

ID 270

Construction Fundamentals

3 Credits

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Reviewer: Fiona McLeod

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ID 270 Version: 5



Construction Fundamentals

Calendar Description

This course is a survey of building methods and practices commonly used in residential construction. The various phases of residential construction are studied in logical sequences. Topics include footings, foundations, framing of floors, walls and roof systems, and window and door types with reference to the Canada Mortgage & Housing Corporation (CMHC) building standards and the Alberta Building Code.

Rationale

This is a required course for Interior Design Technology students. An understanding of basic wood-frame residential construction practices and knowledge of wood based building materials, as they apply to North American homes, is essential for a graduate of interior design.

Prerequisites

ID 160

Co-Requisites

ID 260

Course Learning Outcomes

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

1. describe and explain standard theoretical practices of light and residential building construction.
2. identify typical construction methods and materials, and explain their use in interior construction.

Resource Materials

Required Texts:

Burrows, John. (1967). *Canadian wood-frame house construction* (Revised 2013 – 3rd Combined Imperial/Metric ed.). Canada: CMHC.

Canadian Mortgage & Housing Corporation. (1982; Revised-2013). *Glossary of housing terms*. Canada: CMHC.

Reference Text:

National Kitchen & Bath Association. (2013). *Kitchen & bath residential construction & systems* (2nd ed.). Hoboken, NJ: Wiley & Sons Inc.

National Research Council of Canada. *Alberta Building Code*. 2014.

National Research Council of Canada. *National Building Code*. 2015.

Mehta, M. & Scarborough, W. & Armpriest, D. (2008). *Building construction - principles, materials, and systems*. Upper Saddle River, NJ: Pearson Education, Inc.

Conduct of Course

1. Most of the course material is covered by work during class. The 45 hours are divided into 42 hours of lecture and 3 exam hours.
2. The instructor provides instructional objectives and activity criteria at the beginning of each class.
3. Each topic is introduced with a lecture, followed by a problem-solving assignment.
4. Active participation in class is expected.
5. Assignments are due when stated. Late assignments will receive a deduction of one grade step per day including weekends. For example, if the assignment warrants a "B", and it is submitted one day late, the recorded grade will be a "B-", two days late, C+ and so on.
6. Students are expected to:
 - let the instructor know if you will be absent.
 - punctuality is required – no student will be admitted after the commencement of class.

Evaluation Procedures

| | |
|--------------------------------|-----------|
| Assignments | 45% |
| Tests | 35% |
| Project | 15% |
| Student Performance Evaluation | <u>5%</u> |
| Total | 100% |

The student's performance expectations include:

- general improvement of competencies: utilizing previously learned skills.
- class attendance: consistent attendance, consistent punctuality.
- time-management: utilizing class time effectively; completion of assignments on time.
- decision-making: continuous development of confidence in application of skills.
- class participation: asking questions, offering input to discussions, assisting others.

Grade Equivalents and Course Pass Requirements

A minimum grade of C (60%) (2.00) is required to pass this course.

| | | | | | | | | | |
|---------------|------|-------|-------|-------|-------|-------|-------|-------|--------|
| Letter | F | C | C+ | B- | B | B+ | A- | A | A+ |
| Percent Range | 0-59 | 60-64 | 65-69 | 70-74 | 75-79 | 80-84 | 85-89 | 90-94 | 95-100 |
| Points | 0.00 | 2.00 | 2.30 | 2.70 | 3.00 | 3.30 | 3.70 | 4.00 | 4.0 |

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).

If you do not meet the established attendance requirements, your instructor will recommend that the Registrar withdraw you from the course. A failing grade of RW (Required to Withdraw) will appear on your 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

1. Introduction
 - sustainable, healthy housing
 - sizing guides
 - Imperial and Metric dimensions
2. House Construction Process
 - stages of construction
 - approvals, permits and inspections

3. Location and Excavation
4. Concrete work
5. Footings, Foundations and Slabs
6. Lumber and Wood Products
7. Framing
 - floors
 - walls
 - ceiling and roof
8. Flashing
9. Sheathing and Coverings
 - roof
 - wall
10. Windows and Doors
11. Exterior Trim and Millwork
12. Stairs
13. Chimneys and Fireplaces
14. Thermal Insulation
15. Vapour and Air Barriers
16. Ventilation
17. Interior Finishing
 - wall and ceiling
 - floors
18. Interior Doors, Frames and Trim
 - mouldings
 - cabinets
19. Paint
 - interior
 - exterior



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