

CONSTRUCTION MANAGEMENT

Construction Management Department (<http://www.csuchico.edu/cm/>)
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Insight

Construction in the United States is one of the largest industries in the world. The sheer size of the industry as well as the sophistication and cost of modern construction operations requires managers who possess a high level of construction knowledge and skill. The fact that California has more than 300,000 licensed contractors while its universities graduate fewer than 500 students per year with construction management degrees predicts an unlimited demand for university-educated construction managers for the foreseeable future.

California State University, Chico's Construction Management program, established in 1977, became a Bachelor of Science degree fully accredited by the American Council for Construction Education (ACCE) in 1987.

Today Chico State's program is one of the largest construction management programs in California and the United States. The construction industry continues to aggressively recruit our graduates and provides financial support to our program.

Statistics indicate that construction management graduates are some of the most heavily recruited graduates from the University. The achievements of our alumni within the industry, the many regional and national awards won by our undergraduates, and the impressive performance of students during their internships are just some of the evidence of this program's success.

Since its inception, the Department of Construction Management has endeavored to hire faculty with a beneficial blend of academic preparation and industry experience managing construction operations. Feedback from construction companies that employ our graduates confirms our faculty hiring philosophy translates directly into quality graduates that are able to perform at an enhanced level directly out of school.

Experience

Students and alumni often say that being a construction management major feels much like being part of a family. Faculty and students recognize the importance of both hard work in the classroom and time spent together out of the classroom. Students are provided a variety of opportunities for learning experiences outside the classroom: student clubs, student competitions, community service projects, and internships are a few of the examples.

Chico has a very active chapter of Sigma Lambda Chi International Construction Honor Society which provides recognition to outstanding students in construction curricula. Sigma Lambda Chi is the society that offers students the opportunity to be recognized locally and

internationally for their academic accomplishments as construction majors.

More than 40 percent of the majors actively participate in student chapters of the country's major construction trade associations including Associated General Contractors (AGC), Design-Build Institute of America (DBIA), Mechanical Contractors Association of America (MCAA), and Chico State Women in Construction (CSWIC).

Students have the opportunity to participate annually in the Associated Schools of Construction competition, the Mechanical Contractors Association of America national problem statement, the Design-Build Institute of America's national Preconstruction Problem, as well as the Associated General Contractors Outstanding Student Chapter competition.

Community service projects provide hands-on, service learning, experience that is also deeply rewarding. Students take community service to new levels by providing projects' planning, designing, and constructing works of improvements for those agencies or individuals in need.

For more information about student activities and achievements, visit the Department of Construction Management (<https://www.csuchico.edu/cm/>) website.

Outlook

Chico State construction management graduates historically experience an extraordinarily bright career horizon immediately upon graduation. Virtually all construction management students are aggressively recruited by both local and nationally based construction companies of all types and sizes. One-third of the largest 50 construction companies in the nation recruit Chico State graduates for full-time career-track positions and undergraduates for internships. Most students spend an average of two summers on construction internships.

Programs

Undergraduate

Bachelor's

- Construction Management BS (<https://catalog.csuchico.edu/colleges-departments/college-engineering-computer-science-construction-management/construction-management/construction-management-bs/>)

Minors

- Heavy Construction Minor (<https://catalog.csuchico.edu/colleges-departments/college-engineering-computer-science-construction-management/construction-management/heavy-construction-minor/>)

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.

