

ARC 113
RESIDENTIAL ARCHITECTURAL TECHNOLOGY

COURSE DESCRIPTION:

Prerequisites: ARC 111

Corequisites: ARC 112

This course covers intermediate residential working drawings. Topics include residential plans, elevations, sections, details, schedules, and other related topics. Upon completion, students should be able to prepare a set of residential working drawings that are within accepted architectural standards. 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. Draft a complete set of residential construction documents, including site plan, floor plans, foundation plan, elevations, sections, details, schedules (door, window, finish) roof plan, electric plan and stair layout.
- b. Understand the fundamentals of timber frame construction
- c. Understand the fundamentals of concrete foundation construction (crawl space)
- d. Expand their understanding of the conventions and symbols of architectural drafting

OUTLINE OF INSTRUCTION:

- I. Course introduction

- II. Principles of Residential Construction
 - A. Terminology
 - B. Conventions of wood frame construction
 - C. Roof types
 - D. Exterior finishes
 - E. Interior finishes
 - F. Vapor barriers & insulation
 - G. Ventilation

- III. Basic Residential Planning
 - A. Overview of style options
 - B. Site layout
 - C. Analyzing space / room relationships

- IV. Selection of structural members
 - A. Overview of stresses in members
 - B. Effects of moisture content
 - C. Determination of acceptable loads
 - 1) Dead loads
 - 2) Live loads

- V. Room planning
 - A. Sizing and considerations of rooms
 - B. Typical sizes of furniture / Fixtures
 - C. Working from maximum square footage

- VI. Residential plans (using pre-existing criteria)
 - A. Draft floor plan to include
 - 1) Wall layout
 - 2) Doors & Windows
 - 3) Appliances
 - 4) Cabinets
 - 5) Finished floors
 - 6) Dimensions & notes

 - B. Draft elevations to include
 - 1) Acceptable number of views
 - 2) Exterior coverings
 - 3) Location of doors and windows
 - 4) Floor & ceiling heights
 - 5) Roof slopes
 - 6) Dimensions & notes

 - C. Draft wall section

 - D. Draft foundation plan to include
 - 1) Footings for masonry foundation walls & piers
 - 2) Foundation walls and piers
 - 3) Beams
 - 4) Joists
 - 5) Framing for non-load bearing walls / partitions
 - 6) Pier details
 - 7) Foundation wall details
 - 8) Dimensions & notes

 - E. Draft cabinet details to include
 - 1) Placement
 - 2) Style(s)
 - Dimensions & notes

- F. Draft site plan
 - 1) Review details for site plan

REQUIRED TEXTBOOKS AND MATERIALS:

Textbook To Be Announced

Architecture & Light Construction – Muller & Spence
Sketch book, min. 8"x10"

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.