

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

COURSE OUTLINE

Course Title: MATHEMATICS  
Code No MTH 128-4  
Program: ELECTRICAL AND ELECTRONIC TECHNICIANS  
Semester: II  
Date JUNE 1989  
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New:

Revision:

APPROVED:

  
Chairperson

Date

:ALENDAR DESCRIPTION

MATHEMATICS

MTH 128-4  
ELECTRICAL & ELECTRONICS  
TECHNICIANS SEM II

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS:

The course begins with complex numbers. The course continues with a review of secondary school mensuration, algebra and trigonometry and extends each of these topics a bit beyond the level of many secondary school programs.

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.

TEXTBOOK(S):

Washington: BASIC TECHNICAL MATHEMATICS WITH CALCULUS, 4th Ed.  
Metric

ENTRY TO COURSES

Entry to this course can be earned by passing the first semester math course, A student carrying an X grade in Semester I Math can be admitted to this course (Semester II Technician Math).

ENTRY TO THE SUBSEQUENT COURSES

Satisfactory completion of this course is required for admission to the third semester technician math course.

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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 be covered is listed below:

TOPIC NO,	PERIODS	TOPIC DESCRIPTION	ASSIGNMENTS	Ret'
	11	<u>COMPLEX NUMBERS</u>	TEXT EX 11-1, 3,4,6 (p ; 7,8	TEXT, Ch.11 <u>orr.it-</u> ting sec 11-5
		- Complex Numbers		
		- Operations with Complex Numbers in Rectangular Form		
		- Graphing Complex Numbers		
		- Trigonometric and Polar Forms of Complex Numbers		
		- Alternating-Current Calculations		
	15	MENSURATION		
		Principles of Plane Geometry		App.C &
		Areas & Perimeters of Plane Figures		MSS
		Surface Areas & Volumes of Solid Shapes		
	10	ANGLES AND OBLIQUE TRIANGLES	TEXT EX 7-1 TO 7-5, EX 8-5, 8-6	TEXT CHAPTERS 7-8
		- Trigonometric Functions of any Angle		
		- Radian Measure and Arc Length		
		- Law of Sines		
		- Law of Cosines		
		- Applications		
		- Addition of Vectors		
		ALGEBRA REVIEW		TEXT
		Functions & Graphs		CHAPTERS
		Systems of Linear Equations		2,4,5 & 6 and Ch 15

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**TEST REQUIREMENTS**

The following points should be read carefully and followed when writing math tests.

**AVOID THE USE OF RED INK ON TESTS**

Red is reserved for marking.

**KEEP QUIET**

During tests there must be no communication between students. Hence, borrowing equipment is not possible.

**DON'T WEAR EARPHONES**

The only electronic device permitted during a test is your calculator.

**COME WELL EQUIPPED**

The following items should be brought to all math tests: pens, several sharp pencils, eraser, calculator, spare calculator if you have one, extra calculator battery, instruments and your textbook (just in case it is permitted). During tests, borrowing equipment is generally banned. It is your own responsibility to bring everything you will need.

Paper will usually be supplied. Your own paper must not be on your desk unless it has been authorized by the instructor.

Sign your name at the top of each page before working on it. If your signature lacks clarity, print your name under it.

When handing it in, fold your paper not quite in half so that your name at the top of the page still shows.

If you finish early, you may be permitted to leave. As you leave, please show consideration for those who are still writing by causing as little disturbance as possible. Bring everything with you when you hand in your paper and proceed directly out the door and away from the vicinity. Avoid talking to the instructor on your way out. The communications ban is in effect until the last paper has been turned in. It **applies** in all areas within earshot of the test room.

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**TEST SUGGESTIONS**

**PREPARE EARLY**

The best preparation for mathematics tests is doing the assigned work on a day to day basis and clearing up any difficulties encountered. Indeed, without day to day work, last minute studying usually accomplishes little.

**BE ON TIME**

Arrange to arrive early enough to have a few minutes to relax before the test starts. This helps to reduce tension so that you can concentrate.

**BE WELL RESTED**

Otherwise your brain is not in proper condition to produce.

**STRIVE FOR MAXIMUM MARKS**

Read the whole test carefully first. Next do those questions where you expect to get the most marks in the least time. If you finish early check your solutions carefully and recopy any that

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**TEST SCHEDULE MTH128**

TOPIC NO.	NO. OF PERIODS	TENTATIVE TEST DATE	TOPIC WEIGHT
1	10	FEB 2	22
2	14	MAR 16	31
3	9	APR 12	21
4	7	APR 27	16
	ATTENDANCE		10
	<b>TOTAL</b>		100

Before recording, test results will be adjusted, if necessary, to reflect the value indicated under 'TOPIC WEIGHT". Your weighted average is then the sum of the resulting topic marks. The minimum average required in this subject for each letter grade is listed below for your convenience. The basis of assigning attendance marks is also shown.

LETTER GRADE	MINIMUM AVERAGE % REQ'D	% OF RECORDED DAYS PRESENT	ATTENDANCE MARK
A+	90	90% or more	10
A	80	88% or 89%	9
B	65	86% or 87%	8
C	55	71% or less	0