course Attributes: Upper Division

CMGT 498 Special Topics in Const Mgmt 1-3 Units
Typically Offered: Fall and spring
This course is for special topics offered for 1.0-3.0 units. Typically the topic is offered on a one-time-only basis and may vary from term to term and be different for different sections. See the Class Schedule for the specific topic being offered. 3 hours discussion. (002082)
Grade Basis: Graded
Repeatability: You may take this course more than once
Course Attributes: Upper Division

CMGT 499 Special Problems 1-3 Units
Prerequisite: Faculty permission.
Typically Offered: Fall and spring
This course is an independent study of special problems offered for 1.0-3.0 units. You must register directly with a supervising faculty member. 3 hours supervision. (002083)
Grade Basis: Credit/No Credit
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Upper Division

CMGT 499H Honors Project in Construction Management 3 Units
Prerequisite: Admission to the department's Honors in the Major program; CMGT 460W with a grade of B or higher; faculty permission.
Typically Offered: Fall and spring
Open by invitation to construction management majors who have a GPA of 3.5 or higher. The culminating work of this course will be the written and oral presentation of a project of value in the field of construction management. 9 hours supervision. (002084)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division

CMGT 697 Independent Study 1-3 Units
Prerequisite: Faculty permission.
Typically Offered: Fall and spring
This course is a graduate-level independent study offered for 1.0-3.0 units. You must register directly with a supervising faculty member. 9 hours supervision. (002086)
Grade Basis: Report in Progress: Graded
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Graduate Division

CMGT 698 Advanced Topics in Const Mgmt 1-3 Units
Prerequisite: Department permission.
Typically Offered: Inquire at department
This course is for special topics offered for 1.0-3.0 units. Typically the topic is offered on a one-time-only basis and may vary from term to term and be different for different sections. See the Class Schedule for the specific topic being offered. 9 hours supervision. (002085)
Grade Basis: Gradu ate Graded
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Graduate Division

CMGT 699P Master's Project 1-6 Units
Prerequisite: Department permission.
Typically Offered: Fall and spring
You must register directly with a supervising faculty member. 3 hours supervision. (002089)
Grade Basis: Report in Progress: CR/NC
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Graduate Division

CMGT 699T Master's Thesis 1-6 Units
Typically Offered: Fall and spring
3 hours supervision. (002087)
Grade Basis: Report in Progress: CR/NC
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Graduate Division