SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	Applied Resource Calculations II		
CODE NO. :	MTH138-2	**SEMESTER:**	One
PROGRAM:	NEOS		
AUTHOR:	Math Department		
DATE:	January 2010	**PREVIOUS OUTLINE DATED:**	January 2009
APPROVED:		"B.Punch"	
		_____ CHAIR	_____ DATE
TOTAL CREDITS:	2		
PREREQUISITE(S):	None		
HOURS/WEEK:	2		

I.   COURSE DESCRIPTION:

This course continues to develop the student's problem solving abilities. In addition, skills required to communicate and interpret numerical information are emphasized. The student will make use of technology to display data. Topics include properties of lines and angles, Pythagorean Theorem, trigonometry, exponential and logarithmic functions, percents and descriptive statistics.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1.   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

2.   Solve problems related to triangles

Potential Elements of the Performance:

- identify different types of angles (acute, right, obtuse, straight, complement, supplement, vertical, adjacent, interior, exterior, alternate, corresponding, alternate interior) and the relationships among them
- use the Pythagorean Theorem to find the length of an unknown side of a right triangle
- use trigonometric functions to solve right triangles
- use law of sines and law of cosines to solve oblique triangles
- solve problems that involve triangles and the applications of these theorems, functions, and laws

3.   Solve problems involving exponential and logarithmic functions

      Potential Elements of the Performance:

      - investigate applications of exponential growth
      - Investigate the use logarithmic equations related to pH

4.   Solve problems involving percents

      Potential Elements of the Performance:

      - change fractions or decimals to percent equivalent and vice versa
      - identify rate, base, and proportion
      - calculate to find the unknown rate, base, or proportion
      - estimate the percent of a number
      - calculate to find the amount, new amount, rate, or base in percent increase or decrease situations
      - estimate the amount you pay for a sale item
      - solve problems involving the percents in applied situations

5.   Communicate quantitative information by using a variety of descriptive statistic processes.

      Potential Elements of the Performance:

      - recognize the value of statistical information in a variety of environments.
      - collect, collate, analyze and interpret data for a variety of purposes.
      - derive meaningful information from statistical data.
      - present and interpret data in such a manner that it is understood by and is meaningful to colleagues, peers, and clients.
      - construct a variety of charts, such as histograms, bar graphs, circle graphs, and scatter plots.
      - use Microsoft Excel to collate and analyze data, and to create charts, and calculate statistical information.
      - become critical of the statistical information portrayed in the media, work, and educational environments
      - calculate the mean, median and mode, as appropriate.
      - calculate an appropriate measure of variation (range, variance, standard deviation).
      - understand the Central Limit Theorem and be able to construct confidence intervals and to determine appropriate sample sizes.
      - make practical application of the normal distribution.

III. TOPICS:

1. Lines, Angles, Triangles
2. Applications of Exponential and Logarithmic Functions
3. Percents
4. Descriptive Statistics

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:
Calculator: SHARP Scientific Calculator EL-531.

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

V. EVALUATION PROCESS/GRADING SYSTEM:

Individual Classroom Activities	20%
Group Classroom Activities	20%
Tests and Quizzes	60%

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:

Course Outline Amendments:
The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:
Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:
If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Communication:
The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

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Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade "C", (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:
The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to https://my.saultcollege.ca.

Electronic Devices in the Classroom:
Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

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.