

**Common Course Outline**  
**MATH 010**  
**Whole Number Arithmetic**  
**1 Semester Hour**

**The Community College of Baltimore County**

**Description**

Topics include addition, subtraction, multiplication, and division of whole numbers, including multi-digit numbers; and word problems and geometric applications involving these arithmetic skills.

Pre-requisites: LVM9 placement, or a satisfactory score on the math placement test; and Co-requisite RDNG 051 or LVR1 or by consent of the Coordinator.

**Overall Course Objectives**

Upon completion of this course the student will be able to:

1. Demonstrate mastery of place value within the base ten numeration system;
2. Perform additions with multi-digit numbers, both with and without regrouping (carrying);
3. Perform subtractions with multi-digit numbers, both with and without regrouping (borrowing);
4. Explain the concepts of addition, subtraction, multiplication, and division;
5. List multiples of a given number;
6. Perform multiplications with multi-digit numbers;
7. Perform divisions with multi-digit numbers, both with and without remainders;
8. Use Order of Operations to simplify expressions;
9. Determine whether a word problem requires addition, subtraction, multiplication, or division;
10. Translate English sentences to mathematics;
11. Use the correct operation(s) to solve other basic application problems
12. Compute the whole number average of a set of whole numbers;
13. Compute the perimeter of polygons;
14. Compute the area of a rectangle; and,
15. Compute the volume of a rectangular solid.

## **Major Topics**

- I. Place Value
- II. Addition
  - A. Terminology
  - B. Adding Whole Numbers without Regrouping
  - C. Adding Whole Numbers with Regrouping
- III. Subtraction
  - A. Terminology
  - B. Subtracting Whole Numbers without Regrouping
  - C. Subtracting Whole Numbers with Regrouping
- IV. Multiplication
  - A. Terminology
  - B. Multiplying Whole Numbers
- V. Division
  - A. Terminology
  - B. Dividing Whole Numbers without Remainders
  - C. Dividing Whole Numbers with Remainders
- VI. Order of Operations
- VII. Solve Basic Application Problems
  - A. Average of a Set of Whole Numbers
  - B. Perimeter of Polygons
  - C. Area of a Rectangle
  - D. Volume of a Prism
  - E. Other Basic Applications

## **Optional Topics**

### **Course Requirements**

There will be multiple opportunities for the instructor to assess student progress through class work, group work and /or assigned homework. In addition, quizzes and tests will be used to provide feedback to the student.

The course grade will be determined by the final exam as follows:

80% or above on the Final Exam: Satisfactory Performance - Student will receive an "S".

Below 80% on the Final exam: Unsatisfactory Performance - Student will receive a "U".

### **Other Course Information**

This course may be taught in a non-traditional environment and include the use of manipulatives while illustrating real world applications. Calculators will not be used in the class and are not allowed on any of the tests, quizzes or final exam.