COURSE DESCRIPTION:

Prerequisites: ARC 111 and ARC 112
Corequisites: None

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.

LEARNING OUTCOMES:

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)
   3) Dimensions & notes

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