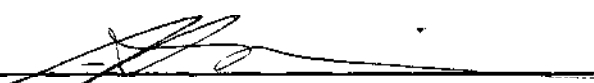**SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY**

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: COLLEGE PREPARATORY MATHEMATICS

CODE NO.: MTH 094-5 **SEMESTER:**

PROGRAM: NATIVE EDUCATION PROGRAM

AUTHOR: K. PELEW

DATE: JULY 1993 **PREVIOUS OUTLINE DATED:** JULY 1992

APPROVED: _____ _____
DEAN   **^ATE** ?//??.

COLLEGE PREP. MATH   MTH 094-5 (GAS

COURSE NAME   **COURSE NUMBER**

TOTAL CREDIT HOURS: 85

PREREQUISITE^): NONE

I.   PHILOSOPHY/GOALS:

The objectives of this course are to increase the student's speed, accuracy and skill in performing basic arithmetic calculations and to solve practical problems involving the application of arithmetic calculations.

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:	**TIME FRAME!**
I. Whole numbers and their operations	20 hours
II. Fractions and their operations.	20 hours
III. Decimals and their operations.	15 hours
IV. Operations with percent.	20 hours
V. Integers and their operations (if time permits).	10 hours
	85 hours

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IV. LEARNING ACTIVITIES:

REQUIRED RESOURCES:

TEXT: BASIC MATHEMATICAL
SKILLS
- James Streeter & Gerald
Alexander. SECOND EDITION

Exercises are to be done
<u>without</u> the aid of a
calculator.

Exercises:

1.0 <u>WHOLE NUMBERS</u>

1.1 Determining the place
value of a digit.
Writing a numeral in
words.
Writing a numeral, given
its word name.

1.1   (pg.8-9)

1.2 Adding any group of whole
numbers.

1.5   (pg.24-25)

1.3 Rounding a whole number to
any place value.
Estimating sums by
rounding.
Using the symbols < and >.

1.6   (pg. 32-33)

1.4 Subtracting whole numbers.
Estimating differences by
rounding.

1.8   (pg. 42-44)

1.5 Solving word problems
involving addition and
subtraction of whole
numbers.

1.9   (pg. 51-52)

1.6 Multiplying any two whole
numbers.

2.4   (pg. 75-76)

1.7 Multiplying by whole
numbers ending in zero.
Estimating products by
rounding.

2.5   (pg. 80-81)

1.8 Solving word problems
involving multiplication
of whole numbers.

2.7   (pg. 91-93)

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

1.9 Dividing with zero and   3.2   (pg. 114)
     one.   3.3   (pg. 119)
     Dividing whole numbers by
     single digit numbers.

1.10 Dividing whole numbers by   3.4   (pg. 126)
     two or three digit
     numbers.

1.11 Solving word problems   3.7   (pg. 137-139)
     involving division of
     whole numbers.

1.12 Finding the average of a   3.8   (pg. 143)
     group of whole numbers.

1.13 Using the rules for the   2.6   (pg. 84)
     order of operations.   2.8   (pg. 98-99)
     Powers of whole numbers.

1.14 Evaluating expressions   3.6   pg. 132-133)
     using the rules for the
     order of operations.

2.0 FRACTIONS   Exercises:

2.1 Finding the prime factors   4.2   (pg. 158)
     of a whole number.

2.2 Finding the lowest common   4.4   (pg. 169)
     multiple (LCM) of a group
     of numbers.

2.3 Identifying proper   5.2   (pg. 196-197)
     fractions, improper
     fractions and mixed
     numbers.
     Converting from one type   5.3   (pg. 201)
     of fraction to another.

2.4 Simplifying fractions by   5.5   (pg. 210-211)
     reducing to lowest terms.

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

2.5	Building fractions. Comparing the sizes of fractions.	5.4 5.6	(Pg- 204) (pg. 218-219)
2.6	Multiplying fractions.	6.3	(pg. 239-241)
2.7	Dividing fractions.	6.4	(pg. 250-252)
2.8	Finding the least common denominator (LCD) for a group of fractions.	7.2	(pg- 266)
2.9	Adding fractions.	7.3	(pg. 270-272)
2.10	Subtracting fractions.	7.4	(pg. 277-278)
2.11	Adding and subtracting mixed numbers.	7.5	(pg. 287-288)
2.12	Solving word problems involving fractions.	7.6	(pg. 292-294)
3.0	DECIMALS	Exercises:	
3.1	Identifying place values in decimal fractions. Writing decimal fractions in words. Writing decimal fractions, given their word forms. Comparing the sizes of decimal fractions.	8.1	(pg. 319-320)
3.2	Adding decimals.	8.2	(pg. 324-326)
3.3	Subtracting decimals.	8.3	(pg. 330-331)
3.4	Multiplying decimals.	8.4 8.5	(pg. 337-339) (pg. 343-344)
3.5	Rounding a decimal to a specified decimal place. Estimating decimals.	8.6	(pg. 347-349)

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IV. LEARNING ACTIVITIES:	**REQUIRED RESOURCES:**	
3.6 Dividing a decimal by a whole number.	9.1	(pg. 358-360)
3.7 Dividing a decimal by a decimal.	9.2	pg. 365-366)
3.8 Converting a common fraction to a decimal. Comparing the sizes of common fractions and decimals.	9.4	(pg. 378-379)
3.9 Converting a decimal to a common fraction.	9.5	(pg. 384)
4.0 <u>PERCENT</u>	Exercises:	
4.1 Describing what is meant by "per cent".	11.1	(pg. 440-441)
4.2 Changing a percent to a common fraction or mixed number. Changing a percent to a decimal.	11.2	(pg. 445-446)
4.3 Changing a decimal or a fraction to a percent	11.3	(pg. 450-451)
4.4 Identifying and finding the rate, base and amount in an application.	11.4 11.5	(pg. 455-456) (pg. 464-466)
4.5 Solving word problems involving percentage.	11.6	(pg. 476-479)

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IV. LEARNING ACTIVITIES:

REQUIRED RESOURCES:

5.0 INTEGERS

Exercises:

5.1 Describing what is meant
by an "integer".
Finding the opposite and
absolute value of a
number.

14.1   (pg. 597-598)

5.2 Adding signed numbers.

14.2   (pg. 607)

5.3 Subtracting signed
numbers.

14.3   (pg. 611-612)

5.4 Multiplying signed
numbers.

14.4   (pg. 618-619)

5.5 Dividing signed numbers.

14.5   (pg. 622-623)

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V.   METHOD OF EVALUATION:

The final grade for this course 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
0 - 54%	R

A passing grade will be based on a minimum final grading of 55%.
A maximum of five topic tests will be scheduled throughout the
semester.

VI. REQUIRED STUDENT RESOURCES:

TEXTBOOK: BASIC MATH SKILLS, 2nd Edition, Streeter and Alexander.

VII. ADDITIONAL RESOURCE MATERIALS:

Consult the clerk(s) in the Learning Resource Centre and/or the
Learning Assistance Centre.

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.

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

**Daily assignments and topic tests based on the exercises listed in
this course outline are to be performed <u>without</u> the aid of an
electronic calculator.**