

## Construction Management

College of Science, Engineering & Technology  
Department of Interior Design & Construction Management  
354 Wiecking Center 507-389-6385  
www.cset.mnsu.edu/idcm  
Chair: Scott Fee

### Construction Management Major: General Emphasis

The Construction Management general emphasis prepares graduates for success in the rapidly changing construction industry. Coursework emphasizes management (including a required minor in the College of Business) 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.

### Construction Management Major: Facilities Planning and Management Emphasis

The Facilities Planning and Management emphasis enables students to successfully design, manage and maintain both small- and large-scale commercial and institutional environments. Coursework integrates principles of behavioral and engineering sciences, business administration, design and construction management.

Admission to Major is granted by the College of Science, Engineering and Technology. Minimum University admission requirements are:

-A minimum of 32 earned semester credit hours

-A minimum cumulative GPA of 2.00

Contact the CSET Advising Center for application procedures.

### CONSTRUCTION MANAGEMENT BS

Core (28 credits):

CM	111	Intro to Design & Construction Management (1)
CM	212	Surveying & Site Planning (2)
CM	215	Fundamentals of Estimating (3)
CM	216	Construction Methods (3)
CM	248	Contract Documents (2)
CM	250	Mechanical & Electrical Systems (3)
CM	281	Architectural Graphics (3)
CM	413	Cost Estimating & Bidding (3)
CM	414	Computerized Estimating & Bidding (3)
CM	424	Construction Safety & Loss Control (2)
CM	445	Construction Systems Management (3)

Choose one of the following two Emphases, either GENERAL or FACILITIES PLANNING AND MANAGEMENT:

### CONSTRUCTION MANAGEMENT GENERAL EMPHASIS

Required for Construction Management General Emphasis (14 credits):

CM	106	Construction Experience (1)
CM	311	Equipment Management (2)
CM	312	Foundations & Concrete Structures (3)
CM	497	Internship (8)

Required Support Courses (13-14 credits):

BED	345	Business Communications (3) OR
ENG	271	Technical Communications (4)
COMS	101	Introduction to Microcomputers (3)
MATH	115	Pre-Calculus (4)
BLAW	476	Construction and Design Law

Required Minor: Business Administration (31 credits):

Required General Education (10 credits):

MATH	115	Pre-Calculus (4)
ECON	201	Principles of Macroeconomics (3)
ECON	202	Principles of Microeconomics (3)

Completion of the above General Education courses does not completely satisfy General Education Requirements.

### FACILITIES PLANNING AND MANAGEMENT EMPHASIS

This emphasis currently exceeds the minimum 128 credits required for graduation. Please contact an advisor for assistance with course selection.

Required for Facilities Planning and Management Emphasis (26 credits):

ID	282	Interior Design Portraiture (3)
ID	283	Interior Design Lighting & Color (3)
ID	291	History of the Decorative Arts II (3)
ID	372	Interior Design Resources (3)
ID	382	Interior Design Studio II (4)
ID	481	Interior Design Studio III (4)
ID	483	Procedures and Practices in I.D. (3)
CM	497	Internship (3)

Required Support Courses (31-32 credits):

FINA	100	Personal Financial Management (3) OR
FINA	362	Business Finance (3)
FINA	477	Real Estate (3)
MET	423	Ergonomics and Work Measure (4)
BLAW	200	Legal, Political and Regulatory Environment of Business (3)
ACCT	200	Financial Accounting (3)
ACCT	210	Managerial Accounting (3)
BLAW	476	Construction and Design Law (3)
COMS	101	Introduction to Microcomputers (3)
STAT	154	Elementary Statistics (3)

Select one of the following (3-4 credits):

MET	407	Facility Planning (4)
RPLS	379	Management of Parks and Recreation Facilities (3)

Required Minor: None

Required General Education:

STAT	154	Elementary Statistics (3)
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### POLICIES/INFORMATION

GPA Policy. A minimum grade of "C" is required in all courses.

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

For interior design students, the department reserves the right of acquisition and exhibition of work completed in the studios under the guidance of the interior design faculty.

### COURSE DESCRIPTIONS

#### CM 106 (1) Construction Experience

Construction Experience consists of at least 15 weeks of work in the construction industry and must precede the internship program. This credit may be waived for experience acquired prior to enrolling at Minnesota State University, Mankato.

#### 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; and Interior Design.

#### CM 212 (2) Surveying & Site Planning

Basic surveying as related to the layout of construction work sites, focusing on measurement of distances, angles, and elevations, and making selected computations. Pre: MATH 115

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## CONSTRUCTION MANAGEMENT

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### CM 215 (3) Fundamentals of Estimating

Covers principles of quantity takeoff including identification of symbols and trigonometric computations of materials from construction blueprints. Includes commercial and residential types of construction plans.

Pre: MATH 115 (or concurrently), CM 111 and 281 (or concurrently)

### CM 216 (3) Construction Methods

Processes utilized in material handling and installation are examined for their effect on managing design and construction projects. Scheduling concepts are studied for patterns to yield higher productivity in the project management process.

Pre: CM 111 (or concurrently)

### CM 248 (2) Contract Documents

Basic understanding of the plans and specifications for construction projects. Emphasis on interpretation of bidding and contractual documents, conditions of the contract, technical specifications, quantity takeoffs, and the plans/working drawings.

Pre: CM 111 and 281 (or concurrently)

### CM 250 (3) Mechanical & Electrical Systems

Design concepts of heating, plumbing, electrical and control systems are analyzed for attributes that affect the design and construction processes and the performance of completed structures.

Pre: CM 111 (or concurrently)

### CM 281 (3) Architectural Graphics

Principals and practices of plan reading, introduction to architectural hand drafting and CAD, architectural symbols, vocabulary, lettering and three-dimensional illustration techniques.

### CM 311 (2) Equipment Management

Study of equipment used in the construction industry with emphasis on equipment selection and cost factors involved in owning and operating equipment.

Pre: CM 111 and 216

### CM 312 (3) Foundations & Concrete Structures

Soil identification and testing methods are examined to identify design concepts and construction circumstances that can effect projects. Concrete design and workmanship principles are studied for their effect on quality and durability of the built environment. Foundation design principles are examined for their effect on scheduling, equipment selection and project success.

Pre: CM 216 (or concurrently)

### CM 413 (3) Cost Estimating & Bidding

Advanced application of procedures and theory in formulating estimates on highway, grading and utility projects. Study includes job selection, estimating production, compilation of costs, the final preparation of bids, and ethics in estimating and bidding.

Pre: CM 215, 216, 248 and 311 (Pre 311 waived for FP & M and HR & P)

### CM 414 (3) Advanced Estimating and Scheduling

The process of construction estimating is extended by the use of computers together with specialized construction software packages to increase job productivity. Software utilized includes commonly used packages in the construction industry on workstations.

Pre: CM 311, COMS 101, ACCT 210

### CM 424 (2) Construction Safety and Loss Control

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.

### CM 445 (3) Construction Systems Management

This course encompasses an overview of the operations of a firm relevant to strategic management. Identified and analyzed are the positions and roles of construction management personnel and their interrelationship with key individuals external to the company. Global issues impacting management are discussed.

Pre: CM 413 (or concurrently), ACCT 210

### 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.

### CM 497 (1-12) Internship