

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: TECHNOLOGY MATHEMATICS
Code No.: MTH 423-4
Program: COMPUTER, ELECTRICAL & ELECTRONICS TECHNOLOGY
Semester: TWO
Date: JULY, 1987
Author: JOHN REAL

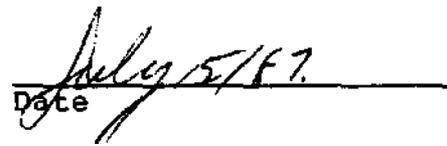
New:

Revision:

X

APPROVED:


Chairperson


Date

TECHNOLOGY MATHEMATICS

MTH 423-4

Course Name

"

Course Number

PHILOSOPHY/GOALS;

When the student has successfully completed this course he will have demonstrated an acceptable ability to pass tests based upon the course contents as listed elsewhere. If, after completing the course, the student takes further courses (or employment) in which he is required to apply the material he should then, through practice, be able to develop a good command of this subject matter.

METHOD OF ASSESSMENT (GRADING METHOD);

GRADES:

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 X

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) before the time of the test and leave a message for the instructor, at his extension, stating the reason for absence. Upon return to classes, the student must see the instructor immediately 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.

TRANSFERS

Students who fail the technology math course (MTH 423) will receive an "I" grade in that course at semester end (unless given an "X" grade extension because of extenuating circumstances). Those who are eligible may register in the next semester's technician course (MTH 219). 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 423) will remain as part of the record on their transcript.

MTH 423-4

CREDITS

A credit for this course may be allowed on presentation of proof of standing in the Functions and Relations and Algebra courses of the Ontario Grade 13 program.

TEXTBOOK(S)t

Washington - "Basic Technical Mathematics with Calculus - Fourth Edition

Floyd - "Digital Fundamentals" - Second 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 tests. The material to be covered is listed on the following pages.

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	REFERE
		Number Systems and Boolean Algebra-		
		Binary, octal, hexadecimal	Ex. 1-30	Ch. 2
		Conversions		
		Arithmetic in binary system		
		And, Or, and Not gates	Ex. 1-17	Ch. 3
		Truth tables		
		Boolean algebra	Ex. 1-20	Ch. 4
		Proof of identities		
		Application to circuits	Ex. 1-10 14-18	Ch. 5
		Quadratic Equations-		Ch. 6
		Solution by factoring		
		Completing the square	Ex. 1	
		The Quadratic formula	Ex. 2	
		Graphs of quadratic functions	Ex. 3	
		Review exercises	Ex. 4	
			Ex. 5	
		Trigonometric Functions of any Angle		Ch
		Signs of trig functions	Ex. 1	
		Radian measure	Ex. 3	
		Angular measurements	Ex. 4	
		Review exercise	Ex. 5	
		Oblique Traingles		Ch- 8
		Vectors	Ex. 1-4	
		Sine law	Ex. 5	
		Cosine law	Ex. 6	
		Review exercise	Ex. 7	
		Graphs of Trigonometric Functions		Ch
		Sine and cosine graphs	Ex	
		Graphs of other functions	Ex	

MTH 423-4

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS
6	8	Exponential and Logarithmic Functions	
		Definition of a logarithm	Ex. 1
		Graphs of exponential and logarithmic functions	Ex. 2
		Rules for logarithms	Ex. 3
		Common and natural logarithms	Ex. 4-6
		Exponential and log equations	Ex. 7
		Review exercise	Ex. 9
7	3	Variation	
		Ratio and proportion	Ex. 1
		Direct and inverse variations	Ex. 2
		Review exercise	Ex. 3
8	6	Additional Trigonometric Topics	
		Fundamental trig, identities	Ex. 1
		Sum and difference formulae	Ex. 2
		Double angle formulae	Ex. 3
		Trigonometric equations	Ex. 5
		Inverse trig* functions	Ex. 6,7
		Review exercise	Ex. 8