

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

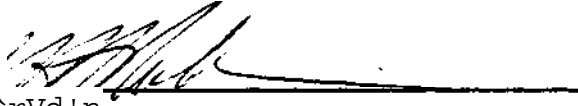
COURSE OUTLINE

Course Title: MATHEMATICS  
Code No.: MTH 120-4  
Program: ARCHITECTURAL/CIVIL TECHNICIAN  
Semester: ONE  
Date: JULY, 1986  
Author: K. CLARKE

New:

Revision:

APPROVED:

  
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CALENDAR DESCRIPTION

MATHEMATICS

MTH 120-4 ARCH/CIVIL TN.

Course Name

Course Number

PHILOSOPHY/GOALS;

The course begins with an introduction to technical calculations including conversion of units, use of approximate numbers and scientific notation. This is followed by a survey of plane and solid geometry which will enable the successful student of calculate areas, volumes and weights of various plane and solid shapes. The beginning of a review of secondary school algebra completes the course.

METHOD OF ASSESSMENT (GRADING METHOD) t

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 appears on the final two pages of this course outline.

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.

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, then you are probably on target.

Marks allotted to each question on a test are usually shown. Please enquire if they are not.

**TENTATIVE INSTRUCTION AND TEST SCHEDULE**

TOPIC NO.	NO. OF PERIODS	TENTATIVE TEST DATE	TOPIC WEIGHT
1	6	To be	24
2a	10	announced	40
2b	10	early in	40
3a	15	the term	60
3b	15		60
TOTALS	56		224

Before recording, test results will be adjusted to reflect the value indicated under "Topic Weight". The minimum total required for each letter grade is listed below for your convenience. Please note that in addition to a minimum total mark there are additional requirements to qualify for a grade of I or X.

LETTER GRADE	MINIMUM TOTAL REQ'D
A+	202
A	179
B	146
C	123
I or X	101

The notes on the last two pages, entitled "To the Mathematics Student" are applicable to all mathematics courses at Sault College.

## TEXTBOOK(S)

Person, R. "Essentials of Mathematics", (4th Edition), Wiley

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.

**MATHEMATICS  
for  
ARCHITECTURAL/CIVIL TECHNICIANS  
FIRST SEMESTER**

**MTH 120-4**

No. of Periods	Topic Description	Assignments	Refere
6	<u>PRACTICAL CALCULATING</u>  Conversion of units, esti- mating, approximate numbers, scientific notation, calculators	Text Exer. 54-1, 3-3, 16-5	
20	<u>GEOMETRY AND MENSURATION</u>  Principles of geometry as required for the following work: Pythagorean theorem Mensuration of plane figures triangle, rectangle, square parallelogram, trapezoid, circle, regular hexagon Mensuration of solid shapes: cubes, prisms, cylinders, pyramids, cones, spheres, truncated pyramids and cones	Text Exer.           24-2 (optional), 25-1, 25-2 26-1, 27-1 28-1, 29-1 30-1, 31-1 and all Ch. Quizzes	Text, Ch. 24
30	<u>ALGEBRA REVIEW ONE</u>  Whole numbers, fractions, decimal fractions, percentage square roots, fundamentals, zeros, exponents, roots and radicals, addition, subtraction, multiplication and division of algebraic expressions, elementary equations and their application, manipulation of formulas	Text Exer.           All exercises and quizzes except 3-3	Text, Ch. 1

GRADES

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

First semester students who are proceeding into second semester Electrical, Electronic or Mechanical Technician Programs may have a different set of grade requirements which will be defined in class.

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%

TESTS

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.

ABSENCE FROM CLASS

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.

TO THE MATHEMATICS STUDENT..continued

### 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 80% 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.