

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

COURSE OUTLINE

Course Title: MATHEMATICS
Code No.: MTH 626-4
Program: AVIATION
Semester: II
Date: NOVEMBER 1987
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New: Revision: X

APPROVED: 
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Date ^^-J'^/f 7

CALENDAR DESCRIPTION

MATHEMATICS

MTH 626-4
AVIATION SEM II

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS;

This course is a continuation of MTH 613 as an elementary calculus course. It includes differentiation and integration of algebraic, trigonometric and inverse trigonometric functions, exponential and logarithmic functions and applications of these. It is intended to give the student a mathematical understanding of many topics that arise in other courses.

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. A student may be prevented from attending a test by illness or bereavement. 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 a penalty for untidiness. Marks lost in such penalties can be redeemed by a student willing to put forth the required effort-

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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, than you are probably on target-

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-

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 in the tests. The material to covered is listed below.

TEXTBOOK(S):

Washington, Allan, J., Technical Calculus With Analytic Geometry
Third Edition.

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TOPIC NUMBER	NO. OF PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	REFERENCE
	12	<u>Applications of Integration</u> -		Ch. 5
		Applications of indefinite integral.	Ex. 1	
		Areas by integration.	2	
		Volumes by integration.	3	
		Centroids.	4	
		Moments of inertia,	5	
		Work.	6	
		Liquid pressure.	7	
	15	<u>Trigonometric and Inverse Functions</u> -		Ch. 6
		Review basic trig, relations, graphs, identities.	1 2	
		Derivatives of sine and cosine functions.	3	
		Derivatives of other trigonometric functions.	4	
		Inverse trigonometric functions and derivatives.	5 6	
		Applications.	7	
	14	<u>Exponential and Logarithmic Functions</u>		Ch. 7
		Review rules for exponents and logarithms.	1	
		Derivatives of logarithmic functions.	2	
		Derivatives of exponential functions.	3	
		Applications.	4	
		<u>Methods of Integration</u>		Ch. 8
		Integration by substitution	1-3	