

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: JUNE 1991 PREVIOUS OUTLINE DATED: DEC. 1990

APPROVED:

DEAN



DATE

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COLLEGE PREP. MATH

MTH 094-5 (GAS)

COURSE NAME

COURSE NUMBER

TOTAL CREDIT HOURS: 75

PREREQUISITE(S): 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:

- I. Whole numbers and their operations.
- II. Fractions and their operations.
- III. Decimals and their operations.
- IV. Operations with percent.
- V. Integers and their operations (if time permits).

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IV. LEARNING ACTIVITIES;

REQUIRED RESOURCES:

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

1.0 WHOLE NUMBERS

Exercises:

1.1 Determine the place value
of a digit
Write a numeral in words
Write a numeral, given its
word name

1.1 (pg.8-9)

1.2 Add any group of whole
numbers

1.5 (pg.24-25)

1.3 Round a whole number to
any place value
Estimate sums by rounding
Use the symbols < and >

1.6 (pg. 32-33)

1.4 Subtract whole numbers
Estimate differences by
rounding

1.8 (pg. 42-44)

1.5 Solve word problems
involving addition and
subtraction of whole
numbers

1.9 (pg. 51-52)

1.6 Multiply any two whole
numbers

2.4 (pg. 75-76)

1.7 Multiply by whole numbers
ending in zero
Estimate products by
rounding

2.5 (pg. 80-81)

1.8 Solve word problems
involving multiplication
of whole numbers

2.7 (pg. 91-93)

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IV. LEARNING ACTIVITIES:

REQUIRED RESOURCES;

1.9	The order of operations Powers of whole numbers	2.6	(pg. 84)
		2.8	(pg. 98-99)
1.10	Divide whole numbers by single digit numbers	3.3	(pg. 119)
1.11	Divide whole numbers by two or three digit numbers	3.4	(pg. 126)
1.12	Evaluate expressions using the rules for the order of operations	3.6	(pg. 132-133)
1.13	Solve word problems involving division of whole numbers	3.7	(pg. 137-139)
1.14	Find the average of a group of whole numbers	3.8	(pg. 143)
2.0	<u>FRACTIONS</u>	Exercises:	
2.1	Find the prime factors of a whole number	4.2	(pg. 158)
2.2	Find the lowest common multiple (LCM) of a group of numbers	4.4	(pg. 169)
2.3	Identify proper fractions, improper fractions and mixed numbers Convert from one type of fraction to another	5.2	(pg. 196-197)
		5.3	(pg. 201)
2.4	Simplify fractions by reducing to lowest terms	5.5	(pg. 210-211)

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IV. LEARNING ACTIVITIES:

REQUIRED RESOURCES:

2.5	Build fractions Compare the sizes of fractions	5.6	(pg- 218-219)
2.6	Multiply fractions	6.3	(pg- 239-241)
2.7	Divide fractions	6.4	(pg- 250-252)
2.8	Find the least common denominator (LCD) for a group of fractions	7.2	(pg- 266)
2.9	Add fractions	7.3	(pg- 270-272)
2.10	Subtract fractions	7.4	(pg- 277-278)
2.11	Add and subtract mixed numbers	7.5	(pg- 287-288)
2.12	Solve word problems involving fractions	7.6	(pg- 292-294)
3.0	DECIMALS	Exercises to be done without the aid of a calculator.	
3.1	Identify place values in decimal fractions Write decimal fractions in words Write decimal fractions, given their word forms Compare the sizes of decimal fractions	8.1	(pg- 319-320)
3.2	Add decimals	8.2	(pg- 324-326)
3.3	Subtract decimals	8.3	(pg- 330-331)
3.4	Multiply decimals	8.4	(pg- 337-339)
3.5	Round a decimal to a specified decimal place Estimate decimals	8.5	(pg- 343-344)
		8.6	(pg- 347-349)

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IV. LEARNING ACTIVITIES:

I REQUIRED RESOURCES;

3.6	Divide a decimal by a whole number	9.1	pg. 358-360)
3.7	Divide a decimal by a decimal	9.2	(pg. 365-366)
3.8	Convert a common fraction to a decimal Compare the sizes of common fractions and decimals	9.4	(pg. 378-379)
3.9	Convert a decimal to a common fraction	9.5	(pg. 384)
4.0	<u>PERCENT</u>		
4.1	Describe what is meant by "per cent"	11.1	(pg. 440-441)
4.2	Change a percent to a common fraction or mixed number Change a percent to a decimal	11.2	(pg. 445-446)
4.3	Change a decimal or a fraction to a percent	11.3	(pg. 450-451)
4.4	Identify and find the rate, base and amount in an application	11.4 11.5	(pg. 455-456) (pg. 464-466)
4.5	Solve word problems involving percentage	11.6	(pg. 476-479)

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IV. LEARNING ACTIVITIES:

REQUIRED RESOURCES: _____

5.0 INTEGERS

EXERCISES

5.1 Describe what is meant by an "integer"
Find the opposite and absolute value of a number

14.1 (pg. 597-598)

5.2 Add signed numbers

14.2 (pg. 607)

5.3 Subtract signed numbers

14.3 (pg. 611-612)

5.4 Multiply signed numbers

14.4 (pg. 618-619)

5.5 Divide 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 without the aid of an electronic calculator.