

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

**ARC 212 DRAFTING AND DESIGN
COURSE OUTLINE**

Architectural Technician / Technologist

Winter Semester

Prepared by: Barry Sparrow

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Revised: January 1992

Approved:

L. Crockett

Date:

M. Olson

ARC 212

DRAFTING AND DESIGN

COURSE OUTLINE

Credit Hours: 6

Prerequisites: ARC 202

1. PHILOSOPHY AND GOALS

This course is intended to introduce the student to larger commercial construction and building systems. Detailing of concrete, steel, masonry and heavy timber will be examined. Advanced design, presentation and working drawing techniques will be developed through the completion of a commercial building project. Exterior cladding and roofing systems will be examined. The student will apply principles of building envelope theory to detail design.

2. STUDENT PERFORMANCE OBJECTIVES

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

1. Prepare design drawings for a commercial or institutional building, including plan, site plan, sections and elevations.
 2. Identify and draw details for steel, masonry, and concrete construction.
 3. Identify and draw details for metal, stone, precast, masonry, E.I.F.S., and curtain wall cladding systems.
 4. Prepare working drawings, including significant details for a medium size commercial or institutional building.
 5. Construct a presentation model.
 6. Develop and lay out a structural grid for working drawings.
 7. Draw a complete working drawing site plan including grading, landscaping, dimensioning, detailing and development data.
 8. Understand and apply principles of air / vapour barrier detailing to the design of details.
 9. Understand and detail a masonry rainscreen.
 10. Understand the role of consultants in the development of design and working drawings.
 11. Understand the sequence and procedure related to the production of working drawings in an architectural practice.
 12. Understand foundation drainage and water protection for below grade structures.
 13. Identify and draw details for commercial roofing systems, including built-up, inverted, membrane, metal and selvage.
 14. Understand the relationship of specifications to the working drawings.
 15. Understand the procedures related to amendment of contract documents.
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3. TOPICS TO BE COVERED

1. Advanced commercial and institutional building design.
 2. Advanced working drawings and detailing.
 3. Construction documentation and specifications.
 4. Exterior insulation and finish systems.
 5. Steel frame structures.
 6. Precast concrete structures and cladding.
 7. Curtain wall cladding systems.
 8. Roofing systems, including metal, membrane and built-up.
 9. Construction of a presentation quality model.
 10. Masonry rainscreen cladding systems.
 11. Application of air and vapour flow principles to the design of details.
 12. Procedures and sequencing of working drawing production.
 13. Architectural office procedures and practices.
 14. Bidding, tendering, contract award and amendment of contract documents related to working drawings.
 15. Structural, mechanical, electrical, landscaping and other consultants.
 16. Fire protection and code issues related to large and high buildings.
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4. REQUIRED STUDENT RESOURCES

Architectural Details for Insulated Buildings

First Edition

Ronald Brand

Van Nostrand

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	40%
Assignments	25%
Group Assignment	10%
Tests	10%
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.

The grading system will be as follows:

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