SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	Structural Inspection		
CODE NO. :	HIC109/OEL737	**SEMESTER:**	W11
PROGRAM:	**Home Inspection Certificate**		
AUTHOR:	Laurie Poirier		
DATE:	Fall 2010	**PREVIOUS OUTLINE DATED:**	N/A
APPROVED:	"Laurie Poirier"		Fall 2010
	_____ **CHAIR**		_____ **DATE**
TOTAL CREDITS:	3		
PREREQUISITE(S):	HIC101 or OEL577 - Heating Inspection I		
HOURS/WEEK:	45 Hour Course		

I. COURSE DESCRIPTION:

This subject focuses on the following structural components of a residential dwelling: foundations and footings, floors, walls and roof/ceiling structures. Students learn to apply knowledge of structures to inspections that focus on system performance, safety concerns, and compliance with good construction practices.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Learn how to inspect for structure

   Where to start the inspection
   What to look for in inspection
   How to build a solid foundation
   What styles of foundation
   What are indicators of structure failure
   Safety of crawlspace inspection
   Most up to date standards and practice

2. Proper procedures in home building

   Safety in home building
   Where to start with building
   Wall construction
   Floor construction and settlement
   Proper support beams in weight distribution
   New technology in beams and floor design

3. Identifying tipping settlement

   Uniform settlement and identifying problems
   Shrinkage cracks and identification
   Back fill problems and what is required for proper foundation
   What causes and correction for bowing walls
   Proper foundation drainage
   Columns and pillar placement and stability.

4. Analyzing cracks in foundation

   What is a structure crack
   What is a control cracking
   Were to look for damage in foundation

5. Foundation surface damage issues

What causes are related to foundation damage
Foundation materials and rot
Installation issues involved in protection
Flashing of foundation
Drainage issues
Weeping tile and inspection requirements
The importance of arches and support walls
Roof failure from improper Truss design
Floor failure from too wide a span

6. Proper inspection and reporting standards

Proper reporting
What to put on a report
What not to put on a report
Safety issues in inspection
What must be on the report
What is not part of inspection
Limitations and mock inspection
Grammar and spelling
How to talk about structure issues

III. TOPICS:

1. Standards of practice
Introduction to structure
Performance based inspecting
How to build strong foundation
Tipping settlement
Differential settlement
Inspecting cracks in foundation
Uniform settlement
Shrinkage cracks
Horizontal forces
Foundation failure
Column and pillar stability
Wood sills and insect damage
Engineered floor joist
Engineered flooring
Mock inspection report

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Structural Inspection – Carson Dunlop and Associates

V. EVALUATION PROCESS/GRADING SYSTEM:

- Quizzes are worth 20% of your final mark
    - Each individual Quiz is worth 5%.
    - There are four quizzes.
    - We will delete the lowest scoring of the four quizzes from your grade.
- The midterm test is worth 25% of your final mark
- Field exercise/assignments are worth 15% of your mark
- The final test is worth 40% of the final mark

The following semester grades will be assigned to students:

Grade	**Definition**	*Grade Point Equivalent*
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.