

ARC 211
LIGHT CONSTRUCTION TECHNOLOGY

COURSE DESCRIPTION:

Prerequisites: ARC 111 and ARC 112

Corequisites: None

This course covers working drawings for light construction. Topics include plans, elevations, sections, and details; schedules; and other related topics. Upon completion, students should be able to prepare a set of 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. Develop an understanding of apartment (or multi-family) building construction.
- b. Draw all necessary plans of a small two-story apartment complex and will know how to compute all calculations required in two-story building design.
- c. Develop and exhibit proficiency in the use of technical pens for inking or drafting film.

OUTLINE OF INSTRUCTION:

- I. Ground floor plan and details
 - A. First floor plan design for two-story apartment
 - 1) Floor plan function
 - 2) Floor plan layout
 - 3) Dimensions
 - B. First floor plan details
 - 1) Partitions
 - 2) Splash block
 - 3) General notes
- II. Second floor plan and general notes
 - A. Second floor plan design for two-story apartment
 - 1) Floor plan function
 - 2) Floor plan layout
 - 3) Dimensions

- B. Second floor plan general notes
 - 1) Stud dimensioning
 - 2) Sheathing dimensioning
 - 3) Examples of wood partitions

- III. Transverse section
 - A. Trusses
 - 1) Design
 - 2) Materials
 - 3) Spacing
 - 4) Stress and load

 - B. Cross section of elevations
 - 1) Direction of ceiling and floor members
 - 2) Placement of girders, headers and columns
 - 3) Notes
 - 4) Dimensions
 - 5) Roof pitch

 - C. Stairs
 - 1) Review of terminology
 - 2) Rises and tread proportions
 - 3) Stair formulae
 - 4) Angle of stairs
 - 5) Plan layout
 - 6) Headroom
 - 7) Railings
 - 8) Notes and dimensions

 - D. Ground and foundations cross-section
 - 1) Wall section review
 - 2) Brick-veneer construction
 - 3) Sill details
 - 4) Footing
 - 5) Dimensions and notes

 - E. Insulation symbols
 - 1) Insulation for floor slabs
 - 2) Steel reinforcement
 - 3) Vapor barriers
 - 4) Ventilation
 - 5) Notes and dimensions

 - F. Interior load bearing walls
 - 1) Concrete block

- 2) Steel and concrete joists
 - 3) Reinforces concrete joists
 - 4) Notes and dimensions
- IV. Sections and details
- A. Typical and wall section
 - B. Side wall section
- V. Mechanical-electrical schedule
- A. Isometric hot and cold water piping
 - 1) Use of templates
 - 2) Isometric layout
 - 3) Symbols, notes and dimensions
- VI. Site plan
- A. Layout of features
 - 1) Lot size
 - 2) Lot shape
 - 3) Elevation
 - 4) Contours
 - 5) Roads
 - 6) Set back requirement
 - B. Dimensions and legend
 - 1) Property lines
 - 2) Electrical transformer
 - 3) Contour dimensions
 - 4) General notes