DOC. 433

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: MATHEMATICS

Code No. MTH 119-4

Program: COMPUTER/ELECTRICAL/ELECTRONICS/MECHANICAL TY/TN

Semester:

Date: JUNE, 1989

Author; J. REAL

New; Revision: X

APPROVED: Ch3i'rperson

Date ?r-/'J^{i}<r

CALENDAR DESCRIPTION

MATHEMATICS	MTH 119-4
COURSE NAME	COURSE NUMBER

PHILOSOPHY/GOALS;

It has been found that most students registered in this advanced level, pre-calculus course, still need additional practice with some basic algebra and trigonometry, before they can successfully complete the calculus courses in semesters three to six. Although most of the topics, with the possible exception of complex numbers, should look familiar to the students, the presentation and expectations will probably be more demanding.

METHOD OF ASSESSMENT (GRADING METHOD):

Grades

Grades reported on your transcript are based on a weighted average of test scores, on the following basis:

90 - 100% A+
30 - 89% A
55 - 79% B
55 - 64% C
0 - 54% R or X

The method of calculating a weighted average is described in your student hand-book.

All tests are scheduled in advance. Hence attendance is mandatory. Unexcused absence from a test will result in a mark of zero for that test. If a student is prevented from writing a test by illness, the student must phone the instructor (759-6774 Ext. 562) before the time of the test and leave a message for the instructor stating the reason for absence. Upon return to classes, the student must see the instructor immediatley to arrange a time and place for a make up test. The student must have a doctor's certificate or a note from the College Nurse.

There will be no rewrites (make-up tests) or supplemental exams during the semester or at the end of the semester.

MTH 413-4

ENTRY TO FOLLOWING COURSES-

Any student who passes this course will be admitted to the Semester II Technician Math course (MTH 128). A student who passes this course and is accepted by his department as a three-year technology student will be admitted to the Semester II Technology Math course (MTH 426).

A student who fails this course MAY be given an X-Grade and admitted to MTH 128 if he has met all of the following criteria:

1. Good attendance.
2. All tests written during the semester.
3. Final course average of at least 45%.

At the end of semester II, if such a student has satisfactorily completed MTH 128, he will be given a C-Grade in MTH 119. If unsuccessful in MTH 128, the student will receive an R-Grade in both courses.

Credits

A credit for this course may be allowed on presentation of proof of standing in Algebra and Geometry or the Functions and Relations course or the Ontario Grade 13 program. A score of 70% or better in the pre-test must be achieved as well.

TEXTBOOK(S);

Washington, "Basic Technical Mathematics with Calculus" - Fourth Edition.

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):

MTH 119-4

TOPIC NO.	NO. OF CLASSES	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENCES
1	4	**Introduction (General Review)**		Appendix A,B,D
		Study Aids - read		
		Metric System	Ex. B-l	
		Approximate numbers and significant digits	Ex. B-2,3	
		Scientific calculator	Ex. D-4	
2	10	**Fundamental Concept and Operations-**		**Ch. 1**
		Fundamental laws of algebra	Ex. 1-4 Ex. 5	
		Rules for exponents	Ex. 6	
		Scientific notation	Ex. 7	
		Roots and radicals		
		Basic operations on algebraic equations	Ex. 8-10 Ex. 11	
		Equations		
		Formulas and literal equations	Ex. 12 Ex. 14	
		Review exercise		
3	5	**Functions and Graphs**		Ch,
		Functional notation	Ex. 1	
		Rectangular co-ordinates	Ex. 2	
		The graph of a function	Ex. 3,4	
		Solving equations graphically	Ex. 5	
		Review exercise	Ex. 6	
4	9	**Trigonometry**		Ch.
		Angles, definitions of functions	Ex. 1-3	
		The right triangle	Ex. 4	
		Applications	Ex. 5	
		Review exercise	Ex. 6	

TOPIC NO.	NO. OF CLASSES	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENCES
		Systems of Equations		**Ch. 4**
		Graphing linear equations	Ex. 1,2	
		Graphical solutions	Ex. 3	
		Algebraic solutions	Ex. 4	
		Solutions using determinants	Ex. 5	
		Systems in three unknowns	Ex. 6,7	
		Review exercise	Ex. 8	
	13	**Factoring and Fractions**		Ch. 5
		Special products	Ex. 1	
		Factoring	Ex. 2,3	
		Equivalent fractions	Ex. 4	
		Multiplication and division	Ex. 5	
		Addition and Subtraction	Ex. 6	
		Equations	Ex. 7	
		Review exercise	Ex. 8	
	6	**Quadratic Equations**		Ch. 6
		Solution by factoring	Ex. 1	
		Completing the square	Ex. 2	
		The quadratic formula	Ex. 3	
		Graphs of quadratic functions	Ex. 4	
		Review exercise	Ex. 5	