

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



**SAULT
COLLEGE**

COURSE OUTLINE

COURSE TITLE: Residential Construction II
CODE NO. : HMI 200 **SEMESTER:** 3
PROGRAM: Home Inspection
AUTHOR: Al Tucci
DATE: September 2013 **PREVIOUS OUTLINE DATED:** September 2012
APPROVED:

"Corey Meunier"
CHAIR

TOTAL CREDITS: 5
PREREQUISITE(S): Residential Construction I
HOURS/WEEK: 5

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***For additional information, please contact Corey Meunier, Chair
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I. COURSE DESCRIPTION:

This course is a continuation of Residential Construction I. The student will continue to build and expand knowledge and skills in relevant topic areas, including floor systems, wall, ceilings and roofing systems and finishes, windows and doors, rough openings, stair design, vapour barriers, thermal ratings, etc. and exterior finishes (siding, masonry, openings) as well as chimneys and fireplaces. The student will learn through hands on application of theory taught during the course.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student 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, 11th 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:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
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.

VII. COURSE OUTLINE ADDENDUM:

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