SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE
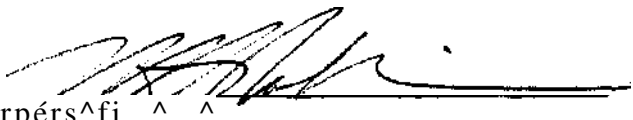
TRADE CALCULATIONS (IMM)
Course Title

ÉJONE   ^ - /
Code No.:

INDUSTRIAL MAINTENANCE MECHANIC
Program:

FORTY WEEKS
Semester:

OCTOBER, 1985
Date

D. TROWBRIDGE
Author:

New: Revision

APPROVED:
eTiairpérs^fi ^ ^   D a t e ^ ^

CALENDAR DESCRIPTION

TRADE CALCULATIONS (IMM)   NONE

     Course Name   Course Number

PHILOSOPHY/GOALS:

This course is intended to give the student sufficient background to be
able to solve work related problems. While a certain amount of theory will
be necessary, the emphasis will be on problems of the type which will be
experienced on the job.

METHOD OF ASSESSMENT (GRADING METHOD);

1.   Seven tests; after each topic (approximately)

2.   Final grade _ $\frac{\text{Total marks obtained}}{\text{Total possible marks}}$ on all tests   100%

    If a student achieves a grade less than 55% but more than 45% he/she
    may write a two-hour final exam covering the entire course. A passing
    grade in this rewrite will give a passing mark for the course-

TEXTBOOK(S):

Mathematics for the Trades by R-A. Garman, H.M. Saunders

TRADE CALCULATIONS (IMM)

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFEREN
1	2	<u>vn^ole Numbers</u> - review of basic operations of addition, subtraction, multiplication and division - solution to numerical problems involving these operations	Chapter 1
2	6	<u>Ruler Fractions and Decimals</u> - operations with fractions - reducing terms - operations with both fractions and mixed numbers, and decimals - conversions between common fractions and decimals especially "ruler fractions" of 1/2, 1/4, 1/8, 1/10, 1/32, 1/64	Chapter *l*
3	3	<u>Percent and Finance</u> - percents and common fraction equivalents - solving for percentage, base and rate - interest, discount and sales tax problems	Chapter '
4	4	<u>Measurement and Units</u> - direct measure including vernier scale - computed measure - Imperial and SI units - conversion between systems	Chapter
5	6	<u>Basic Algebra</u> - algebra fundamentals - solving formulas for unknown - calculating the value of a quantity in a formula when others are known - emphasis will be on trade related formula such as those from hydraulics and heat transfer	Chapter
6	6	<u>Ratio, Proportion and Variation</u> - definitions - direct and indirect proportion - solution of practical problems including gears, pulleys, levers, the inclined plane, wheel and axle	Chapter Section

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TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFERENCI

7	10	Geometry
		- points, lines and angles
		- determination of circumference,
		  perimeter and area of common shapes
		  (circle, triangle, square, rectangle)
		- determination of volume and surface area
		  of common forms (sphere, cylinder, pipes,
		  rectangular solid and cones)
		- calcuiation of weight using density and
		  specific gravity
			Chapter :

8	2	Graphs - interpretation and preparation of graphical information	Chapter i

9	8	Trigonometry
		- use of right angled triangles and
		  Pythagorean relation in solving
		  problems
		- solution of equilateral and isosceles
		  triangles using right triangles
		- definition of trigonometric functions
		  and uae of tables
		- calculations involving trigonometry in
		  piping and rigging problems
		
		Shop Problems
		- in consultation with main subject
		  instructor trade related problems will
		  be solved in which several mathematical
		  concepts are involved
			Chapter '