

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

COURSE OUTLINE

Course Title MATHEMATICS
Code No. : MTH 220-4
Program: ARCHITECTURAL TECHNICIAN
Semester II
Date: DECEMBER, 1983
Author K. G. CLARKE

New:

Revision

APPROVED

Chairperson

Date

ARCHITECTURAL TECHNICIAN
MTH 220-4
MATHEMATICS

CALENDAR DESCRIPTION

MATHEMATICS

MTH 220-4

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS;

When the student has successfully completed this course, he will have demonstrated an acceptable ability to pass tests based upon the course content 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);

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 is presented to students early in each academic year.

TEXTBOOK(S):

Washington, "Basic Technical Mathematics with Calculus", Benjamin Cummings

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 them 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)

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<u>NO.</u>	<u>PERIODS</u>	<u>TOPIC DESCRIPTION</u>	<u>ASSIGNMENTS</u>	<u>REFERENC</u>
1	23	<u>Algebra Review</u> Functions and Graphs, Solution of Systems of two or three Linear Equations, Special Products and Factoring, Algebraic Fractions, Fractional Equations (Determinants may be omitted)	Text Exercises 2-1 to 2-5, 4-1 to 4-3, 4-5, 4-7, 5-1 to 5-8	Text Ch. 2, 4, i omitting 4-4 and 4-6
2	6	<u>Quadratic Equations</u> Factoring, Completing the Square, Formula	Text Exercises 6-1 to 6-4 and 13-3	Text Ch. 6 am 13-3
	10	<u>Exponents and Radicals</u> <u>Integral and Fractional</u> Exponents, Simplest Radical Form, Addition, Subtraction, Multiplication and Division of Radicals	Text Exercises 10-1 to 10-7, 13-4	Text Ch. 10 ai 13-4
	8	<u>Exponential and Logarithmic</u> <u>Functions</u> Definitions, Graphs of Functions, Properties of Logarithms, Logarithms to Base 10 using a <u>calculator</u> . Computations using Logarithms, Natural Logarithms using a <u>calculator</u> . Logarithms to other bases. Exponential and Logarithms, Equations. NOTE: Since each student is expected to have a scientific calculator, the use of tables should be omitted. Also, the use of log trig functions is unnecessary. In Ex. 12-76 the instructions should be modified to reflect the use of calculators.	Text Exercises 12-1 to 12-5, 12-7, 12-8, parts of 12-10	Text Ch. 12 omit 12 and 12-8

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NO.	PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENC
5	4	Ratios, Proportions, Variation	Text Exercises 17-1, 17-2, 17-3	Text Ch. 17
6	12	Review of Basic Trigonometry Angles, Trigonometric Functions, Rt. Triangles, Trig Functions of any Angle, Radian Measure, Sine Law, Cosine Law, Areas, Applications NOTE: Since the student is expected to have a scientific calculator, the use of tables should be omitted. Also, the instructions in exercises should be ammended to avoid the use of loose approximations for (such as 3.14). For areas of triangles additional problems can be used or text exercises can be altered to require areas.	Text Exercises 3-1 to 3-6, 7-1 to 7-5, 8-4, 8-5, 8-6 #17 on and additional problems	Text Ch. 3, 7 8-4, 8-8