Construction Management

College of Science, Engineering & Technology
Department of Construction Management
354 Wiecking Center 507-389-6385
www.MankatoConstructionDegree.com

Construction Management Major. The Construction Management major prepares graduates for success in the rapidly changing construction industry. Course work emphasizes management with an additional focus on technology and systems specific to the construction industry. Typical entry-level positions include field manager, assistant superintendent, project engineer, scheduler, assistant estimator, project cost controller and safety director.

Admission to Major is granted by the College of Science, Engineering and Technology. Admission requirements are:
- A minimum of 32 earned semester credit hours
- Overall GPA of 2.0
- Completion of ENG 101, grade of "C" or above
- Completion of Math 112 & 113 or Math 115, grade of "C" or above

Contact the CSET Advising Center for application procedures.

POLICIES/INFORMATION

Completion of CPC Exam. All students are required to sit for the “Certified Professional Constructor Exam” prior to graduation.

GPA Policy. A minimum grade of “C” (2.0) is required in all courses listed in the Construction Management BS Degree.

P/N Grading Policy. All courses in the major must be taken for letter grade except where P/N is the only option.

CONSTRUCTION MANAGEMENT BS

Required General Education

ECON 201 Principles of Macroeconomics (3)
ECON 202 Principles of Microeconomics (3)
ENG 101 Composition (4)
MATH 115 Precalculus Mathematics (4)
STAT 154 Elementary Statistics (3)

Lab Based Science Courses (8 credits)
(Choose 3-4 credits)
PHYS 101 Introductory Physics (3)
PHYS 211 Principles of Physics I (4)
(Choose Remaining 4-5 credits)
CHEM 201 General Chemistry I (5)
GEOL 100 Our Geologic Environment (4)

Major Restricted Electives

ACCT 200 Financial Accounting (3)
ACCT 210 Managerial Accounting (3)
BLAW 200 Legal, Political, and Regulatory Environment of Business (3)
BLAW 476 Construction and Design Law (3)
ENG 271 Technical Communication (4)
ISYS 101 Introduction to Information Systems (3)
MET 222 Introduction to Statics and Mechanics of Materials (3)
MGMT 200 Introduction to MIS (3)
MGMT 330 Principles of Management (3)
Select one of two classes (3 credits)
FINA 362 Business Finance (3)
MRKT 310 Principles of Marketing (3)

Required Minor: None.

COURSE DESCRIPTIONS

CM 111 (1) Introduction to Design & Construction Management
Overview of academic preparation and career opportunities in the fields of: Construction Management; Facilities Planning and Management; Historic Restoration and Preservation.

CM 120 (3) Construction Graphics
Emphasis on plan reading, basic sketching and drawing techniques, graphic vocabulary, detail hierarchies, scale, content, notes and specifications, reference conventions, computer applications.
Pre: CM 111
Fall, Spring

CM 130 (3) Construction Documents
Basic understanding of the plans and specifications for construction projects. Emphasis on interpretation of bidding and contractual documents, conditions of the contract, plans/working drawings; applications of existing and new technology preparing students for the future.
Pre: CM 111
Fall, Spring

CM 210 (3) Construction Materials and Methods I
Understand how construction affects professional industry and society. Learn history of construction methods, present state of the profession and its future. Analyze applications of construction systems and utilities. Understand changes in technology of building construction, including innovations in methods.
Pre: CM 120, CM 130, ISYS 101
Fall, Spring

CM 220 (3) Construction Materials and Methods II
Fundamentals of building construction, including classification of materials and project delivery systems; application of principles of building science to construction sites; relationship between technology and new construction; innovations in materials, including sustainable building practices and "green" buildings.
Pre: CM 210
Fall, Spring

CM 271 (2) Civil Engineering Measurements
Basic civil engineering measurements as relates to construction layout, including distances, angles, bearings, elevations, mapping and positioning.
Pre: MATH 113 or MATH 115
Fall, Spring

CM 300 (3) Construction Safety
Principles and practices of construction safety, health and loss control. Emphasis is on hazard recognition, control procedures and management systems for measuring and evaluating loss control performance in the construction industry.
Pre: CM 210
Fall, Spring

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CM 310 (3) Estimating I
This course covers types of estimates and their uses, the basics of quantity take-off, labor and equipment productivity and basic computer applications.
Pre: MATH 113 or MATH 115

CM 330 (3) Planning and Scheduling
This course covers fundamentals of project scheduling theory and application. Course includes manual and computer scheduling applications.
Pre: ENG 271, CM 220
Fall, Spring

CM 340 (3) Construction Project Management
This course encompasses an overview of the operations of a firm relevant to project management and cost controls. The positions and roles of construction management personnel are identified and analyzed. The use of computers will be incorporated into the submittal and transmittal processes.
Pre: CM 300, CM 310
Fall, Spring

CM 350 (3) Mechanical and Electrical Systems for Construction
Design concepts of plumbing, HVAC, and electrical and control systems are analyzed for attributes that affect the design and construction processes and the performance of completed structures.
Pre: CM 220
Fall, Spring

CM 390 (3) Structural Analysis and Design
Structural analysis and design principles for construction managers, including different types of building loads and their effects upon the various materials used by architects and/or engineers. Analysis techniques will focus on structural members utilizing steel, wood and reinforced concrete materials.
Pre: MET 222
Fall, Spring

CM 410 (3) Estimating II
This course covers types of estimates and their uses, pricing and price databases, labor and equipment productivity, proposal presentations, computer applications in estimating and research in sustainable construction.
Pre: CM 310, CM 330
Fall, Spring

CM 450 (3) Construction Project Development
The course will involve the students in a Capstone Project in teams representing a construction company. This is a project where students will integrate the coursework concept of the core program through research, application and presentation.
Pre: CM 330, CM 340
Fall, Spring

CM 492 (3) Construction Management Seminar
A seminar course that involves a critical evaluation of an area in the construction management discipline and/or industry. Topics vary from year to year. Students are usually required to make a presentation to the class.
Pre: Senior Standing or instructor permission
Fall, Spring

CM 497 (1-12) Internship
Pre: CM 310, CM 300

CM 499 (1-4) Individual Study
An in-depth study on a topic of particular interest to the student. Project must be approved by project supervisor and department chairperson.