The Construction Management (CM) program at CSU is one of the top-ranked programs in the nation. Since its inception in 1946, more than 5,000 students have graduated, many of them going on to become leaders in their field. The program is accredited by the American Council for Construction Education.

Construction management is the overall planning, coordination, and control of a project from inception to completion. The CM major addresses issues related to the management of multiple project sites and the applications of resource management, schedule control, cost control, design, and other requirements of the construction process. Design elements concentrate on the relationship between the built environment and the comfort of its inhabitants while safety education emphasizes the health of the individual worker.

**Undergraduate Program**

A major in Construction Management provides a strong foundation for professional careers in the construction industry. The curriculum integrates technology and innovative management systems with the basics of civil engineering, business and management, and the communication skills required to be successful in today's world. Coursework includes construction methods, estimating, scheduling, computer technologies, architectural principles, fundamentals of management and law, steel and concrete structures, and soils. The curriculum incorporates hands-on labs for most courses. This diverse program creates a broad range of career options for graduates.

**Graduate Program**

The Department of Construction Management offers graduate study leading to the Master of Science degree. The focus of the department is on professional programs that successfully combine theory and application with a strong emphasis in applied management. The master's program is an advanced curriculum designed to allow students to tailor a portion of the specialization requirements to meet individual interests and goals.

**Undergraduate Majors**

- Major in Construction Management

**Minors**

- Minor in Construction Management

**Graduate Programs in Construction Management**

The Department of Construction Management offers graduate study leading to the Master of Science degree. The focus of the department is on professional programs that successfully combine theory and application with a strong emphasis in applied management. The master’s program is an advanced curriculum designed to allow students to tailor a portion of the specialization requirements to meet individual interests and goals.

Each program can be individually tailored to meet the needs and interests of the student.

Students interested in graduate work should refer to the Graduate and Professional Bulletin and the Department of Construction Management (http://cm.chhs.colostate.edu).

**Master Programs**

- Master of Science in Construction Management, Plan A
- Master of Science in Construction Management, Plan B

**Courses**

- **Construction Management (CON)**
  - **CON 101 Introduction to Construction Management** Credits: 3 (3-0-0)
    - **Course Description:** Introduction to the construction industry; including methods, practices, trends, careers, and constituencies involved in the design and construction process.
    - **Prerequisite:** None.
    - **Registration Information:** Pre-Construction Management Majors and Construction Management Majors and Minors Only.
    - **Terms Offered:** Fall, Spring.
    - **Grade Mode:** Traditional.
    - **Special Course Fee:** No.
  - **CON 131 Graphic Communications for Construction** Credits: 2 (0-4-0)
    - **Course Description:** Reading technical drawings, 2D/3D visualization, manual drafting techniques, introduction to design software applications.
    - **Prerequisite:** None.
    - **Terms Offered:** Fall, Spring.
    - **Grade Mode:** Traditional.
    - **Special Course Fee:** No.
CON 151 Construction Materials and Methods Credits: 3 (3-0-0)
Course Description: Materials and methods utilized in the construction of the built environment.
Prerequisite: None.
Registration Information: Agriculture Education, Interior Design, Pre-
Interior Design Majors and Construction Management Majors and Minors Only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 251 Materials Testing and Processing Credits: 2 (1-2-0)
Course Description: Testing of construction materials for standards and quality. Conduct material tests, document and interpret results.
Prerequisite: CON 151 with a minimum grade of C.
Registration Information: Must register for lecture and laboratory.
Construction Management Majors Only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.

CON 261 Construction Surveying Credits: 3 (2-3-0)
Course Description: Surveying fundamentals related to construction: building layout, measurement procedures, vertical controls, line and grade, surveying instrument operation.
Prerequisite: (CON 131 with a minimum grade of C or INTD 166) and
(MATH 125 or MATH 160).
Registration Information: Must register for lecture and laboratory.
Construction Management, Environmental Horticulture, and Landscape Architecture Majors only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.

