

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE:	Applied Resource Calculations I		
CODE NO. :	MTH133-3	SEMESTER:	One
PROGRAM:	NEOS		
AUTHOR:	Math Department		
DATE:	January 2013	PREVIOUS OUTLINE DATED:	August 2011
APPROVED:	"Colin Kirkwood"		Dec/12
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	DEAN		DATE
TOTAL CREDITS:	3		
PREREQUISITE(S):	None		
HOURS/WEEK:	3		

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School of Environment, Technology and Business
(705) 759-2554, Ext. 2688

I. COURSE DESCRIPTION:

This course focuses on developing the student's number sense and problem solving abilities. While the student will make use of technology during problem solving, great emphasis will be placed on judging the reasonableness of the solutions. To this end the student will be required to estimate and think critically. Topics include a review of fundamental arithmetic, strengthening of mental math skills, systems of measurement, angle relationships, plane geometry, solid geometry, Pythagorean Theorem, and practical applications in plane and solid geometry.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Perform calculations accurately with and without technology

Potential Elements of the Performance:

- use computer technology, throughout the semester, to improve mental mathematical skills and speed
- use estimation to check and determine the reasonableness of answers, round values appropriately as required
- use technology appropriately as a problem solving tool

2. Solve problems involving mathematics

Potential Elements of the Performance:

- exhibit perseverance, ability, and confidence to use mathematics to solve problems
- use a variety of problem-solving strategies and exhibit logical thinking
- work effectively with others to solve problems
- estimate and check answers to problems and determine the reasonableness of results
- communicate findings both in writing and orally using appropriate mathematical language and symbolism

3. Measure and work with measurements

Potential Elements of the Performance:

- use Metric, Imperial, and U.S. Customary System of measurement
- convert between systems of measurement
- work with measures of length, area, volume, currency, etc
- make reasonable estimations of the measure of various items
- measure various items using the appropriate methods and devices

4. Angles and Plane Geometry

Potential Elements of the Performance:

- measure of angles and angle relationships
- angles formed by intersecting lines, perpendicular lines, parallel lines, complementary angles, supplementary angles, corresponding angles, alternate angles, sum of angles in polygons
- right triangles and the Pythagorean Theorem
- calculate the perimeter and area of regular and irregular plane geometric shapes; i.e. rectangle, square, parallelogram, rhombus, trapezoid, triangle, circle, semi-circle, and composite shapes
- applications of plane geometry; directions and bearings

5. Solid Geometry

Potential Elements of the Performance:

- orthographic projections, front view, side view and top view of three-dimensional objects
- surface area and volume of a right prism, cylinder, pyramid, cone, sphere, and composite solids
- applications of solid geometry

III. TOPICS:

1. Number Sense and Mental Calculations
2. Angle Measurement, Angle Relations and the Pythagorean Theorem
3. Plane Geometry
4. Solid Geometry

IV. REQUIRED RESOURCES:

Calculator: SHARP Scientific Calculator EL-531.

Note:

The use of some kinds of calculators, cell phones, and other electronic devices may be restricted during tests.



Geometry Set:

Students are to bring a geometry set to each class that includes the following list of items:

- 6 inch ruler graduated in both inches and millimetres
- protractor
- compass
- 45⁰/90⁰ triangle and 30⁰/60⁰ triangle

V. EVALUATION PROCESS/GRADING SYSTEM:

Individual Classroom Activities and Attendance	20%
Group Classroom Activities and Assignments	20%
Tests	60%

The following semester grades will be assigned to students:

Grade	Definition	<i>Grade Point Equivalent</i>
A+	90 – 100%	
A	80 – 89%	4.00
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.