

## Construction Management (CMGT)

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### Courses

#### **CMGT 100 Industrial Safety/OSHA-30 (3 Hours)**

Upon successful completion of this course, participants will be able to identify, define and explain general industry hazards and acceptable corrective measures in accordance with the current 29th Code of Federal Regulations, Part 1910 (29 CFR 1910), Occupational Safety & Health Administration (OSHA) General Industry Regulations. Participants will also be able to describe various standards requirements that protect workers from common hazards associated with general industry workplaces. The national OSHA course-completion card is possible to be earned simultaneously with successful completion of this college course, at the discretion of the OSHA Outreach Trainer and successful fulfillment of OSHA's requirements.

#### **CMGT 105 Construction Methods (3 Hours)**

This course introduces the student to the terms, methods, procedures, sequences of operation, and types of construction and planning in construction.

#### **CMGT 123 Building Codes\* (3 Hours)**

**Prerequisites or corequisites:** CET 125 or CMGT 125.

This course examines the organization, intent, and use of building codes in general and the International Building Code in particular. Students will cover the reasons codes exist and how they form an integral part of the design criteria for every building project. Additional topics include building types, fire protection, accessibility, roofs, foundations, and interiors/exteriors. As part of the class, students will describe how the various entities (governing authorities, design professionals, and contractors) work to administer and adhere to the building codes in construction. 3 hrs. lecture/wk.

#### **CMGT 125 Construction Specifications\* (2 Hours)**

**Prerequisites or corequisites:** CET 105 or CMGT 105.

Upon successful completion of this course, the student will be able to describe the phases of a project, identify the bidding requirements, explain contractual relationships between parties, read a project manual, categorize the drawings, and explain contract modifications.

#### **CMGT 129 Construction Management (3 Hours)**

This course is intended for students interested in learning management principles for construction projects. Upon successful completion of this course, the student should be able to perform many processes associated with construction projects and complete forms typically used in project management. Topics include contract documents, scheduling, job costs and management issues. Project management software will be used to schedule and track project resources and progress. 2 hrs. lecture, 3 hrs. lab/wk.

#### **CMGT 140 Construction Materials\* (3 Hours)**

**Prerequisites :** (CET 105 or CMGT 105) and MATH 130 (or higher).

Upon successful completion of this course, the student will be able to analyze materials commonly used in construction projects. Common properties of soil, concrete and asphalt will be studied for classification as engineering materials. Students will learn to perform typical materials tests in accordance with American Society for Testing and Materials (ASTM) guidelines.

#### **CMGT 150 Construction Safety/OSHA-30 (3 Hours)**

Upon the successful completion of this course, participants will be able to identify, define and explain construction industry hazards and acceptable corrective measures in accordance with the current 29th Code of Federal Regulations, Part 1926 (29 CFR 1926), Occupational Safety and Health Administration (OSHA) Construction Industry Regulations. Participants will also be able to describe various standards requirements that protect workers from common hazards associated with construction industry workplaces. The national OSHA course completion card is possible to be earned simultaneously with successful completion of this college course, at the discretion of the OSHA Outreach Trainer and successful fulfillment of OSHA's requirements.

#### **CMGT 160 Green Building Fundamentals\* (3 Hours)**

**Prerequisites or corequisites:** CET 129 or CMGT 129.

This course introduces the student to sustainable design and green building practices used in the construction industry. The goal of the course is to improve the energy and environmental performance of buildings through a better understanding of practices used by industry professionals, as well as, to provide students preparing for the Leadership in Energy and Environmental Design (LEED) Professional Accreditation Exam. Course content will focus on sustainable practices as prescribed in the LEED Green Building Rating System. As part of the class, students will take a project through the LEED development and accreditation process.

#### **CMGT 205 Advanced Construction Methods\* (3 Hours)**

**Prerequisites :** CET 105 or CMGT 105.

This course explores various building materials and how they are assembled during the construction process. Topics include wood, brick masonry, steel, concrete, and sustainable construction. Emphasis is placed on field construction techniques over building materials, which is presented in the introductory construction methods course.

**CMGT 225 Construction Documents\* (2 Hours)**

**Prerequisites :** CET 125 or CMGT 125.

This course covers general documents used before, during, and after construction. Topics include document submittals, procurement, bidding, negotiating, and addenda. Modifications, claims, disputes, and payment are also addressed.

**CMGT 227 Construction Cost Estimating\* (3 Hours)**

**Prerequisites :** (CET 125 or CMGT 125) and (MATH 130 or higher) or Department approval.

**Prerequisites or corequisites:** DRAFT 129.

This course adds to the student's knowledge of the construction process by covering the principles of construction estimating. Topics include estimating quantities of material using reference books, the Construction Specifications Institute (C.S.I.), MasterFormat, drawings, and specifications. The student needs a basic knowledge of spreadsheet software to be successful in this course.

**CMGT 229 Advanced Construction Management\* (3 Hours)**

**Prerequisites :** (CET 129 or CMGT 129) and MATH 130 or higher.

**Prerequisites or corequisites:** CET 225 or CMGT 225.

This course builds on the introductory construction management course, CMGT 129. The emphasis is on using sustainability to safely and efficiently manage a commercial construction job. Topics include earthmoving and heavy equipment; concrete, masonry, and steel construction; and construction process management. By building with the environment in mind, we can produce buildings that use our limited resources efficiently and provide a healthier environment for the occupants.

**CMGT 271 Construction Management Internship\* (3 Hours)**

**Prerequisites :** Department approval.

This course consists of supervised work experience in an approved training situation. It is designed to provide practical experience in the construction industry. An average of 15 hours per week for the semester of on-the-job training is required.