

CONSTRUCTION MANAGEMENT TECHNOLOGY (CMT)

CMT 313 Introduction to Construction Management

3 Class Hours, 3 Quarter Credit Hours

This course introduces students to the field of construction management relative to construction contracting and the construction industry.

Topics will include fundamental relationships between construction costs, resources, scheduling, the concept of scope of work, careers in construction management, qualifications for professional construction managers, and professional organizations within the industry.

CMT 329 Revit for Construction Managers

3 Class Hours, 3 Quarter Credit Hours

This course introduces computer-aided parametric building information modeling as a tool used in the construction industry. The primary software product used in this course will be Revit by Autodesk. Topics will include basic program operation and application to building information modeling (BIM).

CMT 331 Specifications and Quality Control

3 Class Hours, 3 Quarter Credit Hours

Prerequisites: CMT 313 and ABT 314

In this course, students will continue their study of construction project specifications relative to contract delivery and quality requirements. Students will perform case studies of construction contracts, examine accepted formats and requirements for specifications, and study the legal, social and financial ramifications of adherence to contract specifications. Additional topics will include field monitoring, enforcement and modification of specifications and the resulting impact upon the construction management process.

CMT 410 Project Scheduling

3 Class Hours, 3 Quarter Credit Hours

Prerequisites: CMT 313

This course exposes students to the fundamentals of project scheduling. Topics will include project diagramming, activities and activity relationships, critical path, WBS, and formal schedule preparation using state of the art computer scheduling software. Class projects will include developing and preparing schedules for architectural and/or civil engineering projects.

CMT 412 Construction Practice

3 Class Hours, 3 Quarter Credit Hours

Prerequisites: CMT 313

This course explores business and construction practices related to the management of a construction company. Topics will range from perspectives on the financial and operational side of a construction firm to the management of personnel and customer satisfaction. Students will study the organizational structure of a construction company and focus on the roles and responsibilities of individuals throughout the business. Physical assets of a construction company, both in the field and office, will be introduced. Students will gain an understanding of typical contract administration correspondence including progress reports, meeting minutes, letters of record, change orders and letters of acceptance. The procedure for conducting a field visit, project meeting and public workshop will also be covered.

CMT 415 Construction Estimating II

3 Class Hours, 3 Quarter Credit Hours

Prerequisites: ABT 127 or CR 136

This course expands upon the theory, applications, and technology studied in the prerequisite course. Topics will include the use of general conditions, bonding costs, material take-off methods, subcontractor costs, CSI format, overhead, and profit. The primary reference tool will be the R.S. Means Cost Works book.

CMT 422 Construction Site Safety

3 Class Hours, 3 Quarter Credit Hours

Prerequisites: CMT 313 or CMT 311

This course will examine safety within the construction industry and construction methods for conducting operations in close proximity to potential hazards such as electrical and gas lines, and railroads. Compliance with OSHA regulations and other safety policies will be examined. Methods to establish safety committees and organizational safety goals, objectives and performance measures are covered through class exercises. Lectures include presentations by safety experts and officials from both the public and private sector.

CMT 423 Construction Estimating III

3 Class Hours, 3 Quarter Credit Hours

Prerequisites: CMT 415

This course expands upon the theory, applications, and technology studied in CMT 415. Topics will include advanced materials and quantities take-offs, bid strategies, and computer applications.

CMT 427 Senior Thesis Proposal & Research

2 Class Hours, 2 Quarter Credit Hours

This course is a direct preparatory course for CMT 435 Senior Thesis. The intent of the course is to guide and assist students through the process of initial project selection, site selection, and proposal preparation, and the collection, synthesis and publication of a comprehensive research document for the thesis project. Topics will include project selection, site analysis, research, and architectural programming.

CMT 434 Ethics and the Construction Industry

3 Class Hours, 3 Quarter Credit Hours

In this course, students will examine and formalize the concepts of ethical practices within the construction industry. In both the classroom, team, and roundtable settings, students will analyze and discuss case ethical concepts, corruption case studies, and the long-term impact to society when illegal activities occur in a profession which has a direct impact on our everyday world. The course will also facilitate presentations by government and private sector officials in a seminar format.

CMT 435 Senior Thesis

2 Class Hours, 6 Lab Hours, 5 Quarter Credit Hours

Prerequisites: CMT 410 and CMT 422 and CMT 423 and ABT 315 and ABT 325 and ABT 328 and ABT 331 and ABT 338 and CMT 427

This is a direct studies course in which students must demonstrate to the architectural and construction faculty, their understanding of and ability to utilize and synthesize the technical and engineering concepts they have developed throughout their university experience. In CMT 435, students will submit, in proposal format, a project for review and approval by the faculty. Students will work independently with periodic interaction with a faculty member. The term will culminate with a formal presentation to a jury of faculty and critics.