SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title   MATHEMATICS

Code No,:   MTH 219-4 (FORMERLY MTH 251-4)

Program: ELECTRICAL AND ELECTRONIC TECHNICIANS

Semester: THREE

Date: JULY, 1987

Author: K. G. CLARKE

                          New: Revision

APPROVED: _____   Date _c/^^-j^K/P_
          Chairperson
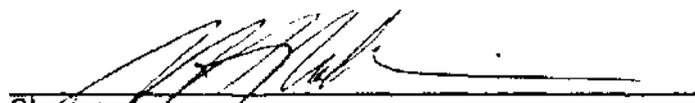
CALENDAR DESCRIPTION

ELECTRICAL & ELECTRONIC TECHNICIANS
        MATHEMATICS   MTH 219-4 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 student's progress will be assessed by periodic written tests.
The student's final grade is based upon a weighted average of the test
results. A separate handout will include a schedule of tests, a
description of the method used to find the weighted average and a
number of requirements and suggestions with regard to tests.
ATTENDANCE AT ALL TESTS IS REQUIRED. Unexcused absence from a test
will result in a mark of zero for that test. A student may be
prevented from attending a test by illness or bereavement. Upon
return to classes, the student must see the instructor at the end of
the first mathematics class attended to arrange a time and place for a
make up test. In addition, if the absence is due to illness the
student must present a note from the student's doctor or from the
College nurse.

Make up tests will not be made available in this course in any
circumstances other than those described above.

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
requ ired/ 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 the
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. Proper solutions as

MTH 219-4 ELT/ETT

described above should be produced for all your assigned work. Such practice will make it easier for you to produce the required quality of work on tests. If when you look at a page of your work it makes you feel proud of its appearance, than you are probably on target-Marks allotted to each question on a test are usually shown. Please enquire if they are not. The questions on a test do not necessarily have equal values.

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):

ENTRY TO COURSE

The prerequisite for this course is second semester technician or technology mathematics.

If certain conditions have been met, a student who failed second semester technology mathematics by a small margin, may be admitted to this course {third semester technician mathematics). The conditions are:

1. Good attendance.

2. All tests written.

3. Course average 45% or better.

If the student then fails the semester III course, he will have two "R" grades on his transcript and he will have to take and pass a second semester mathematics course in order to again be admitted to this course. If he is successful on his first try at this course he will receive his grade in this course and a credit in semester II mathematics. The "R" grade in semester II technology mathematics will remain on the student's transcript. This will enable the student to enter the fourth semester technician mathematics course.

TECHNICIAN MATH SBNBSTER III

MIH 219-4
H-T/ETT

TOPIC NO.	NO. OF PERIODS	TOPIC DESCRIPTION	ASSIGNMTS	REFERENCES

ALGEBRA REVIEW

		Factoring		Parts of
		Exponents and		Chapters
		Radicals		3, 7, and 10

DETERMINANTS

		Two unknowns		Part of
		Three unknowns		Chapter 9
		More unknowns		Plus
		Simplifying		MSS
		determinants		

QUADRATIC EQUATIONS

		Graphical solution		Chapter 11
		Solution by factoring		
		Complet ing the square		
		Review solution by		
		formula		

RATIO, PROPORTION
AND VARIATION

		Ratios		Part of Ch
		Propert ions		andallof
		Variat ion		Ch . 16
		Constant of		
		proport ionality		

f

TOPIC NO.	NO. OF PERIODS	TOPIC DESCRIPTION	ASSIGNMNTS	REFERENCES
		<u>NON-LINEAR EQUATIONS</u> (including power, trig, log and exponential functions)		MSS
		Graphical solution Solution by trial Factor theorem		
	10	<u>EXPONENTIAL</u> <u>AND</u> <u>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

f

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