SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

ARC 202 DRAFTING AND DESIGN
COURSE OUTLINE

Architectural Technician / Technologist

Fall Semester
Prepared by: Barry Sparrow
September 1991 Revised:

Approved: **Date:**

M. Unsworth 08-20-91

L P Acquith 08/21/91

ARC 202
DRAFTING AND DESIGN
COURSE OUTLINE
Credit Hours: 6 Prerequisites: ARC 111 and ARC 113

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1. PHILOSOPHY AND GOALS

This course is intended to introduce the student to commercial construction systems, with an emphasis on masonry and steel construction. The student will be introduced to the principles and applications of the requirements for building envelope details. The student will also refine design, detail and working drawing skills by completing presentation and working drawings for a small commercial building.

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2. STUDENT PERFORMANCE OBJECTIVES

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

1. Design a small commercial building given a site and a set of programmatic requirements.
2. Understand and draw details for a masonry cavity wall.
3. Understand and apply the rainscreen principle to the detailing of a masonry wall.
4. Draw presentation plans, sections, and elevations of a small commercial building using pen and ink.
5. Use Part 3 of the OBC to check conformance of a floor plan and construction details of a small commercial building.
6. Draw and render a two point perspective using pen and ink.
7. Construct shade and shadow in a two point perspective.
8. Understand and apply dimensioning techniques to a floor plan for a masonry building.
9. Draw and fully complete a working drawing site plan.
10. Design and draw a grading and landscaping plan for a small commercial building.
11. Understand and draw details for built-up and protected membrane roof assemblies.
12. Understand the function and detailing of air and vapour barriers.
13. Understand and apply principles of good detailing practices to insulated buildings.
14. Understand performance requirements of building envelope details.
15. Understand and detail roof and wall components and interfaces.
16. Understand and detail aluminum window and glazing systems.

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3. TOPICS TO BE COVERED

1. Introduction to commercial building, codes, construction and clients.
2. Masonry construction.
3. Masonry cavity walls and the rainscreen principle.
4. Detailing and dimensioning masonry construction.
5. Detailing open web steel joist/steel deck roof systems.
6. Design and detailing of built up roof systems, conventional and inverted.
7. Presentation drawings using ink on mylar, for a commercial building.
8. Perspective rendering using pen and ink.
9. Landscape design for a commercial building site.
10. Roof drainage design.
11. Site design and site plan working drawings for commercial buildings.
12. Theory and detailing of air and vapour barriers.
13. Use of Part 3 of the Ontario Building Code.
14. Shade and shadow in two point perspective.
15. Metal roofing systems.
16. Design for accessibility.
17. Requirement and use of consultants.
18. Elevators and conveying devices.
19. Fire protection and fire rating steel components.
20. Design of fire rated assemblies and closures.

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4. REQUIRED STUDENT RESOURCES

Architecture: Design Engineering Drawing
Latest Edition
William P. Spence

Architectural Details for Insulated Buildings
First Edition
Ronald Brand
Van Nostrand

DRAFTING EQUIPMENT

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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	30%
Assignments	35%
Tests	25%
Attendance	10%
TOTAL	100%

Late assignments will be penalized 20% and an additional 10% for each additional day late. Attendance, punctuality and attitude will be considered in the student assessment.

The grading system will be as follows:

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