CON 265 Plan Reading and Quantity Survey Credits: 3 (2-2-0)
Course Description: Practice in construction document reading, interpretation and analysis for quantity surveying and material quantity organizing using industry-recognized methods including, but not limited to, a project manual-based work breakdown structure.
Prerequisite: CON 131 and CON 151.
Registration Information: Must register for lecture and laboratory. Required field trips.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 267 Construction Management Pre-Internship Credit: 1 (0-0-1)
Course Description: Skills and concepts related to successful internships within the construction management industry.
Prerequisite: CON 265 with a minimum grade of C.
Registration Information: Construction Management Majors Only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 270 Introduction to Road Construction Credits: 3 (3-0-0)
Course Description: Steps necessary to construct a paved roadway from conception, land acquisition and finance through paving operations and trafficking.
Prerequisite: None.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CON 272 Construction Project Management Credits: 3 (2-2-0)
Course Description: Skills and concepts related to successful internships within the construction management industry.
Prerequisite: CON 265 with a minimum grade of C.
Registration Information: Construction Management Majors Only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 271 Construction Materials Processing Credits: 3 (2-2-0)
Course Description: Testing of construction materials for standards and quality. Conduct material tests, document and interpret results.
Prerequisite: CON 151 with a minimum grade of C.
Registration Information: Must register for lecture and laboratory.
Construction Management Majors Only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 317 Safety Management Credits: 2 (2-0-0)
Course Description: Safety management in construction, corporate, and institutional environments.
Prerequisite: None.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 351 Construction Field Management Credits: 2 (1-2-0)
Course Description: Applications of materials and methods in construction; administrative and organizational planning for construction field practice.
Prerequisite: CON 251, may be taken concurrently and CON 317, may be taken concurrently.
Registration Information: Must register for lecture and laboratory.
Construction Management majors only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.

CON 352 Metal Fabrication for Construction Credits: 2 (1-2-0)
Course Description: Shaping, cutting, and joining of structural and nonstructural metal. Emphasis on jobsite safety, economics, and efficiency.
Prerequisite: CON 251.
Registration Information: Must register for lecture and laboratory.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 359 Structures I Credits: 4 (4-0-0)
Course Description: Behavior of structural components and systems, overview of structural engineering analysis and the design process.
Prerequisite: CON 151 with a minimum grade of C and MATH 125.
Registration Information: Construction Management majors only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 360 Electrical Systems in Construction Credits: 3 (2-2-0)
Course Description: Electrical terminology, theory, components, systems, and applications within the construction industry.
Prerequisite: CON 265 with a minimum grade of C.
Registration Information: Must register for lecture and laboratory.
Construction Management Majors Only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 365 Construction Estimating Credits: 3 (2-2-0)
Course Description: Industry-recognized methods for work item analysis, quantity surveying, resource estimating, and bid development using a work breakdown structure.
Prerequisite: CON 265 with a minimum grade of C.
Registration Information: Must register for lecture and laboratory.
Construction Management majors and minors only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
CON 366 Construction Equipment and Methods Credits: 3 (2-2-0)
Course Description: Equipment/methods in heavy and highway construction; equipment selection, productivity, and costs. Infrastructure, tunneling, and trenchless technology.
Prerequisite: CON 261.
Registration Information: Must register for lecture and laboratory.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 367 Construction Contracts/Project Administration Credits: 3 (3-0-0)
Course Description: Construction contracts and clauses, stakeholder responsibilities, disputes, resolution methods and risk. Utilization of construction administration documents, systems and procedures to meet project requirements.
Prerequisite: CON 351, may be taken concurrently.
Registration Information: Construction management majors and minors only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 370 Asphalt Pavement Materials and Construction Credits: 3 (2-2-0)
Course Description: Constituents of asphalt pavements; manufacture of asphalt cement, emulsions, and cutbacks; material properties and behavior.
Prerequisite: None.
Registration Information: Must register for lecture and laboratory.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 371 Mechanical and Plumbing Systems Credits: 3 (3-0-0)
Course Description: Heating, ventilation, air conditioning, plumbing, and fire suppression in the built environment.
Prerequisite: CON 360, may be taken concurrently or INTD 276, may be taken concurrently.
Registration Information: Interior Design and Construction Management Majors Only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 384 Supervised College Teaching Credits: Var[1-5] (0-0-0)
Course Description: 
Prerequisite: None.
Registration Information: A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CON 450 Travel Abroad-Sustainable Building Credits: 3 (3-0-0)
Also Offered As: INTD 450.
Course Description: Major components of sustainable design and construction, energy, healthy buildings, natural resources and other environmental issues.
Prerequisite: None.
Registration Information: Credit not allowed for both CON 450 and INTD 450.
Term Offered: Summer.
Grade Mode: Traditional.
Special Course Fee: No.

