

ARC 111
INTRODUCTION TO ARCHITECTURAL TECHNOLOGY

COURSE DESCRIPTION:

Prerequisites: None

Corequisites: None

This course introduces basic architectural drafting techniques, lettering, use of architectural and engineer scales, and sketching. Topics include orthographic, isometric, and oblique drawing techniques using architectural plans, elevations, sections, and details; reprographic techniques; and other related topics. Upon completion, students should be able to prepare and print scaled drawings within minimum 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. Understand the architectural profession and the job opportunities it has to offer
- b. Use drafting equipment, media and reproduction techniques
- c. Apply drafting skills to produce a set of architectural working drawings
- d. Understand the conventions and symbols used on architectural drawings
- e. Produce architectural lettering
- f. Dimension and check dimensions
- g. Measure lineal distances in a variety of scales

OUTLINE OF INSTRUCTION:

- I. Course introduction
 - A. Course outline and policies
 - B. Introduction to Sketching
 - C. Introduction to Lettering
 - D. Equipment demonstration
 - E. The architectural profession and the drafters role in the architects office

- II. Geometric layout
 - A. Scale layout
 - B. Division
 - C. Lines
 - D. Curves
 - E. Polygons

- III. Lettering techniques
 - A. Fonts and adaptations

- B. Notes Vs Titles
- C. Lettering aids

IV. Applied Descriptive Geometry

- A. Orthographic projection of points, lines, and planes
- B. Types of planes in relation to orthographic views
- C. Auxilliary projection
 - 1) Edge views
 - 2) Oblique planes
- D. Developments
- E. Revolutions

V. Pictorial Projection

- A. Axonometric
 - 1) Isometric
 - 2) Dimetric
 - 3) Trimetric
- B. Oblique
 - 1) Cavalier
 - 2) Cabinet
- C. Perspective
 - 1) One point
 - 2) Two point
 - 3) Division and addition techniques
 - 4) Proportion and scale

VI. Dimensioning Techniques

- A. Terminology
- B. Arrowhead styles
- C. Linear dimensions
 - 1) Text placement options: aligned and unaligned systems
 - 2) Continued Vs Baseline
 - 3) Ordinate dimensions
- D. Radial dimensions
- E. Angular dimensions
- F. Tolerances

VII. Sectioning

- A. Materials symbols
- B. Partial sections
- C. Revolved sections
- D. Plan Vs Elevation sections

VIII. Wall construction

- A. Foundation options
 - 1) Turned down slab
 - 2) Pier and curtain wall

- 3) Spread footing
- 4) Post and beam
- 5) Grade beam

- B. Framing options
 - 1) Platform Vs Balloon

IX. Architectural floor plans

- A. Wall types and drafting conventions: stud Vs masonry
- B. Window and door styles
- C. Casework representation
- D. Plumbing fixture symbols
- E. Dimensioning
- F. Cross referencing symbols: keys: (elevation, section, door, window, finish)
- G. Hatching

X. Architectural elevations

- A. Relationship to wall sections and annotations
- B. Projection from plan
- C. Materials and hatching

XI. Architectural roofing

- A. Relationship to wall sections and annotations
- B. Projection from plan
- C. Materials

XII. Material symbols and legends / wall section keys and cross referencing of drawings

XIII. Advanced sketching techniques (plans, details, elevations)

XIV. Introduction to site plans