SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title:	MATHEMATICS
Code No.:	MTH 413-4
Program	COMPUTER/ELECTFIICAL/ELECTRONICS TECHNOLOGY
Semester:	I
Date:	JUNE, 1987
Author	J. REAL

New: ReVision:

APPROVED 

Chairperson

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Date/

CALENDAR DESCRIPTION

MATHEMATICS	MTH 413-4
COURSE NAME	COURSE NUMBER

PHILOSOPHY/GOALS;

It has been found that most students registered in this advanced level# pre-calculus courser still need additional practice with some basic algebra and trigonometry, before they can successfully complete the calculus courses in semesters three to six. Although most of the topics, with the possible exception of complex numbers, should look, familiar to the students, the presentation and expectations will probably be more demanding.

METHOD OF ASSESSMENT (GRADING METHOD);

Grades

f Grades reported on your transcript are based on a weighted average of test scores, on the following basis:

90 - 100% A+
80 - 89% A
65 - 79% B
55 - 64% C
0 _ 54% R or

The method of calculating a weighted average is described in your student hand-book.

All tests are scheduled in advance. Hence attendance is mandatory. Unexcused absence from a test will result in a mark of zero for that test. If a student is prevented from writing a test by illness, the student must phone the instructor (949-2050 Ext. 562) before the time of the test and leave a message for the instructor stating the reason for absence. Upon return to classes, the student must see the instructor immediatley to arrange a time and place for a make up test. The student must have a doctor's certificate or a note from the College Nurse.

There will be no rewrites (make-up tests) or supplemental exams during the semester or at the end of the semester.

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Transfers

Students have the option of taking technician or technology mathematics in Semester 1. Your high school math background and results of the College pre-test should indicate the appropriate choice.

Students who fail the technology math course (MTH 413) will receive an "R" grade in that course at semester end (unless given "X** grade extension because of extenuating circumstances). Those who are eligible may register in the next semester's technician course (MTH 128). If they pass this course they will also be given a credit (CR) in the previous semester's technician math course (MTH 119). The **R' grade in the technology math course (MTH 413) will remain as part of the record transcript.

Credits

A credit for this course may be allowed on presentation of proof of standing in the Functions and Relations course of the Ontario Grade 13 program, A score of 70% or better in the pre-test must be achieved as well.

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TEXTBOOK(S) t

Washington, "Basic Technical Mathematics with Calculus" - Fourth Edition.

OBJECTIVES;

The basic objective is for the student to develop an understanding of the methods studied, knowledge of the facts presented and an ability to use these in the solution of problems. For this purpose exercises are assigned. Tests will reflect the sort of work contained in the assignments. The level of competency demanded is the level required to obtain an overall passing average on the tests. The material to be covered is listed on the following page(s):

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TOPIC NO.	NO. OF CLASSES	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENCES
		Introduction (General Review		Append!x A,B,C,D
		Study Aids - read		
		Metric System	Ex. B-1	
		Approximate numbers and signiEicant digits	Ex B-2,3	
		Geometry review	Ex C-3	
		Scientific calculator	Ex D-4	
		Fundamental Concept and Operations		Ch. 1
		Fundamental laws of algebra	Ex. 1-4	
		Rules for exponents	Ex. 5	
		Scientific notation	Ex. 6	
		Roots and radicals	Ex. 7	
		Basic operations on alegebra	Ex. 8-10	
		Equat ions	Ex. 11	
		Formulas and li teral equations	Ex. 12	
		Review exercise	Ex. 14	
		Functions and Graphs		Ch. 2
		Functional notation	Ex 1	
		Rectangular co-ordinates	Ex 2	
		The graph of a function	Ex 3,4	
		Solving equations graphically	Ex 5	
		Review exercise	Ex 6	
		Trigonometry		Ch. 3
		Angles, definitions of functions	Ex. 1	
		The right triangle	Ex. 4	
		Applications	Ex. 5	
		Review exercise	Ex. 6	

TOPIC NO.	NO. OF CLASSES	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENCES
		Systems of Equations		Ch
		Graphing linear equations	Ex. 1,2	
		Graphical solutions	Ex. 3	
		Algebraic solutions	Ex. **4**	
		Solutions using determinants	Ex, 5	
		Systems in three unknowns	Ex. 6,7	
		Review exercise	Ex. 8	
		Factoring and Fractions		Ch
		Special products	Ex. 1	
		Factoring	Ex. 2,3	
		Equivalent fractions	Ex. **4**	
		Multiplication and Division	Ex. 5	
		Addit ion and Subtraction	Ex. 6	
		Equations	Ex. 7	
		Review exercise	Ex. 8	
		Exponents and Radicals		Ch. 10
		Rules for exponents	Ex. 1	
		Fractional exponents	Ex. 2	
		Radicals - reducing to simplest form	Ex. 3	
		Operations with radicals	Ex. 4	
		Review exercise	Ex. 7	
		Complex Numbers		Ch. 11
		The "j" operator	Ex, 1	
		Basic operations with complex numbers	Ex. 2	
		Graphical representations	Ex. 3	
		Polar form	Ex. 4	
		Exponential form	Ex. 5	
		Operations with complex numbers	Ex. 6	
		Review exercise	Ex. 8	