

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

**ARC 113 DRAFTING AND DESIGN
COURSE OUTLINE**

Architectural Technician / Technologist

Winter Semester

Prepared by: Barry Sparrow

September 1991

Revised: January 1992

Approved:

L. P. Chazette

Date:

M. U...

ARC 113

DRAFTING AND DESIGN

COURSE OUTLINE

Credit Hours: 6

Prerequisites: ARC 111

1. PHILOSOPHY AND GOALS

This course is intended to introduce the student to multi-unit wood frame residential design and construction. The student will refine drawing and drafting techniques introduced in ARC 111, by completing design and working drawings for a multiple family residential building. The student will also be introduced to the issues of site design, fire protective design with wood, masonry veneer, foundations and footings, and wood frame detailing practices.

2. STUDENT PERFORMANCE OBJECTIVES

Upon successful completion of the course, the student will be able to:

1. Design a multiple unit, wood frame residential building given a site and a set of programmatic requirements.
 2. Understand and draw details for a residential wood frame construction.
 3. Calculate concrete footing sizes for walls and columns given the loads.
 4. Draw presentation plans, sections, and elevations of a residential wood frame building using pencil.
 5. Prepare working drawings for a multiple family wood frame building, including floor plans, sections, elevations, wall sections and site plan.
 6. Draw and render a two point perspective using pencil on vellum.
 7. Understand and construct auxiliary views of objects.
 8. Use the OBC to check design compliance with Part 9.
 9. Identify wood post and beam construction.
 10. Identify and draw details for brick veneer used with wood frame construction.
 11. Estimate the dimensions of sun shading devices given a set of parameters.
 12. Identify and draw details for a preserved wood foundation.
 13. Construct shade and shadows in plan and elevation.
 14. Understand and apply principles, codes, and practices of residential site planning.
 15. Understand the use of trees and plant material to improve site environmental quality.
-

3. TOPICS TO BE COVERED

1. Design of multiple unit residential buildings.
 2. Site planning for residential development.
 3. Landscaping design for residential development.
 4. Landscape and environmental quality.
 5. Fire protection, assemblies and codes for multiple family residential buildings.
 6. Detailing of wood frame construction for multiple unit buildings.
 7. Process of approvals for development and construction permits.
 8. Advanced presentation drawings in pencil.
 9. Drawing of one and two point perspectives.
 10. Drawing perspectives for presentation.
 11. Drawing shade and shadow in perspective.
 12. Detailing of brick veneer over wood frame assemblies.
 13. Foundation design.
 14. Foundation waterproofing and subgrade drainage.
 15. Dimensioning of wood frame construction.
 16. Design and detailing of preserved wood foundations.
 17. Wall assemblies used in multiple unit residential construction.
 18. Calculation of wall and column footing sizes.
 19. Design of sun shading devices.
 20. Constructing auxiliary views.
-

4. REQUIRED STUDENT RESOURCES

Architecture: Design Engineering Drawing
Latest Edition
William P. Spence

DRAFTING EQUIPMENT

5. EVALUATION

Student evaluation will be based on the following:

1. Successful completion of tests and assignments.
2. Attendance and attitude.

A final grade will be assigned based on the results of tests and assignments weighted as follows:

Major Assignment	35%
Assignments	30%
Tests	20%
Attendance	<u>15%</u>
TOTAL	100%

Late assignments will be penalized 10% and an additional 10% for each additional day late. Attendance, punctuality and attitude will be considered in the student assessment. Each class missed will result in 1% penalty, to a maximum of 15%. Attendance will be taken at the start of class, and latecomers will be marked absent.

The grading system will be as follows:

A+	90-100%
A	80-89%
B	70-79%
C	55-69%
R	Repeat
