

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

**ARC 111 DRAFTING AND DESIGN
COURSE OUTLINE**

Architectural Technician / Technologist

Fall Semester

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September 1991 Revised:**

Approved:

M. Chen

Date:

08, 20, 91

L.P. Crayth 9/1/81/21

ARC 111
DRAFTING AND DESIGN
COURSE OUTLINE

Credit Hours: 6

Prerequisites: None

1. PHILOSOPHY AND GOALS

This course is intended to introduce the student to the fundamentals of manual drafting and basic design. The student will develop skills in line work, lettering and drawing using pencil and pen and ink. The student will also develop skill in preparation of design and working drawings by completing a small residential project.

2. STUDENT PERFORMANCE OBJECTIVES

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

1. Identify design and working drawings.
 2. Properly manipulate drafting equipment.
 3. Draft using proper line weight techniques.
 4. Draft using pencil, pen and ink.
 5. Develop and apply lettering skills.
 6. Understand and use metric, imperial and engineering scales.
 7. Draw orthographic projections of objects.
 8. Identify and draw isometric and axonometric projections.
 9. Draw shade and shadow using 45° light projection.
 10. Identify components of residential wood frame construction.
 11. Prepare design and working drawings for a small wood frame building.
 12. Use OBC span tables to size beams and joists for residential application.
 13. Develop and draw details for wood frame assemblies.
 14. Develop and apply techniques of rendering various materials.
 15. Develop and draw vegetation in plan and elevation.
 16. Identify and draw building sections.
 17. Apply architectural dimensioning techniques.
 18. Identify and draft various geometric shapes.
 19. Develop model building skills using card and illustration board.
 20. Solve a small residential design problem.
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3. TOPICS TO BE COVERED

1. Architectural design as problem solving and drawing as communication.
 2. Architectural lettering.
 3. Line drawing, line weight and drafting media.
 4. Geometric constructions.
 5. Use of scales and proportioning techniques.
 6. Orthographic projections.
 7. Axonometric and isometric drawing.
 8. Drafting using technical pens and ink.
 9. Shade and shadow using 45° projection.
 10. Residential wood frame construction.
 11. Single family residential design.
 12. Use and application of materials.
 13. Use of the Ontario Building Code for beam and joist sizing.
 14. Preparation of residential design drawings, plans, sections, and elevations.
 15. Methods of material rendering.
 16. Drawing entourage for presentation drawings.
 17. Building of residential massing models.
 18. Dimensioning of architectural drawings.
 19. Plans and building sections as working drawings.
 20. Methods of wood frame construction and wall assemblies.
 21. Detailing wood frame construction for working drawings.
 22. Stair design and construction.
 23. Windows, doors, millwork and finishes used in wood frame construction.
 24. Roofing systems, flashing and drainage for sloped roofs.
 25. Residential design as a contextual response.
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4. REQUIRED STUDENT RESOURCES

Architecture: Design Engineering Drawing

Latest Edition

William P. Spence

Canadian Wood Council

Wood Construction Manuals

Manual on Metric Drawing Practice

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	25%
Drafting Assignments	30%
Other Tests and Assignments	35%
Attendance	<u>10%</u>
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
