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SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: MATHEMATICS

Code No.:   MTH 126-4

program: FORESTRY AND GEOLOGY TECHNICIANS

Semester: TWO

Date   JULY, 1985

Author;   K. PELEW

                                New: Revision:

APPROVED: _____   _____fki___ /7/JS-
            Chairperson   Date

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CALENDAR DESCRIPTION

MATHEMATICS   MTH 126-4

Course Nam   Course Number

PREREQUISITE: MTH 113-4

PHILOSOPHY/GOALS:

When the student has successfully completed this course he will have demon-
strated an acceptable ability to pass tests based upon the course contents
as listed elsewhere. If, after completing the course, the student takes
further courses (or employment) in which he is required to apply this
material he should then, through practice, be able to develop a good
command of this subject matter.

METHOD OF ASSESSMENT (GRADING METHOD):

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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 dis-
cretion include unannounced surprise tests on current work and/or 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 depart-
ment's annual publication "To the Mathematics Student" which is presented
to the students early in each academic year.

TEXTBOOK:

"Essentials of Mathematics"; Fourth Edition, (person)

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 assign-
ments. 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 pages.

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFERENCE
1	12	**Fractions, Fractional Equations &^ Formulae** Equations with fractions Literal equations and formulae Word problems	Person Ch. 12&13
2	4	**Systems of Linear Equations** Algebraic methods of solution Systems of two or more unknowns Word problems Determinants (optional)	Person Ch. 14
3	6	**Graphs, Graphical Solutions, Straight Lines** Rectangular co-ordinate system Graph of a linear equation Graphical solution of two simultaneous equations Slope of a line (optional) Graphs of other functions (optional)	Person Ch. 15
4	4	**Ratio and proportion** Ratio Proportion Variation-direct, inverse, joint solutions of variational problems	person Ch. 23
5	4	**Review of Basic Trigonometry** Plane figures, angles, triangles Right triangles, definition of trig. Ratios Solving right triangles Applications	Person Ch. 36, 38
6	6	**Oblique Triangles** Sine Law Cosine Law	Person Ch. 44

7	12	**Exponents and Radicals**
		Power and roots
		Laws of exponents (zero, negative,
		  fractional)
		Scientific notation (emphasize for
		  Forestry)
		Square roots
		Roots and radicals (simplifying)
		Operations on radicals (omit for
		  Forestry)
			Person
			Ch. 16, 17

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFERENCE

8	12	<u>Quadratic Equations</u>
		Incomplete (pure) quadratics
		Solutions of the general quadratic by
		  factoring and the quadratic formula
		  only.
		Applications - word problems
		Graphical methods
		Radical equations (optional)
		Extraneous roots (optional)
		Imaginary number (optional)
			Person
			Ch. 18, 21

9	8	<u>Logarithms (For Geology Only)</u> The meaning and notation of logarithms Use of table-interpolation Computation by logarithms (products, quotients, powers and roots) Logarithmic and exponential equation Change of base Natural logarithms - conversion formula	Person Ch. 33-35

60 PERIODS