

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

COURSE OUTLINE

Course Title: MATHEMATICS
Code No.: MTH 251-4
Program: ELECTRICAL AND **ELECTRONIC** TECHNICIANS
Semester: THREE
Date: JUNE, 1986
Author: K. G. CLARKE

New:

Revision:

APPROVED:


Chairperson

Date*/

CALENDAR DESCRIPTION

ELECTRICAL & ELECTRONIC TECHNICIANS

MATHEMATICS

MTH 251-4 ELT/ETT

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS;

The course begins with a brief review of part of the algebra from the first year courses. It continues with the following algebra topics: Determinants, Quadratic Equations, Ratio, Proportion and Variation, Non-Linear Equations and Exponential and Logarithmic Functions.

METHOD OF ASSESSMENT (GRADING METHOD):

The students will be assessed by tests. These tests will include periodic tests based upon blocks of subject matter and may, at the instructor's discretion, include unannounced surprise tests on current work and/or a final test on the whole course. A letter grade will be based upon a student's weighted average of his test results. See also the Mathematics department's annual publication "To the Mathematics Student" which appears as the last two pages of this course outline.

As in any other subject, the student is preparing to be a technologist or technician, as well as studying the subject. Hence, on tests, the student is expected to produce neat, legible, well laid out solutions which show clearly how the answer was obtained. If anything less is required this will be indicated in the test. Failure to show such solutions may render correct answers worthless. As happens in the workplace, if anything you put on paper can be misread it will be! In addition to loss of marks on individual questions, up to 25% of marks available on a test can be subtracted as a penalty for untidiness. Marks lost in such penalties can be redeemed by a student willing to put forth the required effort.

TENTATIVE INSTRUCTION AND TEST SCHEDULE

TOPIC NO.	NO. OF PERIODS	TENTATIVE TEST DATE	TOPIC WEIGHT
1	15	To be	60
2	8	announced	32
3	7	early in	28
4	10	the term	40
TOTALS	40		160

Before recording, test results will be adjusted to reflect the value indicated under "TOPIC WEIGHT". The minimum total required for each letter grade is listed below for your convenience. Please note that in addition to a minimum total mark there are additional requirements to qualify for a grade of I or X.

LETTER GRADE	MINIMUM TOTAL REQ'D
A+	144
A	128
B	104
C	88
or	72

The notes on the last two pages of the course outline, entitled "To the Mathematics Student" are applicable to all mathematics courses at Sault College.

TEXTBOOK(S);

Calter: Technical Mathematics with Calculus

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(s):

TECHNICIAN MATH SEMESTER III

MTH 251-4

ELT/ETT

TOPIC NO.	NO. OF PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENCES
		ALGEBRA REVIEW		
		Factoring Exponents and Radicals		Parts of Chapters 3, 7, and II
		<u>DETERMINANTS</u>		
		Two unknowns Three unknowns More unknowns Simplifying determinants		Part of Chapter 9 plus MSS
		<u>QUADRATIC EQUATIONS</u>		
		Graphical solution Solution by factoring Completing the square Review solution by formula		Chapter 11
		<u>RATIO, PROPORTION AND VARIATION</u>		
		Ratios Proportions Variation Constant of proportionality		Part of Ch. and all of Ch. 16

TOPIC NO.	NO. OF PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENCES
5	9	<u>NON-LINEAR EQUATIONS</u> (including power, trig, log and exponential functions) Graphical solution Solution by trial Factor theorem		MSS
6	10	<u>EXPONENTIAL AND LOGARITHMIC FUNCTIONS</u> Definitions Graphs of functions Properties of functions Common and natural logarithms using a calculator Exponential and logarithmic equations Tables can be omitted. Hence, some exercises may need revised instructions.		Ch. 17

If necessary, the final topic may be completed in the following semester.