SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: MATHEMATICS

Code No.: MTH 554-4

Program: MECHANICAL TECHNOLOGY

Semester: II

Date: DECEMBER, 1983

Author: J. SUFADY

New Revision:

APPROVED: Chairperson Date '

MECHANICAL TECHNOLOGY
MTH 554-4
MATHEMATICS

CALENDAR DESCRIPTION

<u>MATHEMATICS</u>	<u>MTH 554-4</u>
Course Name	Course Number

<u>PHILOSOPHY/GOALS:</u>

Students studying mathematics at this level are those individuals where a certain degree of originality, a sense of logic and an ability to learn independently are required of them in their major subject area. This course serves to exercise these three requirements and to also give them a theoretical knowledge for their academic subjects.

<u>METHOD OF ASSESSMENT (GRADING METHOD):</u>

1. Three to four tests per semester.

2. Final grade is a weighted average of these tests.

3. A falling grade at the end of the semester can be upgraded by writing a two-hour comprehensive examination.

<u>TEXTBOOK(S):</u>

Technical Calculus with Analytic Geometry by Allan J. Washington

<u>OBJECTIVES</u>:

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 other 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.

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TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFERENCE
1	9	Centroid and Moment of Inertia (courses other than Electrical & Electronic) Moment of area and mass Centre of gravity of areas & volumes Moment of inertia of areas & volumes Radius of gyration	Washington p. 154-166
2	6	Other Applications of Integration Fluid pressure Work Mean & root mean square values	Washington p, 167-171 Blakely, Ch p. 142-145
3	9	Differentiation & Integration of Trigonometric Function? Trigonometric Functions Inverse trigonometric functions Applications of trigonometric & inverse trigonometric functions	Washington p. 172-202 224-228 Blakely Ch, 9, 10 p. 146-200
4	6	Differentiation & Integration of Logarithmic & Exponential Functions Logarithmic Functions Exponential Functions Hyperbolic Functions (El & Electronic) Electrical & Electronic applications Mechanical applications	Washington p. 203-217 220-224 Blakely Ch. 11, 12 p. 202-224 225-236
5	25	Methods of Integration Algebraic substitution, Use of trigonometric relations Inverse trigonometric forms Integration by parts Trigonometric substitution Partial fractions	Washington p. 228-243 Blakely Ch. 13