SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

# COURSE OUTLINE

Course Title: MATHEMATICS

Code No.: MTH 367-4

Program: ELECTRICAL/ELECTRONIC TECHNOLOGY; COMPUTER TECHNOLOGY

Semester:

Date: JULY, 1988

Author: J. REAL

New X Revision:

APPROVED: _____ Chairperson Date *tj*

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MATHEMATICS MTH 367-4

COURSE NAME COQRSE NUMBER

PHILOSOPHY/GOALS;

When the student has successfully completed this course h6/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 of other courses in the program where there 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):

**Grades**:

Grades reported on your transcript are based on a weighted average of tes scores, on the following basis: J

85 - 100% A+
75 - 84% A
65 - 74% 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 mus phone the instructor (759-6774) 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 a note from the college nurse.

There will be no rewrites (make-up tests) or supplemental exams during th semester or at the end of the semester.

TEXTBOOK:

TECHNICAL CALCULUS WITH ANALYTIC GEOMETRY - A.J. Washington

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| TOPIC NO | NO. OF PERIODS | TOPIC DESCRIPTION | ASSIGNMENTS |
|---|---|---|---|
| | 15 | **Methods of Integration** | |
| | | Review integration of trigonometric exponential, logarithmic, and inverse functions | |
| | | Integration by parts | 330 |
| | | Algebraic substitutions | 335 |
| | | Trigonometric substitutions | 339 |
| | | Partial fractions | 343,349 |
| | | Use of integration tables | 353 |
| | 12 | Power Series- | Ch |
| | | Maclaurinseries | p. 452 |
| | | Applications of Maclaurin series | p. 458, 462 |
| | | Fourier series | p. 474 |
| | | Review exercise | p. 475 |
| | 15 | First Order Differential Equations | |
| | | Solutions of differential equations | p.480 |
| | | Separation of Variables | p.484 |
| | | Integrable combinations | p.487 |
| | | Linear equations. Exact and integrating factor | p.490 |
| | | Applications | p,496 |
| | 15 | Second Order Differential Equation | Ch |
| | | Linear equations - homogeneous | p.505 |
| | | Repeated and complex roots of auxiliary equation | p, 510 |
| | | Non-homogeneous equations | p,514 |
| | | Applications | p.521 |

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| TOPIC NO. | NO. OF PERIODS | TOPIC DESCRIPTION | ASSIGNMENTS | REFEREN( |
|---|---|---|---|---|
| 5 | 8 | Laplace Transforms- | | Ch. 1' |
| | | Finding transform by definition, table of transforms (partial fractions) | p. 539 | |
| | | Solving differential equations | p. 542 | |
| | | Review exercise | p. 543 | |