Construction Management Technology (CMG)

CMG 100 Construction Orientation
1 Hour

Prerequisites: None
1 hour weekly (1-0)

Construction Orientation is designed to introduce the student to the many career opportunities in the construction industry. The course allows the student the opportunity to ask questions about the industry as a whole. The course also refines construction math skills to help facilitate the other construction management courses.

CMG 101 Building Green
3 Hours

Prerequisites: For students not pursuing a Construction Management major.
3 hours weekly (3-0)

This course is an introduction to new emerging building systems for residential construction. A major focus of this course will be the introduction of green building products and ways to be more energy efficient. That national green building standard will be used as the guidelines for this course.

CMG 104 Building Layout
4 Hours

Prerequisites: None
6 hours weekly (2-4)

The student will perform basic surveying operations necessary for the location, layout, and construction of a building. Techniques will include taping, differential leveling, laying off vertical and horizontal angles, topographic surveys, and construction control surveys.

CMG 105 Estimating Techniques
3 Hours

Prerequisites: None
3 hours weekly (3-0)

This course is designed to familiarize the student with construction cost estimating. The five (5) basic elements involved in the estimating process will be covered. These five elements are: (1) working drawings and specifications; (2) subcontractor's bids; (3) quantity take-offs; (4) checklists; and (5) a summary cost estimate. A major emphasis will be placed on accurate quantity takeoffs.

CMG 107 Construction Document Interpretation
3 Hours

Prerequisites: None
4 hours weekly (2-2)

The purpose of this course is to introduce the student to the various conceptual documents used in the construction process. The primary focus will concentrate on interpretation and visualization of construction blueprints and understanding the use of construction specifications. Residential and commercial projects will be covered.

CMG 108 Construction Materials
4 Hours

Prerequisites: None
6 hours weekly (2-4)

The student will learn about soil properties and how they play a major role in building design and site work. Students will also obtain knowledge of concrete, its physical and mechanical properties, and the design and control of concrete mixes. In the laboratory portion of the class, students will learn the fundamentals of placing, finishing, and testing for quality control.

CMG 109 Residential Construction Materials
3 Hours

Prerequisites: None
4 hours weekly (2-2)

In this course, the student will learn the basic principles and practices used by the residential construction industry when utilizing soil, concrete, and masonry. The student will also acquire the necessary knowledge needed to make sound decisions when dealing with the physical and mechanical properties of these materials. The laboratory portion of the class will give the student an opportunity to get hands on experience and learn the fundamentals of quality control on the jobsite.

CMG 110 Wood Frame Construction
4 Hours

Prerequisites: None
5 hours weekly (3-2)

This course will introduce the student to the basic processes, terminology, procedures, and building components of wood frame construction. With this basic understanding of construction concepts, the student can build a foundation for a career in the construction industry. The course facilitates classroom learning with actual field applications.

CMG 111 Exterior and Interior Finish Systems
3 Hours

Prerequisites: None
4 hours weekly (2-2)

This course is a continuation from the wood framing construction course, designed so the student can synthesis a complete residential building. Special emphasis will be directed at the materials and application of these materials to complete the exterior and interior of the building.

CMG 204 Residential Mechanical Systems
3 Hours

Prerequisites: Students must be second year Construction Management majors.
3 hours weekly (3-0)

The purpose of this course is to introduce the student to the basic principles and operation of residential building mechanical systems. The course will provide the student with detailed information on HVAC, plumbing, electrical, safety, and security systems used in residential construction.

CMG 205 Construction Managemnt & Supervision
2 Hours

Prerequisites: Students must be second year Construction Management majors.
2 hours weekly (2-0)

This course is designed to lead the student through the day to day activities of the project supervisor from project startup to final completion. Special emphasis will be placed on working relationships with trade contractors and homeowners.

CMG 207 Construction Management
3 Hours

Prerequisites: CMG 105 and CMG 107
3 hours weekly (3-0)

This course is designed to help the student understand the concepts involved with the management and ownership in the construction process. The focus of this course will cover pre-construction through final completion, viewed from the constructor's perspective.

