

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 1992 PREVIOUS OUTLINE DATED: JUNE 1991

APPROVED:   
DEAN

 17/1?^  
DATE

COLLEGE PREP. MATH

MTH 094-5 (GAS)

**COURSE NAME**

**COURSE NUMBER**

**TOTAL CREDIT HOURS: 85**

**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:**

**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

COLLEGE PREP. MATH

MTH 094-5 (GAS)

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**IV. LEARNING ACTIVITIES:**

**REQUIRED RESOURCES:**

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

Exercises are to be done  
without the aid of a  
calculator.

Exercises:

1.0 WHOLE NUMBERS

- 1.1 Determining the place value of a digit.  
Writing a numeral in words.  
Writing a numeral, given its word name.
- 1.2 Adding any group of whole numbers.
- 1.3 Rounding a whole number to any place value.  
Estimating sums by rounding.  
Using the symbols < and >.
- 1.4 Subtracting whole numbers.  
Estimating differences by rounding.
- 1.5 Solving word problems involving addition and subtraction of whole numbers.
- 1.6 Multiplying any two whole numbers.
- 1.7 Multiplying by whole numbers ending in zero.  
Estimating products by rounding.
- 1.8 Solving word problems involving multiplication of whole numbers.

- 1.i (pg-8-9)
- 1.5 (pg.24-25)
- 1.6 (pg. 32-33)
- 1.8 (pg. 42-44)
- 1.9 (pg. 51-52)
- 2.4 (pg. 75-76)
- 2.5 (pg. 80-81)
- 2.7 (pg. 91-93)

COLLEGE PREP. MATH

MTH 094-5 (GAS)

**COURSE NAME**

**COURSE NUMBER**

**IV. LEARNING ACTIVITIES:**

**REQUIRED RESOURCES:**

1.9	Dividing with zero and one. Dividing whole numbers by single digit numbers.	3.2	(pg. 114)
		3.3	(pg. 119)
		3.4	(pg. 126)
1.10	Dividing whole numbers by single digit numbers.		
1.11	Solving word problems involving division of whole numbers.	3.7	(pg. 137-139)
1.12	Finding the average of a group of whole numbers.	3.8	(pg. 143)
1.13	Using the rules for the order of operations. Powers of whole numbers.	2.6	(pg. 84)
		2.8	(pg. 98-99)
1.14	Evaluating expressions using the rules for the order of operations.	3.6	pg. 132-133)
2.0	<u>FRACTIONS</u>		Exercises:
2.1	Finding the prime factors of a whole number.	4.2	(pg. 158)
2.2	Finding the lowest common multiple (LCM) of a group of numbers.	4.4	(pg. 169)
2.3	Identifying proper fractions, improper fractions and mixed numbers. Converting from one type of fraction to another.	5.2	(pg. 196-197)
		5.3	(pg. 201)
2.4	Simplifying fractions by reducing to lowest terms.	5.5	(pg. 210-211)

COLLEGE PREP. MATH

MTH 094-5 (GAS)

**COURSE NAME****COURSE NUMBER****IV. LEARNING ACTIVITIES:****REQUIRED RESOURCES:**

2.5	Building fractions. Compare the sizes of fractions.	5.6	(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	<u>DECIMALS</u>		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)

COLLEGE PREP. MATH

MTH 094-5 (GAS)

**COURSE NAME**

**COURSE NUMBER**

**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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MTH 094-5 (GAS)

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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)

COLLEGE PREP. MATH

MTH 094-5 (GAS)

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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.