SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: MATHEMATICS

Code No.: MTH 119-4 (FORMERLY MTH 120-4)

Program: ELECTRICAL AND ELECTRONIC TECHNICIANS

Semester: ONE

Date: JULY, 1986

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New: Revision: X

APPROVED: Chairp^rson Date «/<y Jrf/f'?,

MATHEMATICS   MTH 119-4 ELT/ETT

Course Name   Course Number

ELECTRICAL AND ELECTRONICS TECHNICIANS SEMESTER I

PHILOSOPHY/GOALS;

In this course the student is first introduced to the art of technical
calculations. This is followed by an extensive review of secondary
school algebra and the trigonometry of right triangles.

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. If a student is
prevented from attending a test by illness or bereavement, the student
must phone the instructor before the time of the test and leave a
message for the instructor, at his extension, stating the reason for
absence. The number to call is 949-2050. 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 other
circumstances 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
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 the
marks available on a test can be subtracted as penalty for untidiness.
Marks lost in such penalties can be redeemed by a student willing to
put forth the required effort.

Proper solutions as 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, then you are
probably on target.

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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.

ENTRY TO COURSE

All incoming students will write our mathematics pre-test. Results
will be supplied to major subject instructors who will interview the
students. Some will be advised to take technician mathematics (MTH
120). Any students who plan to take a technician program may take
either technician or technology mathematics in the first semester.
Once a student elects to take MTH 120, he is committed for the
duration of the semester.

ENTRY TO SUBSEQUENT COURSES

Entry to Semester Two Technician Mathematics is earned by passing
First Semester Math (either Technology ro Technician math).

A student who takes Technician Mathematics in the first semester and
subsequently decides to take a technology program will be permitted tc
take Second Semester Technology Mathematics if certain conditions are
met:

1. "A" or "B" grade in MTH 120.
2. The student is accepted into the technology program by the
    department concerned.

A student who fails this course generally must repeat and pass it
before being admitted to Semester Two Math.

TEXTBOOK(S):

Washington: "Basic Technical Mathematics with Calculus", Fourth
Edition, Metric.

OBJECTIVES:

The basic objective is for the student to develop an understanding
the methods studied, knowledge of the facts presented and an abilit
to use these in the solution of problems. For this purpose, exerc:
are assigned. Tests will reflect the sort of work contained in th<
assignments. The level of competency demanded is the level requir
to obtain an overall passing average on the tests. The material t
covered is listed on the following page.

MTH 119-4
ELECTRICAL AND ELECTRONIC TECHNICIANS
SEMESTER I

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFERENCE
	11	<u>Numerical Computation</u>	Ex. 1-1 to 1-4, 1-6
		The real numbers, Exact and Approximate Numbers. Addition and Subtraction. Multiplication, division, reciprocals, powers, roots. Combined Operations. Units of measure. Substituting into formulas. Scientific notation. Percentage. Solving percentage problems. Percent change and percent difference. Percent error. Percent concentration. Percent efficiency. Common and natural logarithms.	Appendix B Appendix D MSS
	12	<u>Review of Elementary Algebra</u>	Text
		Algebraic expressions. Addition and subtraction of algebraic expressions. Integral exponents. Multiplication of algebraic expressions. Division of algebraic expressions. Equations.	Ex. 1-5, 1-7 1-14
	10	<u>Factoring</u>	Text Te
		Common factors. Difference of Two Squares. Factoring trinomials. Trinomials with a leading coefficient other than one. The perfect square trinomial. Sum or difference of two cubes. Factoring by grouping.	Ex. 5-1 to Ch 5-3 and part of 5-8 MSS

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFERENCE
	10	<u>Fractions</u>	Text

Definitions.   Ex. 5-4 to
Manipulation of fractions.   5-8,
Multiplication and division   17-1
  of fractions.
Addition and subtraction of
  fractions.
Fractional equations.
Ratio and proportion.

| | 8 | <u>Systems of Linear Equations and Determinants</u> | Text |

Systems of linear equations.   Ex. 2-1 to \
Systems of fractional, non-   Ex. 4-1 to *•
  linear and literal equations.
Determinants.
Systems of three or more
  equations.

| | 10 | <u>Right Triangles and Basic Trigonometry</u> | Text |

Angles and their measures   Ex. 3-1 to 3-(
Solution of right triangles.   8-1 to 8-:
Vectors.