SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. "^lARIE, ONTARIO

COURSE OUTLINE

Course Title	MATHEMATICS
Code No.:	MTH 423-4
Program	MECHANICAL TECHNOLOGY
Semesters	TWO
Date:	OCTOBER, 1985
Author	J. REAL

New: Revision

APPROVED   _____   ᐱ𝑟"ᐱᐱ"ᐱ
            Chairperson   Date

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 this material he should then, through practice, be able to
develop a good command of this subject matter.

METHOD OF ASSESSMENT (GRADING METHOD);

The students will be assessed by tests. These tests will include
periodic tests based upon blocks of subject matter and may, at the
instructors discretion include unannounced surprise tests on current
work and/or a final test on the whole course. A letter grade will be
based upon a student's weighted average of his test results. See also
the mathematics department's annual publication "To the Mathematics
Student" which is presented to the students early in each academic
year.

TEXTBOOK(S):

Calter - "Technical Mathematics with Calculus"

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 pages.

TOPIC NO.	NO. OF PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENCES
	7	Quadratic Equations-	Ex. 1-5,7, 8,10	Ch. 11
		Solution by factoring.		
		Completing the square.		
		Quadratic formula.		
		Radical equations.		
		Graphs of quadratic functions.		
		Equations of quadratic type.		
		Systems of equations.		
	20	Trigonometry - Oblique Triangles, Graphs of Trig Functions, Identities, and Equations -		
		Large angles.	**Ex. 1-3**	**Ch- 12**
		Radian measure and circular motion.		
		Sine law.	**Ex. 1-3**	**Ch. 13**
		Cosine law.		
		Sine and cosine curves.	**Ex. 1,2**	**Ch. 14**
		Fundamental identities.	**Ex. 1-6**	**Ch. 15**
		Sum or difference of two angles.		
		Double angle identities.		
		Trigonometric equations.		
		Inverse functions.		
	10	Exponential and Logarithmic Fns.-	Ex. 1-4	Ch. 17
		The exponential function.		
		Properties of logarithms.		
		Common and natural logarithms.		
		Exponential equations.		
		Logarithmic equations.		
		Functional Variation	Ex. 1-7	Ch. 16
		Direct and inverse variations.		
		Joint variations.		
		Functions of more than one variable.		
		Straight Line -	Ex. 1-3	Ch. 20
		Length, slope of line segment		
		Equation of straight line.		

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TOPIC  NO. OF
 NO.   PERIODS   TOPIC DESCRIPTION                    ASSIGNMENTS   REFERENCES


                 Conic Sections            Ex. 1-4              Ch. 21

                 Circle.
                 Parabola.
                 Ellipse.
                 Hyperbola.

                 Derivatives of Algebraic Fns      Ex. 1-7        Ch. 22
                     (if time permits)

                 Limits.
                 Delta method.
                 Rules for derivatives.
                 Product and fraction rule
                 Implicit relations.
                 Higher order derivatives.
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