

## **COURSE OUTLINE** **Basic Arithmetic**

### **Course Description**

MA 010. Basic Arithmetic. 1 hour credit. Prerequisite: A score at a pre-determined level on a diagnostic and placement instrument. This course will enable the student to understand the operations of addition, subtraction, multiplication, division and place value of whole numbers.

### **Course Relevance**

The principles learned in this course allow the student to use math skills in real life application problems and are essential for student success in more advanced math classes.

### **Required Materials**

New Readers Press., *Math sense: whole numbers and money*. New York, NY: New Readers Press.

\* - For complete textbook information, refer to <http://www.butlercc.bkstr.com>

### **Learning Outcomes**

The intention is for the student to be able to:

1. Demonstrate competence in the use of whole numbers in math computation and problem solving.

**Learning PACT Skills that will be DEVELOPED and/or documented in this course** Through involvement in this course, the student will develop ability in the following PACT skill area(s):

#### **Analytical Thinking Skills**

1. Problem solving
  - Through application problems, the student will demonstrate ability to solve multi-step problems using whole numbers.

#### **Major Summative Assessment Task(s)**

These learning outcome(s) and the Learning PACT skill(s) will be demonstrated by

1. Completing of word/application problems involving multi-step problem-solving using whole numbers.

### **Course Content**

- I. Skills/Competencies – Actions that are essential to achieve the course outcomes:
  - A. Add, subtract, multiply and divide whole numbers
  - B. Solve word problems involving the four basic operations
- II. Themes – Key recurring concepts that run throughout this course:
  - A. Problem solving: Use of multiple routes to reach a correct answer

- B. Value of math: personal value and the perceptions of others
- III. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
  - A. Competency in math facts, particularly multiplication and division
  - B. General dislike for math along with the student’s belief that he/she “can’t get it”
- IV. Concepts – Key concepts that must be understood to address the issues:
  - A. Math as a language
  - B. Properties that govern math usage
  - C. Relationships among operations

### **Learning Units**

- I. Numeracy
  - A. Identify and write whole numbers up to seven digits
  - B. Identify place value of whole numbers up to seven places
- II. Addition of whole numbers
  - A. Add whole numbers
  - B. Solve word/application problems involving addition of whole numbers
- III. Subtraction of whole numbers
  - A. Subtract whole numbers
  - B. Solve word/application problems involving subtraction of whole numbers
- IV. Multiplication of whole numbers
  - A. Multiply whole numbers
  - B. Solve word/application problems involving multiplication of whole numbers
- V. Division of whole numbers
  - A. Divide whole numbers
  - B. Solve word problems involving division of whole numbers

### **Learning Activities**

Learning activities will be assigned to assist the student to achieve the intended course outcome through student-Instructor interaction, text materials, computerized instruction, web resources and other activities at the discretion of the instructor.

### **Grade Determination**

The student will be graded on learning activities and assessment tasks (including development of visual representations in problem-solving). Grade determinates may include the following: daily assignments, including assignments involving use of study skills (i.e., making of unique study cards), and other methods of evaluation employed at the discretion of the instructor.