

Miami Dade Community College
MAT 0002
College Preparatory Arithmetic

Course Description: This course introduces students to the basic topics of arithmetic and measurement of geometric figures. Students will add, subtract, multiply, and divide whole numbers, fractions and decimals. Students will solve problems involving proportions and percents.

Prerequisites: Appropriate placement test scores or referral determine admission.

Credits: 4 (6 contact hours lecture/lab)

Course Competencies:

Competency 1: **The student will demonstrate knowledge of place value (base 10) by:**

- a. Identifying place value
- b. Writing numbers using word notation, standard notation, and expanded notation.
- c. Rounding whole numbers

Competency 2: **The student will demonstrate knowledge of whole numbers by:**

- a. Performing operations of addition, subtraction, multiplication, and division on whole numbers.
- b. Applying the order of operations agreement on whole numbers
- c. Listing all factors of a given whole number
- d. Writing the prime factorization of a given whole number

Competency 3: **The student will demonstrate knowledge of fractions by:**

- a. Changing improper fractions to mixed numerals and mixed numerals to improper fractions.
- b. Performing operations of addition, subtraction, multiplication, and division on fractions or mixed numerals.
- c. Applying the order of operations agreement on fractions.

Competency 4: **The student will demonstrate knowledge of decimals by:**

- a. Changing decimals to fractions
- b. Rounding off a given decimal.

- c. Performing operations of addition, subtraction, multiplication, and division on decimals.
- d. Applying the order of operations agreement on decimals.

Competency 5: **The student will demonstrate knowledge of proportion by**
a. Setting up and solving problems with proportions.

Competency 6: **The student will demonstrate knowledge of percent by:**
a. Converting any number from one form (fraction, decimal, percent) to another
b. Solving problems written in the form “A is R% of B”
c. Solving applications involving percent.

Competency 7: **The student will demonstrate knowledge of basic measurements of geometric figures by:**
a. Finding the perimeter of polygons and the circumference of circles
b. Finding the area of polygonal regions and circular regions
c. Finding the volume of a rectangular solid