

**ARC 212**  
**COMMERCIAL CONSTRUCTION TECHNOLOGY**

**COURSE DESCRIPTION:**

Prerequisites: ARC 111 and ARC 112

Corequisites: None

This course introduces regional construction techniques for commercial plans, elevations, sections, and details. Topics include production of a set of commercial contract documents and other related topics. Upon completion, students should be able to prepare a set of working drawings in accordance with building codes. Course Hours Per Week: Class, 1. Lab, 6. Semester Hours Credit, 3.

**COURSE OBJECTIVES:**

A student who successfully completes this course should be able to:

- a. Develop and draw commercial construction details and documents (type 1 and 2 as defined in NC building code)
- b. Design a functional building using commercial construction techniques
- c. Perform preliminary code research under supervision
- d. Solve drafting and design problems for steel and/or concrete wood construction
- e. Understand the relationship of building codes as applied to commercial construction technology
- f. Size major structural components as applied to commercial construction technology

**OUTLINE OF INSTRUCTION:**

- I. Brief Introduction to Building Codes, and Administrative Law for the project
  - A. Planning the building and construction documents
  - B. Research and details
  - C. Site and the building environment
- II. Site Plan and the Environment
  - A. Survey
  - B. Utilities
  - C. Landscaping
  - D. Ordinances
- III. Floor Plan
  - A. Symbols
  - B. Dimensioning
  - C. Layout
- IV. Structural details of engineered steel products
  - A. Steel decking
  - B. Steel connections and joints
  - C. Steel Trusses
  - D. Steel "I" Joists
  - E. Steel bracing
- V. Wall Sections

- A. Symbols
  - B. Dimensioning
  - C. Layout
- VI. Foundation Systems
- A. Symbols
  - B. Dimensioning
  - C. Layout
- VII. Exterior Elevations
- A. Symbols
  - B. Layout
- VIII. Systems Drafting
- A. CADD
  - B. Standard detailing
- IX. Drawing set organization
- A. Keying drawings
  - B. Keying details
- X. Masonry
- A. Details
  - B. Interface with other materials
- XI. Commercial window walls
- A. Details
  - B. Elevations

**REQUIRED TEXTBOOK AND MATERIAL:**

None

**STATEMENT FOR STUDENTS WITH DISABILITIES:**

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 686-3652 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1309.