

CONSTRUCTION MANAGEMENT (CMGT)

CMGT 2170 Construction Building Systems (4 Credits)

A survey of residential and commercial construction materials, means, and methods associated with the various structural and architectural systems used to design and construct buildings. Project plans and specifications are incorporated to teach the basic sequencing and overall construction process. The influence of sustainability in construction is introduced. This class will also have an off campus , experiential learning lab associated with it.

CMGT 2300 Introduction to Architecture and Design Management (4 Credits)

This course introduces students to the significant value that architecture brings to real estate and the built environment and the various services and professions associated with it. Students are introduced to principles, protocols and the planning process related to the design function and the link between the architect's vision and the finished physical structure. Students are introduced to design thinking theory and application. Students learn to read and interpret the various graphical and written construction documents, know how they are developed and what information they contain. Coverage of architectural, structural, mechanical, electrical, plumbing, and civil drawings and specifications. The business model for design services is explored as well as the unique risks and challenges associated with managing the design throughout the various stages of development and construction. Experiential learning lab is associated with this course.

CMGT 3100 Construction Estimating (4 Credits)

This course is designed to provide the student with the theory, principles and techniques of quantity analysis (take-off), labor determinations, overhead and profit analysis. It offers insight into the construction estimating process. The role of the estimator, types of estimating, CSI Divisions, bid/contract documents, change order pricing, design/build projects, and estimation compilation will be introduced. Discussions regarding the cost/benefit of sustainable materials and typical construction materials will enhance the requisite knowledge of construction estimating. Prerequisites: CMGT 2300 and CMGT 2170. This course also has a required lab. This course is a Co/Prerequisite for CMGT 3120.

CMGT 3120 Construction Scheduling and Project Controls (4 Credits)

Understanding and applying scheduling and control to construction projects is essential to successful construction management. Project scheduling emphasizes network-based schedules, such as critical path management (CPM), network calculations, critical paths, resource scheduling, probabilistic scheduling and computer applications. Project control focuses on goals, flow of information, time and cost control, and change management. Pre/Corequisites: CMGT 3100.

CMGT 3155 Sustainable Development (4 Credits)

The course includes many case studies of historic and contemporary structures exemplifying various sustainability features. Emphasis will be placed on how LEED project certification influences the overall construction project. Topics will include LEED certification techniques for sustainable sites, water efficiency, energy & atmosphere, materials & resources, indoor environmental quality, innovation and design. The following topics will be covered from a LEED perspective: ventilation, air conditioning, heating, electrical lighting, energy efficiency, and building control systems. The student will study and analyze how management and LEED techniques are applied to current construction projects. Prerequisites: REAL 1700, CMGT 2170, CMGT 2300, and REAL 3438.

CMGT 3177 Environmental Systems and MEP Coordination (4 Credits)

A study of electrical and mechanical systems (MEP) used in the construction of buildings. Course content includes system design, component selection and utilization for energy conservation, cost estimating of systems, coordination and management of installation. Specific systems included are electrical, air conditioning, heating, ventilation and plumbing, fire protection, life safety, communication, power systems and lighting. The course also considers coordination of MEP systems and explores emerging technology and environmental issues related to mechanical and electrical systems in buildings. Prerequisite: REAL 1700, CMGT 2170 and CMGT 2300.

CMGT 3190 Residential Development (4 Credits)

A course sequence designed to emphasize the practical application of the theories and concepts of residential development. The course provides a capstone experience for seniors. Students are expected to apply their knowledge of general business, real estate and construction management practices by forming a student business entity, acquiring land, building and selling a residential property in a case format. Students will apply accounting, finance, marketing, real estate and construction management techniques in the planning for a residential development. The application of green building materials and methods is emphasized. Prerequisites: REAL 1700, CMGT 2170, CMGT 2300, and REAL 3438.

CMGT 3480 Construction Project Management (4 Credits)

This course offers a study of Construction Project Management including different scheduling techniques, use of estimation against scheduling, contracting, construction law, and software use for scheduling. Students obtain the needs for thought process of construction management including scheduling, bidding, proposals, communications, contracts, project planning and initialization, scheduling, estimating, resource planning, organizing, and project control. Use of software is critical and programs are chosen based on independent needs of students. Prerequisites: CMGT 2170 & CMGT 2300.

CMGT 3700 Topics in Construction Mgmt (0-4 Credits)

Exploration of various topics and issues related to construction management.

CMGT 3980 Construction Management Internship (0-4 Credits)

Practical experience (field study); requires written report. Prerequisite: Junior standing or above and Director Approval.

CMGT 3991 Independent Study (0-4 Credits)

Individual research/study; requires written report. Prerequisite: Junior standing, School Advisor and Director permission.