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

COURSE OUTLINE

Course Title: MATHEMATICS  
Code No MTH 370-3  
Program: MECHANICAL TECHNOLOGY (YEAR 3)  
Semester: V  
Date: OCTOBER, 1985  
Author J. REAL

New

Revision

APPROVED:

  
Chairperson

Date

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MATHEMATICS

MTH 370-3

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS:

When the student has successfully completed this course he/she will have demonstrated an acceptable understanding of the course material as listed elsewhere.

The student should then be able to apply this knowledge in his/her studies and other courses in the program where these are applications of these mathematical concepts.

Upon graduation, the student should be able to develop a good command of this subject matter through additional practice.

METHOD OF ASSESSMENT (GRADING METHOD):

The student will be assessed by written tests only. There will be periodic topic tests at times mutually agreed upon (usually) by students and instructor. A letter grade will be assigned for the student's progress report based upon a weighted average of the student's test results-

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See also the Mathematics department's annual publication "To The Mathematical Student" which is presented to the students early in each academic year.

TEXTBOOK(S):

TECHNICAL CALCULUS WITH ANALYTIC GEOMETRY; Washington.

MECHANICAL TECHNOLOGY MATHEMATICS

| TOPIC NO. | PERIODS | TOPIC DESCRIPTION  | REFERENCE  |
|-----------|---------|--|--|
| 1         | 15      | <u>Methods of Integration</u><br>Substitution, trigonometric identities, inverse trigonometric forms, integration by parts, trigonometric substitution, partial fractions, table of integrals  | Washington<br>Ch. 8                                  |
| 2         | 15      | <u>Partial Derivatives and Double Integrals</u><br>Functions with more than one independent variable, total differential, total derivatives and application to rates, higher order partial derivatives, composite differentiation, partial integration and double integration, area, volume, centroids and moment of inertia by double integration | Washington<br>Ch. 9                                  |
| 3         | 10      | <u>Differential Equations (First Order)</u><br>Solution by direct integration, separation of variables, special integrable combinations, exact equations, use of integrating factor, homogeneous equations, linear equations, applications.  | Washington<br>Ch. 13<br>Douglass<br>Zeldin,<br>Ch. 1 |