

# Construction Management Technology

This curriculum is designed to prepare individuals to apply technical knowledge and skills to the fields of architecture, construction, construction management, and other associated professions.

Course work includes instruction in sustainable building and design, print reading, building codes, estimating, construction materials and methods, and other topics related to design and construction occupations.

Graduates of this pathway should qualify for entry-level jobs in architectural, engineering, construction, and trades professions, as well as positions in industry and government.

This program prepares individuals to supervise, manage and inspect construction sites, buildings, and associated facilities. It includes instruction in site safety, personnel supervision, labor relations, diversity training, construction documentation, scheduling, resource and cost control, bid strategies, rework prevention, construction insurance and bonding, accident management and investigation, applicable law and regulations, and communication skills.

For specific information about potential positions and wages in construction management employment, visit the Central Piedmont Career Coach website.

**CMT 120. Codes and Inspections. 3.0 Credits.** Class-3.0. Clinical-0.0. Lab-0.0. Work-0.0

This course covers building codes and the code inspections process used in the design and construction of residential and commercial buildings. Emphasis is placed on commercial, residential, and accessibility (ADA) building codes. Upon completion, students should understand the building code inspections process and apply building code principals and requirements to construction projects.

**CMT 210. Construction Management Fundamentals. 3.0 Credits.** Class-3.0. Clinical-0.0. Lab-0.0. Work-0.0

This course introduces the student to the fundamentals of effective supervision emphasizing professionalism through knowledge and applied skills. Topics include safety, planning and scheduling, contracts, problem-solving, communications, conflict resolution, recruitment, employment laws and regulations, leadership, motivation, teamwork, discipline, setting objectives, and training. Upon completion, students should be able to demonstrate the basic skills necessary to be successful as a supervisor in the construction industry.

**CMT 212. Total Safety Performance. 3.0 Credits.** Class-3.0. Clinical-0.0. Lab-0.0. Work-0.0

This course covers the importance of managing safety and productivity equally by encouraging people to take individual responsibility for safety and health in the workplace. Topics include safety management, controlling construction hazards, communicating and enforcing policies, OSHA compliance, personal responsibility and accountability, safety planning, training, and personal protective equipment. Upon completion, the student should be able to properly supervise safety at a construction jobsite and qualify for OSHA Training Certification.  
Corequisites: Take CMT 210

**CMT 214. Planning and Scheduling. 3.0 Credits.** Class-3.0. Clinical-0.0. Lab-0.0. Work-0.0

This course covers the need for and the process of planning construction projects, as well as the mechanics and vocabulary of project scheduling. Topics include project preplanning, scheduling formats, planning for production, short interval planning, schedule updating and revising, and computer-based planning and scheduling. Upon completion, the student should be able to understand the need for planning and scheduling, the language and logic of scheduling, and use of planning skills.  
Prerequisites: Take all: CMT 210 and BPR 130

**CMT 216. Costs and Productivity. 3.0 Credits.** Class-3.0. Clinical-0.0. Lab-0.0. Work-0.0

This course covers the relationships between time, work completed, work-hours spent, schedule duration, equipment hours, and materials used. Topics include production rates, productivity unit rates, work method improvements, and overall total project cost control. Upon completion, the student should be able to demonstrate an understanding of how costs may be controlled and productivity improved on a construction project.  
Prerequisites: Take CMT 210

**CMT 218. Human Relations Issues. 3.0 Credits.** Class-3.0. Clinical-0.0. Lab-0.0. Work-0.0

This course provides instruction on human relations issues as they relate to construction project supervision. Topics include relationships, human behavior, project staffing issues, teamwork, effective communication networks, laws and regulations, and identifying and responding to conflict, crisis, and discipline. Upon completion, the student will demonstrate an understanding of the importance of human relations in the success of a construction project.  
Prerequisites: Take CMT 210

**CMT 226. Applications Project. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-2.0. Work-0.0

This course provides an individual and/or integrated team approach to a practical construction management project. Topics include project selection, research and planning, implementation, and a final presentation. Upon completion, students should be able to plan and implement an applications-oriented construction management project.

**CST 110. Intro to Construction. 2.0 Credits.** Class-1.0. Clinical-0.0. Lab-2.0. Work-0.0

This course introduces construction terminology, materials, and practices found at a construction worksite. Emphasis is placed on common and innovative practices, methods, materials, and other related topics of the construction industry. Upon completion, students should be able to successfully identify various practices, methods, and materials used in the construction industry.

**CST 111. Construction I. 4.0 Credits.** Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course covers standard and alternative building methods to include wall framing. Topics include safety and footings, foundations, floor framing systems, and wall framing systems commonly used in the construction industry. Upon completion, students should be able to safely erect all framing necessary to begin roof framing.  
Prerequisites: Take WOL 110, minimum grade of C

**CST 112. Construction II. 4.0 Credits.** Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course covers building methods and materials used to dry-in a building. Topics include safety, ceiling/roof framing applications, roof finishes, windows, and exterior doors. Upon completion, students should be able to safely erect different roof types and properly install windows and exterior doors, roofing, and exterior finish materials.

Prerequisites: Take CST 111

**CST 150. Building Science. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-2.0. Work-0.0

This course introduces concepts and techniques for the design and interaction of the mechanical systems of high performance buildings. Topics include building envelope, heating, ventilation and air conditioning (HVAC), indoor air quality, lighting, plumbing and electrical. Upon completion, students should be able to understand building systems interaction and performance.

**CST 241. Planning/Estimating I. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-2.0. Work-0.0

This course covers the procedures involved in planning and estimating a construction/building project. Topics include performing quantity take-offs of materials necessary for a building project. Upon completion, students should be able to accurately complete a take-off of materials and equipment needs involved in a construction project.

Prerequisites: Take One: BPR 130, MAT 121, or MAT 171

**CST 242. Planning/Estimating II. 4.0 Credits.** Class-3.0. Clinical-0.0. Lab-2.0. Work-0.0

This course covers planning and estimating practices which are applicable to commercial construction. Emphasis is placed on planning and developing take-offs of materials, labor, and equipment in accordance with industry formats. Upon completion, students should be able to accurately complete take-offs and planning time lines necessary to complete a commercial structure.

Prerequisites: CST 241