

CT402

Residential and Commercial Property Analysis

3 Credits

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CT402 Version: 4



Residential and Commercial Property Analysis

Calendar Description

This is a first-level course designed for Appraisal and Assessment students who require a basic course in construction materials and theory. The course covers both interior and exterior materials with emphasis on residential, commercial and industrial construction, building codes and print reading. Also covered is an introduction to residential cost estimating and then a more in-depth study of commercial cost estimating techniques.

Rationale

This is a required course for the Real Estate Appraisal and Assessment program. To place a value on a building or structure, knowledge of the building components (through field work and plan reading), costing techniques and procedures are necessary once students enter the workforce in their field of study.

Prerequisites

None

Co-Requisites

None

Course Learning Outcomes

Upon successful completion of this course, students will be able to

1. identify basic materials used in residential and commercial construction.
2. apply the National Building Code, as it pertains to residential construction.
3. explain the construction process from foundation to a completed unit of residential property.
4. explain the role of drafting as a graphic communication tool in the building industry.
5. demonstrate basic technical freehand sketching and computer aided drawing using APEX software.
6. read, interpret, and apply knowledge from architectural working drawings and specifications used in residential and commercial construction.

7. identify the various requirements/ restrictions of local, provincial, and national building authorities.
8. explain the basic principles and role of estimating in the building industry.
9. demonstrate the ability to accurately read, interpret, and apply knowledge from working drawings and specifications to prepare preliminary cost estimates of residential construction.
10. recognize the differences between building foundations/ support systems for residential and heavier types of structures.
11. explain the differences from residential styles in primary support and framing components and methods of assembly in larger, heavier construction components and methods.
12. recognize and classify a building type by its materials of construction and their method of incorporation or erection.
13. ascertain the quality of a commercial structure by reviewing specification sheets.
14. describe and explain the properties and suitability for specific applications of the more popular materials used in heavier buildings.
15. identify and differentiate between the various types of estimating techniques/methods.
16. demonstrate the basic estimating skills by utilizing the estimating process.
17. use Marshall & Swift Cost Approach Valuation Solutions and estimate residential and commercial projects by way of both the Calculator Method and the Segregated Cost Method.

Resource Materials

Required Text(s):

CMHC. (Current Edition). *Canadian Wood-Frame House Construction*. CM.

CMHC. (Current Edition). *Glossary Of Housing Terms*. CM.

Reference Text(s):

Marshall Valuation Service. Marshall & Swift. Los Angeles, CA.

National Building Code of Canada 2005. National Research Council of Canada. Ottawa, ON.

Residential Cost Handbook. Marshall & Swift. Los Angeles, CA.

Conduct of Course

This course consists of lectures and labs in the course. The instructor provides instructional objectives and criteria for evaluation at the beginning of each topical unit.

Topics are introduced with a lecture and concluded with a combination of assignments, field trips, and class discussions.

Evaluation Procedures

The student's final mark for the course is determined in the following manner:

Assignments	20%
Projects	35%
Unit Tests	<u>45%</u>
TOTAL	100%

Grade Equivalents and Course Pass Requirements

A minimum grade of D (50%) (1.00) is required to pass this course.

Letter	F	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
Percent Range	0-49	50-52	53-56	57-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-100
Points	0.00	1.00	1.30	1.70	2.00	2.30	2.70	3.00	3.30	3.70	4.00	4.00

Students must maintain a cumulative grade of C (GPA - Grade Point Average of 2.00) in order to qualify to graduate.

Attendance

Regular attendance is essential for success in any course. Absence for any reason does not relieve a student of the responsibility of completing course work and assignments to the satisfaction of the instructor. Poor attendance may result in the termination of a student from a course(s).

The instructor will recommend that the Registrar withdraw any student who does not meet the established attendance requirements. A failing grade of RW (Required to Withdraw) will appear on the student's transcript.

In cases of repeated absences due to illness, the student may be requested to submit a medical certificate.

Instructors have the authority to require attendance at classes.

Course Units/Topics

Part I: Construction and Cost Estimating

1. Typical House Construction Process
2. Location and Excavation
3. Concrete Work
4. Footings, Foundations and Slabs
5. Lumber and Other Wood Products
6. Floor, Wall, Ceiling and Roof Framing
7. Roof Sheathing and Coverings
8. Wall Sheathing and Exterior Finishes
9. Windows, Doors, Exterior Trim, Millwork and Stairs
10. Thermal Insulation, Vapour Retarders, Air Barrier Systems and Ventation
11. Interior Wall, Ceiling Finishes and Floor Coverings
12. Interior Doors, Frames and Trim
13. Flashings, Eavestroughs, and Downspouts
14. Garages, Carports, Driveways and Sidewalks
15. Chimneys and Fireplaces

Part II: Plans, Specifications, and Building Codes

1. Role of Drafting in the Building Industry
2. Construction Document Relationship
3. Drafting Standards and Techniques
4. Technical Freehand Drawing and Sketching
5. Architectural Working Drawing Components
6. House Design and Analysis

Part III: Introduction to Residential Cost Estimating

1. Introduction to Estimating
2. Principles of Estimating
3. The Estimating Process
4. Cost Data Sources and Methods

Part IV: Introduction to Commercial Cost Estimating

1. Estimating Methods and Techniques
2. Materials, Terminology and Building Codes
3. Building Construction Types
4. Blueprint Reading, Specifications, and Codes
5. Cost Estimating Projects



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