Construction Management Technology (CMT)

Course information contained within the Bulletin is accurate at the time of publication in August 2023 but is subject to change. For the most up-to-date course information, please refer to the Course Catalog.

CMT 1005. Elements of Surveying. 3 Credit Hours.
Activities that will acquaint the student with instruments and tools of the surveyor, including their use in the techniques of field surveying. Emphasis on actual layouts and areas and elevations as performed in the civil and construction discipline.

Repeatability: This course may not be repeated for additional credits.

CMT 2010. Computers and Special Topics. 3 Credit Hours.
The application of computers for computer-aided drawings, graphical presentations, communications, data base operations and engineering computations, which require the writing of higher level language program segments to solve engineering application problems in statics and dynamics; with laboratory.

Repeatability: This course may be repeated for additional credit.

Pre-requisites: Minimum grade of C- in PHYS 1021.

CMT 2124. Construction Methods and Materials. 3 Credit Hours.
Materials and construction processes of importance to the designer and constructor; construction equipment and methods of handling and placing these materials on the job.

Repeatability: This course may not be repeated for additional credits.

CMT 2125. Construction Contracts and Specifications. 3 Credit Hours.
Analysis of construction contract law cases, analysis of selected contracts, bidding and contract award procedures, interpretation of specifications. Preparation of written reports and oral presentations are required.

Repeatability: This course may not be repeated for additional credits.

CMT 2271. Building Systems. 3 Credit Hours.
A basic study of the primary mechanical and electrical equipment and systems used in buildings. Design principles for selecting and sizing various systems are stressed throughout the course. Mechanical topics include plumbing, heating, ventilating, air conditioning, water supply, fire protection, and sanitary sewer systems. Electrical topics include basic principles of electricity, single and three phase systems, transformers, branch circuits and feeders, and residential and commercial illumination.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- (except where noted) in (PHYS 1022, PHYS 1062, or PHYS 1962) and CMT 2124 (D- or higher)

CMT 3121. Construction Estimating. 3 Credit Hours.
Estimating quantities of materials, labor, and equipment for various construction tasks; pricing of cost items; indirect costs; types of bids and bidding process; term project using actual construction blueprints; written and oral presentations; computer applications using spreadsheet program and Timberline Precision Estimating Software.

Co-requisites: CMT 3123.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in (CMT 2124 and CMT 2125)

CMT 3123. Construction Estimating Laboratory. 1 Credit Hour.
Introduction of the construction bidding process and construction documents; blueprint reading; programming and database generation with spreadsheet software; computer applications using Timberline Precision Estimating Software.

Co-requisites: CMT 3121.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in (CMT 2124 and CMT 2125)

CMT 3145. Structural Analysis. 3 Credit Hours.
The analysis of statically determinant structures under static and moving loads, techniques for determining the deflection of structural members, and analysis of indeterminate structures.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in (ENGT 2322 or ENGR 2333)

CMT 3322. Construction Planning and Scheduling. 3 Credit Hours.
Field office planning, quality control plan development, construction planning and scheduling; term project using actual construction blueprints; written and oral presentations; computer applications using Primavera Project Planner Software.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in (CMT 2124 and CMT 2125)

CMT 3333. Soils Mechanics. 3 Credit Hours.
Physical composition of soils, weight-volume relationships, absorption, soil classifications, seepage and flow nets, settlement analysis, lateral earth pressure, and foundation design.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in (ENGT 2331 or ENGR 2331)

CMT 3341. Environmental and Safety Aspects of Construction. 2 Credit Hours.
Construction-related environmental issues, erosion control, wetland areas, habitat protection. Issues which relate to protective equipment, safety and potential hazards for construction workers, construction equipment operators, and others impacted by on-going construction activities; with laboratory.

Course Attributes: SE, SF, SS

Repeatability: This course may not be repeated for additional credits.

CMT 3351. Applied Hydraulics. 3 Credit Hours.
The design of water conveying and containment systems; pumps, sewers, open channels, dams, reservoirs, and water-related structures.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- (except where noted) in (ENGT 2331 or ENGR 2331 (D- or higher))

CMT 4040. CMT - Special Topics. 1 to 4 Credit Hour.
A course designed to present new and emerging areas of Construction Management Technology. The course may also be used to present areas not normally taught in the College. Course requirements vary with the topic and instructor. Offered as needed or as appropriate.

Repeatability: This course may be repeated for additional credit.

CMT 4182. Independent Study in Construction Management Technology. 2 to 5 Credit Hours.
Student may complete a regular course during a semester the course is not offered, to meet prerequisite or graduation requirements. An instructor is assigned to supervise the student.

Class Restrictions: Must be enrolled in one of the following Classes: Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

Repeatability: This course may be repeated for additional credit.

CMT 4183. Directed Study in Construction Management Technology. 1 to 4 Credit Hour.
An opportunity to study specialized topics not covered in currently available courses and providing significant progress towards the technical/professional objectives of the program. An instructor is assigned to define the scope, direct, supervise, and evaluate student progress.

Class Restrictions: Must be enrolled in one of the following Classes: Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

Repeatability: This course may be repeated for additional credit.

CMT 4191. Independent Research in Construction Management Technology. 2 to 5 Credit Hours.
A project assigned with the approval of the department chair and conducted under the supervision of a faculty sponsor.

Class Restrictions: Must be enrolled in one of the following Classes: Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

Repeatability: This course may be repeated for additional credit.

CMT 4335. Steel and Wood Structures. 3 Credit Hours.
Structural systems and framing plans are developed for simple wood and steel structures. Typical framing members are designed and analyzed for adequate strength and serviceability.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in CMT 3145.

CMT 4336. Concrete and Masonry Design. 3 Credit Hours.
Structural systems and framing plans are developed for simple concrete and masonry structures. Typical sub-systems and framing members are designed and analyzed for adequate strength and serviceability. The design of plain and reinforced concrete footings is included.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in CMT 3145.

CMT 4355. Transportation Systems Management. 3 Credit Hours.
Transportation systems of the United States; design and technology of signalized traffic intersections, coordinated for the design of flexible and rigid pavements.

Class Restrictions: Must be enrolled in one of the following Classes: Junior 60 to 89 Credits, Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

Repeatability: This course may not be repeated for additional credits.

CMT 4373. Construction Financial Management. 3 Credit Hours.
Construction cost accounting systems, job costing approaches, project budgeting, financial reporting procedure. Term project; written and oral presentations. Computers applied as required.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in (CMT 3121 and CMT 3322)

CMT 4396. Capstone in Construction. 3 Credit Hours.
Synthesis of estimating, scheduling, and cost control for selected construction projects. Project management computer application. Preparation of written reports and oral presentations is required.

Class Restrictions: Must be enrolled in one of the following Classes: Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

Course Attributes: WI

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in (CMT 2125, CMT 3121, and CMT 3322)