



**I. COURSE DESCRIPTION:** A self-directed course in which the learner, under the direct supervision of the professor, reviews basic mathematical skills including operations with whole numbers, fractions and decimals, manipulates ratios and solves problems in basic geometry. Although not assumed, it is entirely possible to complete the requirements for this course in one semester.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the student will demonstrate the ability to:

1. Accurately perform operations using whole numbers without use of a calculator.

Potential Elements of the Performance:

- Perform addition of numbers presented in either row or column form.
- Perform subtraction of numbers presented in either row or column form.
- Perform multiplication of whole numbers.
- Perform long division of whole numbers.
- Analyze word problems in order to determine and perform the appropriate operation.
- Find the perimeter of an object with straight sides, area of a rectangle, and volume of a rectangular solid with all measures presented as whole numbers.

2. Accurately perform operations using proper fractions, improper fractions and mixed numbers.

Potential Elements of the Performance:

- Factor whole numbers, including prime factors.
- Simplify fractions and units where necessary.
- Convert whole or mixed numbers to improper fractions and improper fractions to whole or mixed numbers.
- Multiply and divide fractions.
- Find a common denominator.
- Add and subtract fractions.

3. Accurately perform operations using decimals.

Potential Elements of the Performance:

- Round to a given number of decimals
- Identify place value of decimals.
- Add, subtract, multiply and divide using decimals.
- Convert from fractions to decimals and decimals to fractions.
- Find area and perimeter (circumference) of a circle, triangle,

parallelogram and composite figures with measures expressed in decimals.

4. Manipulate rates, ratios and proportions.

Potential Elements of the Performance:

- Understand the concept of ratio.
- Simplify ratios.
- Cancel like units in a ratio where appropriate.
- Find a rate or unit price.
- Determine whether two fractions or rates are proportional.
- Solve proportions and applications of proportions.
- Read a word problem and use the information to create a ratio in order to solve for an unknown value.

**III. TOPICS:**

1. Operations in Whole Numbers
2. Operations in Fractions
3. Operations in Decimals
4. Ratio and Proportion
5. Basic geometry

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

Hutchison, Bergman, Baratto. Basic Mathematical Skills with Geometry, 7<sup>th</sup> edition. McGraw-Hill, 2008.

**V. EVALUATION PROCESS/GRADING SYSTEM:**

At the completion of each unit, a unit test is given. The test must be passed at a minimum of 60%. At the completion of all 5 units, a demonstration project must be submitted. A grade of 75% is required for the demonstration project. The final mark is calculated as an average of the unit test and the demonstration project marks. The following semester grades will be assigned to students upon completion of the course:

*As modified from the post-secondary courses.*

<b>Grade</b>	<b><u>Definition</u></b>
A+	90 – 100%
A	80 – 89%
B	70 - 79%
C	60 - 69%
F	59% and below
W	Student has withdrawn from the course without academic penalty.

**VI. SPECIAL NOTES:**Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Exemption from Topics:

Depending on the student's performance on the placement test, and at the discretion of the professor, credit may be given for any of the units of this level.

**VII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon demonstrating proof of same and at the discretion of the professor.