COURSE DESCRIPTION:

Prerequisites: ARC 111, 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.

LEARNING OUTCOMES:

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