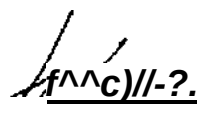
SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

| | |
|---|---|
| Course Title: | MATHEMATICS |
| Code No.: | MTH 370-3 |
| Program: | MECHANICAL TECHNOLOGY (YEAR 3) |
| Semester: | V |
| Date: | JUNE, 1987 |
| Author: | J. REAL |

New: Revision:

APPROVED  

Chairperson

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MATHEMATieS MTH 370-3

COURSE NAME COURSE NUMBER

PHILOSOPHY/GOALS:

In this course the study of calculus continues. The topics covered are: Methods of Integration, Infinite Series, and First Order Differential Equations.

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 X |

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 (949-2050) before the time of the test and 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 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 370-3

| TOPIC NO | NO. OF PERIODS | TOPIC DESCRIPTION | ASSIGNMENTS | |
|---|---|---|---|---|
| | 15 | **Methods of Integration** | | Ch |
| | | Review integration of trigonometric, exponential, logarithmic, and inverse functions. | | |
| | | Integration by parts | **Ex. 1** | |
| | | Integration by substitution | **Ex. 2** | |
| | | Trigonometric substitutions | **Ex. 3** | |
| | | Partial fractions | **Ex. 4, Ex. 6** | |
| | | Integration by use of tables | **Ex. 8** | |
| | | Review. | | |
| | 15 | **Partial Derivatives and Double Integrals** | | Ch |
| | | Functions of two variables | Ex | |
| | | Partial Derivatives | Ex | |
| | | Total Differential and Applications | Ex | |
| | | Double integration | Ex | |
| | | Centroids and moment of inertia | Ex | |
| | | Radius of gryation | | |
| | | Review | Ex. | |
| | 15 | **Differential Ek^uations First Order** | | Ch |
| | | Direct integration, separation of variables | Ex. 1,2 | |
| | | Special integrable combinations | Ex. 3 | |
| | | Linear differential equations | Ex. 4 | |
| | | Exact eqns. (use of entegrating factor) | Ex. 5 | |
| | | Applications (word problems) | Hand-out | |