

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SADLT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: TECHNOLOGY MATHEMATICS
Code No.: MTH 426-4
Program: COMPUTER, ELECTRICAL, ELECTRONICS, & MECHANICAL TY
Semester: TWO
Date: JULY, 1988
Author: JOHN REAL

New

Revision:

APPROVED: Vlv\V^^—\| t)s(vJo^—
Chairperson

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Date

TECHNOLOGY MATHEMATICS

MTH 426-4

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 this 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

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 (759-6774) before the time of the test or 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.

MTH 426-4

ENTRY TO FOLLOWING COURSES:

Any student who passes this course will be admitted to the Semester III Technology Math course (MTH 551) or Semester III Technician Math course (MTH 219 or MTH 254).

A student who fails this course MAY be admitted to Semester III Technician Math (MTH 219 or MTH 254) if he has met all of the following criteria:

1. Good Attendance
2. All tests written during the semester.
3. Final course average of at least 45%,

At the end of Semester III, if such a student has satisfactorily completed MTH 219 or MTH 254 he will be given a C-Grade in MTH 413. If Unsuccessful in MTH 219 or MTH 254, the student will receive an R-Grade in both semester courses.

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);

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 tests. The material to be covered is listed on the following pages.

MTH 426-4

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENC
1.	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	
2.	7	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	
3.	5	Trigonometric Functions of Any Angle-		Ch. 7
		Signs of trig functions.	Ex. 1,2	
		Radian measure.	Ex. 3	
		Angular measurements.	Ex. 4	
		Review exercise.	Ex. 5	
4.	7	Oblique Triangles-		Ch. 8
		Vectors.	Ex. 1 - 4	
		Sine law.	Ex. 5	
		Cosine law.	Ex. 6	
		Review exercise.	Ex. 7	
5.	4	Graphs of Trigonometric Functions-		Ch. 9
		Sine and cosine graphs.	Ex. 1 - 3	
		Graphs and other functions.	Ex. 4	

MTH 426-4

TOPIC NO,	PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	REFEREIS
		Exponential and Logarithmic Functions-		Ch. 12
		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.		Variation-		Ch. 17
		Ration and proportion.	Ex. 1	
		Direct and inverse variations.	Ex. 2	
		Review exercise.	Ex. 3	
8.		Additional Trigonometric Topics-		Ch. 19
		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,	
		Review exercise.	Ex. 8	
9.	10	Analytic Geometry-		Ch.20
		Straight line.	Ex. 1,2	
		The circle.	Ex. 3	
		The parabola.	Ex. 4	
		Ellipse and hyperbola.	Ex. 5,6	
		Offset curves.	Ex. 7,8	

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