

## Career Development and College Preparation Certificate of Competency

**Title of Non Credit Certificate: Elementary Algebra and Arithmetic Certificate of Competency**

**Program Discipline: Mathematics**

**Top Code:**

<b>COURSE NAME</b>	<b>COURSE #</b>	<b>HOURS</b>
Algebra and Arithmetic Skills	Math 20	126
Basic Math and Study Skills	Math 4	108
	<b>Total Hours:</b>	234

### **1. Program Goals and Objectives**

#### **PSLOs for the Developmental Math Program**

- 1. Problem-solving abilities:** Students will use mathematical reasoning to solve problems and a generalized problem solving process to work word problems.
  - a. The student can apply standard problem-solving methods and use relevant concepts to solve problems.
  - b. The student uses a generalized problem-solving rubric if such a rubric is used in the class.
  - c. The student's written work demonstrates a conceptual understanding of course concepts.
  - d. The student's written work supports his/her solution.
  - e. The student evaluates the reasonableness of his/her answer.
  
- 2. Mathematical versatility:** Students will use verbal, graphical, numerical, and symbolic representations of mathematical ideas to solve problems.
  - a. Students will use a variety of representations to demonstrate their understanding of mathematical concepts.
  - b. Students will use a multi-prong approach to problem solving.
  - c. Students will use appropriate technology to solve mathematical problems and judge the reasonableness of their results.
  
- 3. Communication skills:** Students will read, write, listen to, and speak mathematics with understanding.
  - a. Students will read and listen to mathematical presentations and arguments with understanding.
  - b. Students will communicate both in speaking and in writing their understanding of mathematical ideas and procedures using appropriate mathematical vocabulary and notation.
  - c. Students will coherently communicate their own mathematical thinking to others.
  
- 4. Preparation:** Students will recognize and apply math concepts in a variety of relevant settings and demonstrate the math skills and knowledge necessary to succeed in subsequent courses.

**5. Effective Learning Attributes:** Students will demonstrate the characteristics of an effective learner.

- a. Student has the will to succeed and demonstrates the characteristics of a successful student: motivation, responsibility, focus, perseverance, the ability to cope with anxiety, a good attitude toward learning, and time management skills.
- b. Student has the skills to succeed. (S)he uses appropriate resources to improve learning and reach goals.
- c. Student self-monitors and self-regulates. (S)he assesses personal strengths and weaknesses in his/her learning process and then seeks and implements a strategy for improving learning.

## **2. Catalog Description**

Introduces students to basic arithmetic skills, study skills, and elementary algebra skills. Completion of this certificate will prepare students for intermediate algebra and study skills for success in future math courses.

## **4. Master Planning**

This certificate is designed to prepare students for credit, degree applicable math courses that require elementary algebra as a prerequisite. Students will learn introductory arithmetic skills, instruction in study skills for success in math courses, prealgebra skills, and elementary algebra skills.