

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: MATHEMATICS

Code No.: MTH 278-4

Program: CIVIL/MECHANICAL

Semester: 4

Date: JUNE, 1984

Author: K. CLARKE

New:

Revision:

X

CIVIL/MECHANICAL  
SEMESTER IV

CALENDAR DESCRIPTION

MATHEMATICS (Calculus)

Course Name

MTH 278-4

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 topics 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 in this subject matter.

METHOD OF ASSESSMENT (GRADING METHOD):

The students will be assessed by written tests, including major periodic tests based upon large blocks of the subject matter and some unannounced short quizzes on current work, the latter being given at the discretion of the instructor. A final test on the whole course may also be included. A letter grade will be based upon a student's weighted average of all his test results. See also the mathematics department's annual publication "TO THE MATHEMATICS STUDENT" for further details. This publication is made available to the students early in each academic year.

TEXTBOOK(S):

Basic Technical Mathematics with Calculus - Washington

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.

<u>Periods</u>	<u>Topic Description</u>	<u>Reference</u>
18	<u>The Derivative</u>  Limits, slope, derivative, Delta Method, derivatives of polynomials, Product Rule, Quotient Rule, Chain Rule	Text, Ch. 22  Exercises 22-1 to 22-7 22-9 (part)
10	<u>Applications of the Derivative</u>  Tangents and normals  Curve sketching Maximum and minimum problems	Text, Ch. 23  Exercises 23-1, 23-4 to 23-6 23-7 (part)
16	<u>Integration</u>  Differentials, antiderivatives, indefinite integral, area under a curve, definite integral	Text, Ch. 24  Exercises 24-1 to 24-5 24-7 (part)
20	<u>Applications of Integration</u>  Applications of indefinite integral, area, volumes  Pressure on a submerged plate, work, flow over a weir	Text, Ch. 25  25-1 to 25-3 25-6 (part) 25-7 (part) Printed Sheets