CON 459 Structures II Credits: 4 (4-0-0)
Course Description: Design of formwork, falsework, and shoring.
Prerequisite: CON 359.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 461 Construction Scheduling and Cost Control Credits: 3 (2-2-0)
Course Description: Strategies and techniques for efficient scheduling of project activities and control of project costs; emphasis on Critical Path Method.
Prerequisite: CON 365.
Registration Information: Construction management majors and minors only. Must register for lecture and laboratory.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 462 Financial Management for Construction Credits: 3 (3-0-0)
Course Description: Financial statements, financial ratios, applications of engineering economy, cash flow analysis, construction financing, and cost information systems.
Prerequisite: (ACT 205 or ACT 210, may be taken concurrently) and (MGT 305 or MGT 320).
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 464 Construction Leadership Credits: 3 (1-0-2)
Course Description: Leading projects and people in a construction business and application of skills in a construction-based community service learning project.
Prerequisite: CON 365 and CON 367, may be taken concurrently.
Registration Information: Must register for lecture and recitation. Written consent of instructor.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 465 Construction Management Professional Practice Credits: 3 (1-0-2)
Course Description: Professional practice using an understanding of the contractual and working relationships among all participants in the design/construction process.
Prerequisite: (CON 461, may be taken concurrently) and (CON 487A or CON 487E or CON 487B).
Registration Information: Construction management majors only. Must register for lecture and recitation.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 469 Soils Engineering for Construction Managers Credits: 3 (2-0-1)
Course Description: Soil mechanics, foundation engineering, and foundation construction.
Prerequisite: CON 359.
Registration Information: Must register for lecture and recitation.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
CON 471 Project Management for Mechanical Systems Credits: 3 (3-0-0)
Course Description: Fundamental principles of mechanical systems. Presentation and practice of management principles relevant to mechanical projects.
Prerequisite: None.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CON 476 Sustainable Practice-Design and Construction Credits: 3 (3-0-0)
Course Description: Major components of sustainable design/construction: energy, healthy buildings, cultural, natural resources, use, other environment/economic issues.
Prerequisite: CON 265.
Restriction: .
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 477 Residential Aging-in-Place and Green Building Credits: 3 (3-0-0)
Course Description: Aging-in-place and green building aspects of the residential construction market.
Prerequisite: CON 267 and CON 367.
Term Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

