

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



**SAULT
COLLEGE**

COURSE OUTLINE

COURSE TITLE:	Trades Mathematics		
CODE NO. :	MTH106	SEMESTER:	1
PROGRAM:	Construction Carpentry, Home Construction		
AUTHOR:	Mathematics Department		
DATE:	Fall 2014	PREVIOUS OUTLINE DATED:	Fall 2013
APPROVED:			
		"Colin Kirkwood"	June 13/14
		_____	_____
		DEAN	DATE
TOTAL CREDITS:	3		
PREREQUISITE(S):	N/A		
HOURS/WEEK:	3		

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For additional information, please contact Colin Kirkwood, Dean, School of Environment, Technology and Business

I. COURSE DESCRIPTION:

This course for construction techniques and home inspection technician programs begins with a review of fundamental concepts including arithmetic operations. Some theoretical concepts and topics in proportion and variation, measurement, geometry, and trigonometry will be covered. These concepts and topics will be reinforced by the use of practical problems to make the current topic relevant to the students' needs. Aspects of business math pertaining to the construction field will be introduced.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Solve arithmetic problems of whole numbers, fractions and decimals without the use of a calculator as they apply to the trades. .
2. Create ratios, proportions and percentages and solve problems using a calculator as they apply to the trades.
3. Use ratios and conversion rates to do measurements and measurement conversions on trades related problems..
4. Solve for unknowns and algebraic equations.
5. Solve practical trade problems related to area, perimeter, volumes of various geometric shapes, and solids.
6. Use trigonometry to solve practical trade related problems.
7. Create graphs and perform other related statistical information as they relate to the trades industry.

1. Solve arithmetic problems of whole numbers, fractions and decimals without the use of a calculator as they apply to the trades.

Potential Elements of the Performance:

- 1) Perform addition, subtraction, multiplication and division of whole numbers without the use of a calculator.
 - 2) Recite and be able to create the multiplication times' table without the use of a calculator.
 - 3) Perform arithmetic using order of operations.
 - 4) Perform addition, subtraction, multiplication and division of fractions.
 - 5) Perform addition, subtractions, multiplication and division of decimal numbers.
2. Create ratios, proportions and percentages and solve problems using a calculator as they apply to the trades.

Potential Elements of the Performance:

- 1) Create ratios and proportions.
 - 2) Perform special applications of ratios and proportions.
 - 3) Solve trades related problems using ratios and proportions.
 - 4) Create percentages.
 - 5) Solve trades related problems using percentages.
3. Use ratios and conversion rates to do measurements and measurement conversions on trade related problems.

Potential Elements of the Performance:

- 1) Apply ratios and conversion rates as they relate to conversions.
- 2) Work with various units of measurement such as Imperial/ English/British, US customary, and the SI metric units.
- 3) Solve practical measurement conversion problems between various units of measure.

4. Solve for unknowns and algebraic equations.Potential Elements of the Performance:

- 1) Perform arithmetic on signed numbers.
- 2) Work with exponents and square roots.
- 3) Add and subtract algebraic expressions.
- 4) Multiply and divide algebraic expressions.
- 5) Use scientific notation.
- 6) Solve word problems and algebraic expressions

5. Solve practical trade problems related to area, perimeter, volumes of various geometric shapes, and solids.Potential Elements of the Performance:

1. Determine area, perimeter and volume of various geometric shapes and solids.
2. Perform angle measurement.
3. Work with polygons, triangles, hexagons, irregular polygon, circles, prisms, pyramids, cylinders, spheres, and cones.
4. Work with angles and triangles.

6. Use trigonometry to solve practical trade related problems.Potential Elements of the Performance:

1. Use trigonometric ratios to solve trade related problems.
2. Solve right triangles.
3. Work with oblique triangles.

7. Create graphs and perform other related statistical information as they relate to the trades industry.Potential Elements of the Performance:

1. Read and create graphs.
2. Use statistical tools, techniques to and methods to perform data analysis.

III. TOPICS:

1. Arithmetic
2. Ratios, proportions and percentages
3. Measurements and conversions
4. Algebra
5. Geometry
6. Trigonometry
7. Statistics

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Mathematics for the Trades – A Guided Approach –Ninth Edition
with MyMathLab ISBN 9780321937988 Prentice Hall Publishing

A scientific calculator is required.

V. EVALUATION PROCESS/GRADING SYSTEM:

Assigned work	30%
Tests/Practical Tests and/or Quizzes	70%

ATTENDANCE

It is your responsibility to attend all classes during the semester. Research indicates there is a high correlation between attendance and student success.

If you are absent from class, it is your responsibility to find out what work was covered and assigned and to complete this work before the next class. Your absence indicates your acceptance of this responsibility.

Unexcused absence from a test may result in a mark of zero (“0”). Absence may be excused on compassionate grounds such as verified illness or bereavement. On return from an excused absence, you should ask your professor to schedule the writing of a make-up test. Failure to do so will be considered as an unexcused absence.

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.

It is the students' responsibility to notify the professor in advance of any absences and it will be at the professor's discretion to allow rewrites, retakes, modified assignments or quizzes where warranted.

Some of the assigned work may be provided and/or completed through the internet via MYMathLab, or MathXL or myMATHTest software or LMS.

VII. COURSE OUTLINE ADDENDUM:

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