



Manual on Metric Building Drawing Practice  
National Research Council of Canada

Canadian Wood Construction  
Canadian Wood Council  
Selected Brochures

A Graphic Vocabulary for Architectural Presentation  
Edward T. White  
Architectural Media Ltd.

Architectural Drafting Equipment Kit

In addition to those materials provided in the kit, the student will be expected to supply various other media and materials necessary to complete the assignments and projects.

---

## **VII. ADDITIONAL RESOURCES AND MATERIALS**

There are available in the library a number of texts and periodicals on design, drafting and construction.

---

## **VIII. SPECIAL NOTES**

1. Students with special needs are encouraged to discuss required accommodations in confidence with the instructor.
2. The instructor reserves the right to modify the course and course outline as deemed necessary to meet the needs of the students.

## 7.0 FIRE RATED ASSEMBLIES AND FIRE SEPARATIONS

7.1 Define a fire rated assembly and fire separation.

7.2 Prepare and draw details of fire rated floor and wall assemblies for a multi-storey wood frame building.

7.3 Understand and draw details of STC rated assemblies for a multi-storey wood frame building.

Canadian Wood Construction  
Selected Brochures

Ontario Building Code  
Part 9 and Appendices

## V: METHOD OF EVALUATION

Students will be assigned a final grade based on successful completion of tests, assignments, projects and attendance, weighted as follows:

### Major Assignment

Unit Design/Presentation	10%
Building Design/Presentation	15%
Perspective	10%
Working Drawings	20%

### Drafting Assignments and Tests

35%

### Attendance

10%

### TOTAL

100%

Late assignments will be penalized. Attendance and punctuality will be considered in the student assessment.

A final letter grade will be assigned as follows:

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

## VI. STUDENT RESOURCES

### Architecture: Design Engineering Drawing

William P. Spence

Glencoe

### Architectural Graphics

Second Edition

Francis Ching

Van Nostrand Reinhold

4.2 Construct and draw a two point perspective.

4.3 Apply shade and shadow to a two point perspective.

4.4 Construct and render a two point perspective of a multi-unit residential building.

## 5.0 BRICK VENEER / WOOD FRAME CONSTRUCTION

5.1 Understand the concept of brick veneer.

5.2 Prepare and draw construction details for brick veneer assemblies.

5.3 Prepare and draw construction details for multi-storey wood frame assemblies

5.4 Prepare a partial set of working drawings for a multi-storey wood frame, brick veneer building, including plans, site plan, building sections and elevations as well as wall sections.

## 6.0 PRESERVED WOOD FOUNDATIONS

6.1 Identify and name the components of a preserved wood foundation.

6.2 Prepare and draw details of a preserved wood foundation assembly.

Architectural Graphics  
p. 62-96

A Graphic Vocabulary for Architectural Presentation

Architectural Graphics  
p. 130-135

Canadian Wood Construction  
Selected Brochures  
Architecture  
Chapters 6-9  
Chapter 16

---

## 2.0 SITE PLANNING AND LANDSCAPE DESIGN

2.1 Develop a site plan for a multi-unit residential building.

Architectural Graphics  
p. 38-40

2.2 Understand principles of landscape design and impact on environmental quality.

Architecture  
p. 102-112

2.3 Prepare a colour presentation of a residential site plan.

Architecture  
Chapter 15

## 3.0 MULTIPLE UNIT RESIDENTIAL DESIGN AND CONSTRUCTION

3.1 Develop and draw floor plans for a multi-unit residential building.

3.2 Develop and draw building sections and elevations for a multi-unit residential building.

3.3 Prepare presentation drawings including site and floor plans, section and elevations using pencil on vellum of a multi-unit/multi-storey building.