CMG 208 Processes in Estimating
3 Hours

Prerequisites: CMG 105 or consent of instructor
3 hours weekly (3-0)

The course builds upon CMG 105, Estimating Techniques, and will introduce more advanced methods of cost estimating. From a set of blueprints the students will apply man hours, labor costs, and material costs to quantity takeoffs. In a portion of this course the students will learn to utilize Timberline Corporation's Precision Estimating software package. Students will learn how to interpret data generated and how to modify the computer program to meet their estimating needs.

CMG 209 Environmental Systems
3 Hours

Prerequisites: CMG 105 and CMG 107
3 hours weekly (3-0)

This course is designed to introduce the student to the basic terminology and principles of electrical, plumbing, and air conditioning systems. The student will also gain an understanding of the importance of the respective design engineers in the building process.

CMG 210 Building Renovations
3 Hours

Prerequisites: CMG 110
4 hours weekly (2-2)

Students will acquire knowledge of the techniques and technologies necessary to remodel, repair, or renovate existing residential and commercial buildings. The student will study the design and construction techniques required to convert unused areas into additional living space, make additions to existing structures, upgrade mechanical and electrical systems to meet building codes and repair, renovate, and maintain older buildings.

CMG 211 Commercial Construction
3 Hours

Prerequisites: CMG 108 or consent of instructor.
3 hours weekly (3-0)

The course will acquaint the student with the latest methods, materials, and equipment used within the industry and will familiarize the student with concepts of the construction industry that have stood the test of time. Traditional materials such as

reinforced concrete, masonry, steel, and timber will be thoroughly examined in conjunction with recent developments in the construction industry.

CMG 212 Construction Administration
2 Hours

Prerequisites: CMG 105 and CMG 107
2 hours weekly (2-0)

The student will be introduced to processes and methods of administrative responsibilities, which will help in producing a quality construction project.

CMG 215 Green Building in the 21st Century
3 Hours

Prerequisites: Students must be second year Construction Management majors.
3 hours weekly (3-0)

This course provides an overview of new emerging building systems for single, multi-family and remodeling to meet the national green building standard. The course will also focus on energy efficiency and discuss the impact that construction has on the environment.

CMG 217 Building Codes and Standards
2 Hours

Prerequisites: Students must be second year Construction Management majors.
2 hours weekly (2-0)

This course will illustrate to the student how building codes and standards stipulate design and construction of buildings. A building code is defined as a set of rules of procedure and standards of materials designed to secure uniformity and protect the public interest in such matters as building construction and public health, established usually by a public agency and commonly having the force of law in a particular jurisdiction.

CMG 218 CAD for Residential Construction
3 Hours

Prerequisites: Students must be second year Construction Management majors.
4 hours weekly (2-2)

This course will introduce the construction student on how to design and draw plans for residential construction. The student will utilize software to design a complete set of building plans. The course will focus on construction phases from site design to the completed exterior finishes and landscaping.

CMG 220 Construction Scheduling
3 Hours

Prerequisites: CMG 105 and CMG 107
3 hours weekly (3-0)

This course is an introduction to modern construction scheduling methods and techniques. The application of various scheduling methods will provide an understanding of the importance that time phasing and coordination have on completing a construction project in a timely manner.

CMG 221 Land Development
3 Hours

Prerequisites: Students must be second year Construction Management majors.
4 hours weekly (2-2)

This course will present the social and economic needs, and the legal regulations involved when developing a parcel of land into a housing community. The student will design and calculate the infrastructure to meet the mandated code requirements.

CMG 222 Business Management for Home Builder
3 Hours

Prerequisites: Students must be second year Construction Management majors.
3 hours weekly (3-0)

The purpose of this course is to provide the student with information to use in managing a home building business. The course will focus on how to start up your business and develop and implement policies and procedures to ensure profitability in the home building industry.

CMG 226 Statics for Structures
3 Hours

3 hours weekly (3-0)
Prerequisites: None

Students will learn fundamental principles of mechanics as they use tables and formulas in the determination of loads and the selection of wooden members and steel connectors which will safely carry these loads on floor and roof systems.