CON 481A Internship: Construction Management I Credits: 6 (0-0-18)
Course Description: Models and methods of disciplined inquiry used in diverse application-based organizations. Preparation to use disciplined inquiry methods to solve applied problems in construction management or related fields. Topics include problem/topic selection, writing research questions and objectives, literature reviews, selection of research methods, data collection and analysis, and conclusions and implications.
Prerequisite: None.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CON 487A Internship: Construction Management I Credits: 3 (0-0-18)
Course Description: Models and methods of disciplined inquiry used in diverse application-based organizations. Preparation to use disciplined inquiry methods to solve applied problems in construction management or related fields. Topics include problem/topic selection, writing research questions and objectives, literature reviews, selection of research methods, data collection and analysis, and conclusions and implications.
Prerequisite: None.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CON 487B Internship: Construction Management II Credits: 3 (0-0-9)
Course Description: Advanced topics related to post-award construction management issues with a focus on multiple project controls and project risk management.
Prerequisite: CON 461.
Registration Information: Must register for lecture and recitation. Credit not allowed for both CON 511 and CON 566.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CON 495 Independent Study-Construction Management Credits: Var[1-18] (0-0-0)
Course Description: None.
Term Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CON 496 Group Study-Construction Management Credits: Var[1-9] (0-0-0)
Course Description: None.
Registration Information: Maximum of 9 credits allowed in course.
Term Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CON 497 Internship: Construction Management II Credits: 3 (0-0-9)
Course Description: Advanced topics related to post-award construction management issues with a focus on multiple project controls and project risk management.
Prerequisite: None.
Registration Information: Must register for lecture and recitation. Credit not allowed for both CON 512 and CON 560.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 502 Research in Construction Management I Credits: 3 (2-0-1)
Course Description: Research, discuss, and present current issues and trends in the construction industry related to business, management, engineering, and technology.
Prerequisite: None.
Registration Information: Must register for lecture and recitation. Credit not allowed for both CON 502 and CON 562.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CON 503 Research in Construction Management II Credits: 3 (3-0-0)
Course Description: Models and methods of disciplined inquiry used in diverse application-based organizations. Preparation to use disciplined inquiry methods to solve applied problems in construction management or related fields. Topics include problem/topic selection, writing research questions and objectives, literature reviews, selection of research methods, data collection and analysis, and conclusions and implications.
Prerequisite: CON 502.
Registration Information: Credit not allowed for both CON 503 and CON 500.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 511 Project Procurement and Preconstruction Credits: 3 (2-0-1)
Course Description: Advanced project procurement procedures with a focus on early design phase planning applications and preconstruction management techniques.
Prerequisite: CON 461.
Registration Information: Must register for lecture and recitation. Credit not allowed for both CON 511 and CON 566.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CON 512 Post-Award Construction Management Credits: 3 (2-0-1)
Course Description: Models and methods of disciplined inquiry used in diverse application-based organizations. Preparation to use disciplined inquiry methods to solve applied problems in construction management or related fields. Topics include problem/topic selection, writing research questions and objectives, literature reviews, selection of research methods, data collection and analysis, and conclusions and implications.
Prerequisite: CON 461.
Registration Information: Must register for lecture and recitation. Credit not allowed for both CON 512 and CON 560.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CON 521 Sustainable Building & Infrastructure Systems Credits: 3 (2-0-1)
Course Description: Issues and state-of-the-art resources needed to construct, remodel/retrofit, operate and maintain the built environment (buildings and infrastructure). Specifically, resources will include major materials, components and technologies, as well as energy and water resources are needed in the different life-cycle phases of the building or infrastructure project.
Prerequisite: None.
Registration Information: Must register for lecture and recitation. Credit not allowed for both CON 521 and CON 576.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Course Description</th>
<th>Prerequisite</th>
<th>Registration Information</th>
<th>Term Offered</th>
<th>Grade Mode</th>
<th>Special Course Fee</th>
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</thead>
<tbody>
<tr>
<td>CON 561</td>
<td>Applied Productivity Improvement</td>
<td>3</td>
<td>Existing and emerging tools for productivity enhancement in project and production environment.</td>
<td>None.</td>
<td>Admission to the construction management master’s program.</td>
<td>Spring</td>
<td>Traditional</td>
<td>No.</td>
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<tr>
<td>CON 565</td>
<td>Legal Aspects of Construction Process</td>
<td>3</td>
<td>Common points of dispute; methods of avoiding disputes among owner, architect, engineer, and contractor.</td>
<td>None.</td>
<td>Admission to the construction management master’s program.</td>
<td>Spring</td>
<td>Traditional</td>
<td>No.</td>
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<tr>
<td>CON 567</td>
<td>Preservation and Rehabilitation of Buildings</td>
<td>3</td>
<td>Theory and applications of preservation technology used in the management and rehabilitation of historic and archaic buildings.</td>
<td>None.</td>
<td>Admission to the construction management master’s program.</td>
<td>Fall</td>
<td>Traditional</td>
<td>No.</td>
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<tr>
<td>CON 568</td>
<td>Construction Industry Institute Practices</td>
<td>3</td>
<td>Senior executives from the Construction Industry Institute (CII) present best practices developed by CII over the last 25 years.</td>
<td>CON 367.</td>
<td>Admission to the construction management master’s program.</td>
<td>Fall</td>
<td>Traditional</td>
<td>No.</td>
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<td>CON 569</td>
<td>Regulatory Impact on Construction</td>
<td>3</td>
<td>Role government plays in the design and construction of the built environment.</td>
<td>None.</td>
<td>Admission to the construction management master’s program.</td>
<td>Spring</td>
<td>Traditional</td>
<td>No.</td>
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<tr>
<td>CON 571</td>
<td>Facility Planning and Management</td>
<td>3</td>
<td>Planning, organizing and managing large educational and/or commercial facilities.</td>
<td>None.</td>
<td>Admission to the construction management master’s program.</td>
<td>Spring</td>
<td>Traditional</td>
<td>No.</td>
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<tr>
<td>CON 575</td>
<td>Managerial Decision Making for Constructors</td>
<td>3</td>
<td>Construction and real estate development applications of multi-disciplinary managerial analysis and decision-making techniques.</td>
<td>None.</td>
<td>Admission to the construction management master’s program.</td>
<td>Fall</td>
<td>Traditional</td>
<td>No.</td>
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<tr>
<td>CON 577</td>
<td>Leadership of Sustainable Community Projects</td>
<td>2</td>
<td>Learn and apply principles of sustainable construction management through leading and building service-learning projects.</td>
<td>CON 476 or CON 450 or INTD 450.</td>
<td>Required background check.</td>
<td>Spring</td>
<td>Traditional</td>
<td>No.</td>
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<tr>
<td>CON 590</td>
<td>Workshop</td>
<td>Var</td>
<td></td>
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<td>CON 592</td>
<td>Seminar</td>
<td>Var</td>
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<td>CON 684</td>
<td>Supervised College Teaching</td>
<td>Var</td>
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<td>CON 687</td>
<td>Internship</td>
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<td>CON 695</td>
<td>Independent Study</td>
<td>Var</td>
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</tbody>
</table>
CON 696  Group Study  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CON 698  Research  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CON 699  Thesis  Credits: Var[1-6] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.