SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	MATHEMATICS
CODE NO.:	MTH113-4 **SEMESTER:** ONE
PROGRAM:	FORESTRY TECHNICIAN
AUTHOR:	JOHN GIGUERE
DATE:	AUGUST 1991 **PREVIOUS OUTLINE DATED:** JUNE 1989

APPROVED: _____
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TOTAL CREDIT HOURS: 64

PREREQUISITE(S): Grade 12 Technical

I. PHILOSOPHY/GOALS:

The objectives of this course include a survey of plan and solid
geometry that will enable the student to determine areas, volumes and
mass for a variety of forms including cylinders, cones and pyramids and
other common bodies. Also included are a review of the basic
operations on algebraic expressions and the solutions to systems of
linear equations.

II. STUDENT PERFORMANCE OBJECTIVES:

The basic objectives are that the student develop an understanding of
the methods studied, demonstrate a knowledge of the facts presented and
show an ability to use these in the solution of problems. To
accomplish these objectives, exercises are assigned. Test questions
will be of near equal difficulty to questions assigned in the
exercises. 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 below.

III. TOPICS TO BE COVERED:

1. a) Estimation   8 periods
    b) Dimensional Analysis
    c) The Metric and British System

2. Plane Geometry   8 periods

3. Solid Mensuration   12 periods

4. Elementary Algebra   18 periods

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IV. LEARNING ACTIVITIES: **REQUIRED RESOURCES:**

1.0 Estimation, Dimensional
     Analysis and Units of
     Measure

1.1 Approximate numbers and   Ch. 3, p. 48
     rounding off procedures

1.2 Dimensional Analysis for   Ch. 6, p. 91
     conversion between systems
     of measure and within
     systems

1.3 The "SI" metric system and   Ch. 6, p. 85
     the British Engineering   Class Notes
     System

2.0 Plane Geometry

2.1 Definitions and theorems   Ch. 26, p. 497 to Ch. 28, p. 536
     involving triangles and
     other polygons

2.2 Definitions and theorems of   Ch. 29, p. 537
     the circle

2.3 Mensuration of plan figures   Calculator, scales

2.4 Basic construction if time   Protractor, metric scale
     permits   Drafting compass

3.0 Solid Mensuration

3.1 Mensuration of solid   Ch. 30 - 33, pp. 459 - 584
     figures (cubes, cylinders,
     pyramids, cones, spheres,
     and other solid figures)

3.2 Applications and formulae   Calculator

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IV. LEARNING ACTIVITIES: (cont'd) **REQUIRED RESOURCES:**

4.0 <u>Review of Elementary Algebra</u>

4.1 Operations with signed   Ch. 8, p. 123
     numbers

4.2 Basic Operations monomial   Ch. 9, p. 141

4.3 Operations involving   Ch. 10, p. 150
     algebraic expressions and
     fractions (polynomials)

4.4 Solutions and properties of   Ch. 11, p. 173
     linear equations

4.5 Applied word problems and   Ch. 12, p. 188
     formulae manipulation

4.6 Special Products and   Ch. 13, p. 209
     factoring

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V. METHOD OF EVALUATION:

As per the Mathematics Department Evaluation Guidelines distributed
separately.

Periodic tests and daily assignments based on material in the course
outline will be given during the semester. A final exam and a make-up
test will be given at the discretion of the professor.

The final mark will be based on the results of several unit tests.

Grading;

    A+ - 90-100%

    A - 80- 89%

    B - 65- 79%

    C - 55- 64%

    R - 0- 54%

A passing grade will be based on a minimum average grade of 55%.
Students obtaining an average grade of 45-55% may be allowed to write a
supplementary examination; for eligibility, please consult the
Mathematics Department Evaluation Guidelines.

VI. REQUIRED STUDENT RESOURCES:

1. Text: "Essentials of Mathematics", Fifth Edition (or most current
    edition), by: Person, R.V. and Person, V.J.

2. Calculator: Recommended; SHARP Scientific calculator EL-531H

    NOTE: Any good Scientific Calculator is acceptable but some
    difficulties have been encountered with other types. Also, more
    advanced calculators have created problems for many of the students
    resulting in lost time in tests.

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VII. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY BOOK SECTION:

1. College Library:

    The library has many comparable textbooks which may give you another perspective on a particular topic.

    Under the Library of Congress Catalogue System section: QA

2. The Learning Assistance Center:

    The Learning Assistance Center (L.A.C.) has a PEER TUTORIAL system in place for those who feel they need tutoringT The L.A.C. also has some Computer based Math tutorial programs available to the student.

VIII. **SPECIAL NOTES:**

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor or with the SPECIAL NEEDS COUNSELLOR.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.