<p>CMGT 100 Concepts of Construction 3 Units Corequisites: CMGT 105. Typically Offered: Fall and spring 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) Grade Basis: Graded Repeatability: You may take this course for a maximum of 3 units Course Attributes: Lower Division</p>	<p>CMGT 198 Special Topics 1-3 Units Prerequisite: Department 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 supervision. (002060) Grade Basis: Graded Repeatability: You may take this course more than once Course Attributes: Lower Division</p>
<p>CMGT 101 Construction Management Career Preparation 1 Unit Typically Offered: Fall and spring 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) Grade Basis: Credit/No Credit Repeatability: You may take this course for a maximum of 1 unit Course Attributes: Lower Division</p>	<p>CMGT 210 Analysis of Construction Drawings and Specifications 3 Units Prerequisite: CMGT 110, CMGT 135 both with a grade of C or higher. Typically Offered: Fall and spring 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) Grade Basis: Graded Repeatability: You may take this course for a maximum of 3 units Course Attributes: Lower Division; Laptop required</p>
<p>CMGT 105 Computer Applications in Construction Management 3 Units Corequisites: CMGT 100. Typically Offered: Fall and spring 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) Grade Basis: Graded Repeatability: You may take this course for a maximum of 3 units Course Attributes: Lower Division; Laptop required</p>	<p>CMGT 235 Electrical and Mechanical Systems 3 Units Prerequisite: CMGT 210 with a grade of C or higher. Typically Offered: Fall and spring 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) Grade Basis: Graded Repeatability: You may take this course for a maximum of 3 units Course Attributes: Lower Division; Laptop required</p>
<p>CMGT 110 Construction Graphics 3 Units Prerequisite: CMGT 100, CMGT 105 both with a grade of C or higher. Typically Offered: Fall and spring 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) Grade Basis: Graded Repeatability: You may take this course for a maximum of 3 units Course Attributes: Lower Division; Laptop required</p>	<p>CMGT 275W Architectural History (W) 3 Units GE, W Typically Offered: Fall and spring This course presents a study of architectural history with an emphasis on contemporary projects. 3 hours discussion. (021203) General Education: Arts (C1) Grade Basis: Graded Repeatability: You may take this course for a maximum of 3 units Course Attributes: Lower Division; Writing Course</p>
<p>CMGT 135 Construction Materials and Systems 3 Units Prerequisite: CMGT 100, CMGT 105 both with a grade of C or higher. Typically Offered: Fall and spring This course includes a comprehensive study of the principal materials used in the construction industry and the various systems employing these materials to build structures. 3 hours discussion. (002057) Grade Basis: Graded Repeatability: You may take this course for a maximum of 3 units Course Attributes: Lower Division; Laptop required</p>	<p>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</p>

- 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 Instructor 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
- 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 Instructor 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 costs 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 Instructor 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 Instructor 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 Instructor 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 460HW 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: Graduate 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:** See the department secretary.**Typically Offered:** Fall and spring

This course is offered for 1.0-6.0. 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

Construction Management Department

The Faculty

Alan D Bond 2011

Associate Professor

Master of Business Admin CSU-Chico

Patrick G Brittle 2017

Assistant Professor

Master of Science CSU-East Bay

Lori A Brown 1982

Associate Professor

Master of Science Cal St Univ-Chico

Brendan P Coakley 2014

Assistant Professor

Bachelor of Science CSU-Chico

Jaime R Cochran 2018

Lecturer

Bachelor of Science CSU-Chico

Richard G Holman 1996

Chair

Master of Arts Seattle Univ

Richard G Holman 1996

Professor
Master of Arts Seattle Univ

Scott A Mccutcheon 2016
Assistant Professor
Master of Business Admin Lamar Univ-Beaumont

Brian A Old 2018
Lecturer
Master of Arts Design Institute of San Diego

Marie E Patterson 2010
Assistant Professor
Master of Arts CSU-Chico

Jubal A Raymond 2021
Lecturer
Master of Science CSU-Chico

Joseph D Schwarz 2019
Lecturer
Juris Doctor Cal Western School Of Law

Christopher A Souder 2003
Professor
Master of Science Cal St Univ-Chico

Arthur J Wellersdick 2016
Lecturer
Bachelor of Science CSU-Chico

Emeritus Faculty

Kenneth M Borzage
Emeritus
Master of Arts Cal Polytechnic St Univ-San Lu

LaVerne E Brandstatt 1947
Emeritus

Dennis M Gier
Emeritus
Master of Science Univ Of Dayton

Edmund J Mannion
Emeritus
Doctor of Education Utah St Univ

James E Obannon
Emeritus
Doctor of Philosophy Univ Of Missouri-Columbia

John D Schwarz
Emeritus
Juris Doctor Univ Of Cal Hastings College O

Bruce Yoakum
Emeritus
Master of Science Univ Of Michigan Ann Arbor

Rovane Younger
Emeritus
Master of Science Stanford Univ