

THE SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON



COURSE OUTLINE

COURSE TITLE: Mathematics

CODE NO. : MTH151-3 **SEMESTER:** WINTER

PROGRAM: Mechanical Certificate

AUTHOR: The Mathematics Department

DATE: January 2012 **PREVIOUS OUTLINE DATED:** January 2009

APPROVED:

	"B.Punch"	
	_____	_____
	CHAIR	DATE

TOTAL CREDITS: 3

PREREQUISITE(S): None

HOURS/WEEK: Three (3)

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For additional information, please contact Brian Punch, Chair,
Natural Environment/Outdoor Studies & Technology Programs
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I. COURSE DESCRIPTION:

In this course, emphasis will be placed on teaching mathematics at a level that will help the student in mechanical procedures. Some theoretical concepts and topics in algebra, 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.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**Unit 1**

1. Add, subtract, multiply, and divide whole numbers and decimals *without* a calculator.
2. Evaluate expressions following the order of operations.
3. Define and record answers with correct precision.
4. Apply the scientific rules of rounding.
5. Convert numbers between decimal form and scientific notation.
6. Perform arithmetic operations on numbers in scientific notation.
7. Define the types of fractions.
8. Convert between improper fractions and mixed numbers.
9. Add, subtract, multiply and divide fractions with and *without* a calculator.
10. Convert numbers between common fractions and decimal fractions.
11. Solve applied problems by applying problem solving strategies and arithmetic skills.

Unit 2

1. Solve problems involving ratios, proportion, variation and percent.
2. Utilize metric system prefix names and symbols.
3. Reduce units of measurement within systems.
4. Convert units of measurement from one system to another.

Unit 3

1. Solve problems to find the perimeter and area of triangles, quadrilaterals.
2. Solve problems involving the radius, diameter, circumference and area of circles.
3. Compute surface areas and volumes of prisms, spheres, cones and pyramids.

Unit 4

1. Define the trigonometric functions.
2. Solve the missing parts of a right triangle using trigonometric functions.

III. TOPICS

1. Review of Arithmetic
2. Units of Measurement
3. Ratio, Proportion and Variation
4. Percentages
5. Perimeter, Area and Volume
6. Right Angle Trigonometry

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Calculator: (Recommended) EL531W. The use of some kinds of calculators, cell phones, and other electronic devices are restricted during tests.

V. EVALUATION PROCESS/GRADING SYSTEM:

Test 1	Unit 1	25%
Test 2	Unit 2	25%
Test 3	Unit 3	25%
Test 4	Unit 4	25%

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%	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.

VII. COURSE OUTLINE ADDENDUM:

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