Architectural Graphics  
p. 42-48

3.4 Check compliance of a multi-unit residential design with Part 9 of the Ontario Building Code.

## 4.0 DRAWING AND RENDERING TWO POINT PERSPECTIVES

4.1 Identify one and two point perspectives.

## II. PHILOSOPHY AND GOALS

This course provides the student with an introduction to advanced wood frame design and construction. The student will refine skills in drawing and drafting introduced in ARC 111, by completing design, presentation and working drawings for a multiple family residential building.

## III. STUDENT PERFORMANCE OBJECTIVES

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

1. Design a multiple unit, wood frame residential building.
2. Understand and draw details for residential wood frame construction, including masonry veneer.
3. Demonstrate consistent hand lettering using pencil.
4. Draw presentation plans, sections and elevations of a residential wood frame building using pencil.
5. Prepare a partial set of working drawings for a multiple family wood frame building.
6. Draw and render a two point perspective using pencil on vellum.
7. Use the Ontario Building Code to check design compliance with Part 9.
8. Prepare a presentation drawing using ink and coloured pencil.
9. Identify and draw details for brick veneer used with wood frame construction.
10. Develop model construction techniques using cardboard.
11. Understand and apply principles, codes and practices of residential site planning.
12. Publicly present and defend presentations.

### III. TOPICS TO BE COVERED

1. Design of multiple unit residential buildings
2. Site planning for residential development
3. Landscape and environmental quality
4. Advanced presentation drawings in pencil
5. Drawing two point perspectives
6. Drawing perspectives for presentation
7. Detailing brick veneer over wood frame construction
8. Design and detailing of preserved wood foundations
9. Detailing multi-storey wood frame construction, including fire rated assemblies and fire separations

### IV. LEARNING ACTIVITIES

### REQUIRED RESOURCES

#### 1.0 DESIGN OF MULTIPLE UNIT RESIDENTIAL BUILDINGS

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

- 1.1 Design a one and two bedroom apartment unit.
- 1.2 Prepare a colour presentation of a residential unit design.

- drafting equipment
- 8 1/2 X 11 vellum
- 24 X 36 vellum
- 24 X 36 white illustration board



TOTAL CREDIT HOURS: 6  
PREREQUISITES: ARC 111

---

## I. INTRODUCTION

Drafting is a language that can be learned and used like any other to convey ideas, concepts, thoughts. The language of architectural drawing is used to express ideas related to the creation of forms that are to serve society. If one wishes to build a structure, a plan or drawing needs to be made so that the builders can understand what the designer has in mind.

Traditionally, drawings are done by hand, but the recent trend has been to implement computers to generate plans, sections and elevations. Even so, it is not always feasible and practical to use a computer to develop a given project, and subsequently does not relegate the drafting table and T-square as obsolete. The student's responsibility is not to concern himself about the process of generating the drawing. The emphasis is on the knowledge needed to insure that any drawing will be clear and understandable to a user.

This graphic language is universal - understanding and implementing drafting theory and design concepts allows work to transcend all borders and nationalities. This language is interpreted once the student acquires a visual knowledge of the object which is to be represented. The student's success with it will be indicated not only by skill in execution, but also by the ability to interpret lines and symbols and to be able to clearly visualize in 3-dimensional space.

Architecture - unlike engineering or other technical trades - has a heavy reliance on formal communication, whether being interviewed by prospective clients, making formal presentations to committees, juries and contractors, or simply conveying ideas to employers. The success of the graphic presentation enhances the likelihood of the success of the verbal presentation.

Architecture in its entirety is not an exact science. It is one of the few professions where once all of the logistical requirements have been fulfilled, subjectivity is often times paramount to objectivity.

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON.

COURSE OUTLINE

COURSE TITLE: Drafting and Design  
 COURSE CODE: ARC 113  
 PROGRAM: Architectural Technology  
 SEMESTER: II (Winter)  
 AUTHOR: Henry Pietrzakowski  
 DATE: 4 January 1994  
 PREVIOUSLY DATED: January 1993

*M. Chen*  
*Jan 94*

APPROVED: *H.P. Chayuth*  
 (DEAN)

DATE: \_\_\_\_\_