

# SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



## CICE COURSE OUTLINE

**COURSE TITLE:** Residential Construction II

**CODE NO. :** HMI200 **SEMESTER:** Winter  
**MODIFIED CODE:** HMI0200-A

**PROGRAM:** Home Inspection

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**MODIFIED BY:** Velma Simon, Learning Specialist CICE Program

**DATE:** Jan. 2015 **PREVIOUS OUTLINE DATED:** Jan. 2014

**APPROVED:** "Angelique Lemay" Jan. 2015

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	<i>Dean, School of Community Services and Interdisciplinary Studies</i>	<b>DATE</b>

**TOTAL CREDITS:** 5

**PREREQUISITE(S):** HMI114

**HOURS/WEEK:** 5

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*For additional information, please contact the Dean, School of Community Services and Interdisciplinary Studies*  
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**I. COURSE DESCRIPTION:**

This course is a continuation of Residential Construction II and the CICE student, with assistance from a Learning Specialist, will continue to build and expand knowledge and skills in relevant topic areas such as floor systems, walls, ceilings and roofing systems. The CICE student will work with an increasing level of independence to acquire the hands-on application of theory taught during the course.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the CICE student with the assistance of a Learning Specialist, will demonstrate the ability to:

**1. *Adhere to health and safety, and current construction related legislation and practices.***Potential Elements of the Performance:

- Demonstrate safe work practices including injury prevention and the use of personal protective equipment
- Use tools and equipment according to specified direction / instructions

**2. *Understand, layout and assemble wall, ceiling and roof assemblies according to industry standards.***Wall and Ceiling Systems: Potential Elements of the Performance:

- Types of wall framing systems including platform, balloon and post and beam
- Plate layout, wall sections and framing connections
- Girder support
- Window, door and specialty openings
- Ceiling framing
- Assembly and erection of interior and exterior walls

Roof Systems: Potential Elements of the Performance:

- Types of roofs and roof supports
- Parts of a roof frame
- Layout terms and principles, unit measurements
- Framing plans
- Types of rafters and common rafter sizes
- Using a framing square, speed square and rafter table
- Roof truss construction

**3. *Describe, prepare and install roofing, decks, and materials.***

Potential Elements of the Performance:

- Define roofing and sheathing terms
- List material types, including decking
- Prepare roof decks
- Select appropriate roofing materials for various slopes and conditions
- Types of roof coverings including built up roofs
- Demonstrate correct nailing patterns, gutter positioning and material estimating

**4. *Understand, describe and demonstrate proper window and door installation and replacement procedures.***

Potential Elements of the Performance:

- Discuss standards for window and door fabrication
- Identify window and door types
- Calculate rough openings
- Explain window frame and door adjustments for wall thickness.
- Describe proper procedures for installation and replacement
- Construction of garage door frames.
- Select proper doors, windows and hardware

**5. *Describe, prepare and install exterior finishes, including cornice and rake construction.***

Potential Elements of the Performance:

- Describe cornice and rake construction.
- Describe and demonstrate exterior wood siding and shingles including beveled siding.
- Review and discuss exterior insulation systems.
- Examine various brick and stone veneer finishes.
- Review installation of various brick and stone veneer.
- Review installation of insulation board and stucco.

**6. *Understand the principles of conduction, convection and radiation in relation to heat transfer and heat loss.***

Potential Elements of the Performance:

- Describe the function of air, vapour and weather barriers.
- Understand heat transfer and loss through building components
- Describe methods of controlling moisture.
- Select appropriate areas for insulation in a given structure
- Define technical terms relating to thermal and acoustical properties of construction materials
- Understand the formula for “r” ratings and energy efficient construction
- List general procedures for installing batt and blanket, fill and rigid insulation
- Understand STC (decibels) standards in desired areas and sound reduction techniques

**7. *Understand, describe and demonstrate stair design and construction.***

Potential Elements of the Performance:

- Identify various types of stairs
- Define stair parts and terms
- Calculate rise-run ratios, number and size of risers, and stairwell length.
- Prepare sketches for types of stringers
- Layout stringers for a given stair rise and run.
- Identify and split angles for miter cuts
- Prepare staircase hand rails

**III. TOPICS:**

1. Protect yourself and others.
2. Wall, ceiling and roof assemblies and installation.
3. Roof decking, materials and installation.
4. Window and door installation.
5. Exterior finishes.
6. Principles of conduction, convection, moisture control and radiation.
7. Interior stair design and construction.

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

Handouts, calculators, green tag safety boots, personal tool belt, safety glasses at all times in the class / on the work site

Text book ***Modern Carpentry***, Essential Skills for the Building Trades, 11<sup>th</sup> Edition, 2008, Wagner and Smith, along with accompanying work book

**V. EVALUATION PROCESS/GRADING SYSTEM:**

Assignments and tests	30%
Practical activities	60%
Attendance	10%

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

**VI. SPECIAL NOTES:**Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

**Addendum:**

Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

**VII. COURSE OUTLINE ADDENDUM:**

The provisions contained in the addendum located on the portal form part of this course outline.

**CICE Modifications:****Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**B. Tests will be written in CICE office with assistance from a Learning Specialist.*****The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

**C. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

***The Learning Specialist may:***

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

**D. Evaluation:**

Is reflective of modified learning outcomes.