

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: MATHEMATICS

Code No. MTH 254-4

Program: ARCHITECTURAL/MECHANICAL/MECHANICAL DRAFTING
AND CIVIL TECHNICIANS

Semester:

Date: JUNE 1988

Author: W. MACQUARRIE

New: Revision: X

APPROVED: Ukr— XJc^.
Chairperson

Date (' 7

CALENDAR DESCRIPTION

MATHEMATICS

MTH 254-4..MECHANICAL/
ARCHITECTURAL/CIVIL TN

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 topics 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 in this subject matter.

METHOD OF ASSESSMENT (GRADING METHOD):

The students will be assessed by written tests, including major periodic tests based upon large blocks of the subject matter and some unannounced short quizzes on current work, the latter being given at the discretion of the instructor. A final test on the whole course may also be included. A letter grade will be based upon a student's weighted average of all his J test results. See also the mathematics department's annual publication "THE MATHEMATICS STUDENT" for further details. This publication is made available to the students early in each academic year.

TEXTBOOK(S):

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

Analytic Geometry - College Manuscript (Optional)

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 pages.

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ARCHITECTURAL/CIVIL/MECHNAICAL TECHNICIANS

X

| TOPIC NO. | PERIODS | TOPIC DESCRIPTION | REFERENCES |
|-----------|---------|--|--|
| | | <u>Algebra Review</u> | Person Text (unless otherwi noted) |
| | | Special products, factoring, lowest common exponents, formula, manipulation, quadratic and simultaneous equations | pp. 157-80; 269 289; 203-218; 309-323; 227- 240 |
| | 20 | <u>Solid Mensuration</u> | Kern & Bland Solid Mensurati Ch.1 Ch.3, 4, 6 |
| | | Mensuration of plane figures Mensuration of solid figures, cubes, prisms, cylinders, pyramids, cones, and spheres Applications involving the various figures in both metric (SI) and English units using COMPOSITE shapes | Hand-out sheets |
| | | <u>Analytic Geometry</u> ^ <u>Straight Line</u> | College Manu- script pp. 253-268 |
| | | Rectangular co-ordinates Distance between points on rect. system Slope Straight line equations and applications | |
| | 10 | <u>Analytic Geometry</u> ^ <u>Conic Sections</u> <u>Person</u> | |
| | | Introduction - the four sections through a cone The Circle - equations and graphs The Parabola - equations and graphs - <u>applications</u> - reflector | College Manuscript |
| | | The Ellipse - equations and graphs Translation of axes General Second Degree equation | |

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ARCHITECTURAL/CIVIL/MECHANICAL TECHNICIANS

| TOPIC NO. | PERIODS | TOPIC DESCRIPTION | REFERENCES |
|-----------|---------|--|---|
| | | <u>Introduction to Empirical Equations</u> | Rice & Knight 2nd Edition Chapter 6 |
| | | Linear empirical equations | pp. 334-352 |
| | | Non-linear empirical equations methods | |