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: JUNE, 1988

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New: Revision: X

APPROVED: Chairperson   Date   *M/* frr/aa

CALENDAR DESCRIPTION

MATHEMATICS   MTH 126-4

Course Name   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);

^fche students will be assessed by tests. These tests will include periodic
^^ests 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 a
overall passing average on the tests. The material to be covered is liste
on the following pages.

I;OPIC NO,	PERIODS	TOPIC DESCRIPTION	REFERENCE

12   <u>Fractions</u>, <u>Fractional Equations</u> &_ <u>Formulae</u>   Person
Literal equations and formulae   Ch. 12&1
Word problems   p.181-22'

<u>Systems of Linear Equations</u>   Person
Algebraic methods of solution   Ch. 14
Systems of two or more unknowns   p. 227-252
Word problems
Determinants (optional)

<u>Graphs, Graphical Solutions, Straight</u>   Person
<u>Lines</u>   Ch. 15
Rectangular co-ordinate system   p. 253-268
Graph of a linear equation
Graphical solution of two simultaneous
   equations
Slope of a line (optional)
Graphs of other functions (optional)

<u>Ratio and Proportion</u>   Person
Ratio   Ch. 23
Proportion   p. 395-412
Variation-direct, inverse, joint
   solutions of variational problems

<u>Review</u> of <u>Basic Trigonometry</u>   Person
Plane figures, angles, triangles   Ch. 36,37,3
Right triangles, definition of trig.   p. 561-589
Ratios
Solving right triangles
Applications

<u>Oblique Triangles</u>   Person
Sine Law   Ch. 44
Cosine Law   p. 648-658

12   <u>Exponents and Radicals</u>   Person
Power and roots   Ch. 16, 17
Laws of exponents (zero, negative,   p. 269-297
   fractional)
Scientific notation (emphasize for
   Forestry)
Square roots
Roots and radicals (simplifying)
Operations on radicals (omit for
   Forestry)

'TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFERENCE
8	12	**Quadratic Equations**	Person
		Incomplete (pure) quadratics	Ch. 18, 21
		Solutions of the general quadratic by factoring and the quadratic formula only.	p. 309-327
		Applications - word problems	
		Graphical methods	
		Radical equations (optional)	
		Extraneous roots (optional)	
		Imaginary number (optional)	
9	8	**Logarithms (For Geology Only)**	Person
		The meaning and notation of logarithms	Ch. 33-35
		Use of table-interpolation	p. 513-559
		Computation by logarithms (products, quotients, powers and roots)	
		Logarithmic and exponential equation	
		Change of base	
		Natural logarithms - conversion formula	

60 PERIODS

<u>GRADES</u>

Each Mathematics grade is based upon a weighted average of test scores on the following basis:

90-100%	A+
80%-89%	A
65%-79%	B
55%-64%	C
45%-54%	I, X, OR R (See #5 & 6)
0% -44%	R

The method of calculating your weighted average will be defined by your instructor. Since grades are based upon averages, it follows that good marks in some tests can compensate for a failing mark in another test. If there are extenuating circumstances, an instructor can make an exception and assign an "I" or "X" grade even if the average is below 45%.

<u>TESTS</u>

While regular tests will normally be scheduled and announced beforehand, there can be an unannounced test on current work at any time. Such tests, at the discretion of the instructor, can be used for up to 30% of the overall mark.

At the discretion of the instructor, there can be a final test which can be used for up to 30% of the overall mark. Anything included in the work of the semester is fair game on such a final test.

<u>ABSENCE FROM CLASS</u>

If you are absent from class, it is your responsibility to find out from another student what work was covered and assigned and to complete this work before the next class. Your absence indicates your acceptance of this responsibility.

TEST ABSENCE

Unexcused absence from a scheduled test will result in a zero mark. Absence may be excused on compassionate grounds such as verified illness or bereavement. On return from an excused absence, you should ask your instructor about writing a make-up test.

If your instructor uses short unannounced tests, the following will apply. Unexcused absence from such a test will result in a zero mark. If absence from such a test is excused, then, at your request, the marks for that test will be excluded from the calculation of your course average.

MAKE-UP PERIOD (IF APPLICABLE)

An "X" grade may be assigned at the end of the regular semester if you have achieved an overall average between 45%-54% and your attendance and effort on the course have been satisfactory. Satisfactory attendance and effort will include writing all the topic tests and attending at least~8Q% of the scheduled classes. If you are assigned an "X" grade, you may convert it" to a "C" grade by passing a make-up test on the whole course. This test will be available only at the time specified by your instructor. At the end of the regular term, it is the student's responsibility to obtain his/her results from his/her instructor and, in the event of an "X" grade, to inquire when the make-up test will be available. At the discretion of the instructor, a topic make-up test may be used instead of an overall test in special circumstances. No student will be permitted more than one such topic make-up test.

"R" AND "X" GRADES - AT THE END OF THE SEMESTER

If an "X" grade is not cleared by the specified date, it will become an "R" grade. Except for extenuating circumstances, an "X" grade in Math will not carry on into the next semester.

"R" GRADES DURING THE SEMESTER

A student with a failing grade and poor attendance (less than 80% attendance) may be given an "R" at any time during the semester.