Miami Dade College

<u>**Course Description**</u>
MAT0018 | Developmental Mathematics 1 | 4.00 credits
The student will learn operations with whole numbers, integers, fractions, decimals, percent's and their applications; simplifying and evaluating algebraic expressions; ratios and proportions; solving linear equations in one variable and graphing solutions to linear inequalities. This course does not satisfy the college level mathematics requirements. Prerequisite: Non-demonstration of readiness through placement testing or alternate methods or referral determine admission.

<u>**Course Competencies:**</u>
Competency 1: The student will demonstrate knowledge of place value by:
1. Identifying place value
2. Writing numbers using word, standard, and expanded notation
3. Rounding whole numbers

Competency 2: The student will demonstrate knowledge of whole numbers by:
1. Performing operations with addition, subtraction, multiplication, and division with whole numbers
2. Solving applications involving operations with whole numbers, including area and perimeter
3. Performing order of operations, including absolute value
4. Evaluating exponents with whole numbers
5. Classifying sets of numbers
6. Comparing the magnitude of real numbers
7. Identifying and applying the properties of real numbers

Competency 3: The student will demonstrate knowledge of integers by:
1. Performing operations with integers, including applications
2. Evaluating exponents with integers
3. Evaluating absolute value expressions

Competency 4: The student will demonstrate knowledge of fractions by:
1. Performing operations with addition, subtraction, multiplication, and division with fractions
2. Distinguishing between proper fractions, improper fractions, and mixed numerals
3. Performing operations with addition, subtraction, multiplication, and division with mixed numerals
4. Solving applications involving operations with fractions

Competency 5: The student will demonstrate e knowledge of decimals by:
1. Performing operations with addition, subtraction, multiplication, and division with decimals
2. Rounding decimals
3. Solving applications involving operations with decimals

Competency 6: The student will demonstrate knowledge of percent by:
1. Using percent notation, fractional notation, and decimal notation interchangeably
2. Solving applications involving percentages

Competency 7: The student will demonstrate knowledge of basic geometric figures by:
1. Solving application problems, including finding the polygons' perimeter and the circles' circumference
2. Finding the area of a triangle, parallelogram, and circle
3. Converting units of measurement within the same measurement system

Competency 8: The student will demonstrate knowledge of Pre-Algebra by:
1. Setting up and solving ratios and proportions with simple algebraic expressions

2. Solving linear equations involving the addition and multiplication properties of equality
3. Defining variables and writing an expression to represent a quantity in a problem
4. Combining like terms in one variable (e.g., 2x + 5x)
5. Evaluating algebraic expressions (e.g., find the value of 3x when x =2)
6. Solving formulas with given values
7. Graphing an inequality on a number line

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information