Miami Dade College

GENERAL INFORMATION	
Course Prefix/Number: MAT0028	Course Title: **DEVELOPMENTAL MATHEMATICS II**
Number of Credits: 4 credits (32 hrs. lecture; 64 hr. lab)	
Degree Type	☐ B.A. ☐ B.S. ☐ B.A.S ☒ A.A. ☐ A.S. ☐ A.A.S. ☐ C.C.C. ☐ A.T.C. ☐ V.C.C
Date Submitted/Revised:	Effective Year/Term: 2011-2
☒ New Course Competency ☐ Revised Course Competency	
Course Description (limit to 50 words or less): The student will learn topics which include operations with signed numbers; solving linear equations and inequalities in one variable; operations with polynomials, factoring, integer exponents, radicals, rational expressions, graphing and applications of these topics. This course does not satisfy the college level mathematics requirements. Special Fee. (2 hr. lecture; 4 hr. lab)	
Prerequisite(s): MAT0018 with a minimum grade of S or placement test scores	Corequisite(s):

Competencies:

Competency 1:
The student will demonstrate knowledge of signed numbers by:

1. Performing operations with addition, subtraction, multiplication, and division with signed numbers
2. Applying the order of operations rule
3. Comparing signed numbers using <, >, ≥, ≤, ≠, or =
4. Determining the absolute values of signed numbers
5. Adding and subtracting absolute values

Competency 2:
The student will demonstrate knowledge of equations by:

1. Solving linear equations in one variable
2. Solving linear equations involving fractions and decimals
3. Solving literal equations for a given variable with applications
4. Solving applications involving linear equation in one variable (including number problems, geometry problems, and proportion problems)

Competency 3:
The student will demonstrate knowledge of linear inequalities by:

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Approved By Academic Dean Date: _____ Reviewed By Director of Academic Programs Date: _____

1. Solving linear inequalities in one variable
2. Graphing solutions of linear inequalities on a number line

Competency 4:
The student will demonstrate knowledge of algebraic expressions by:

1. Evaluating expressions, given specific values of the variable
2. Identifying and combining like terms
3. Simplifying expressions, by applying the order of operations
4. Solving application problems involving geometry, including perimeter and area with algebraic expressions

Competency 5:
The student will demonstrate knowledge of polynomials by:

1. Performing operations with addition, subtraction, multiplication and division with polynomials
2. Applying the rules of exponents to perform operations with polynomials
3. Converting numbers to scientific notation and changing from scientific notation to decimal form

Competency 6:
The student will demonstrate knowledge of factoring by:

1. Factoring out the greatest common factor
2. Factoring by grouping
3. Factoring trinomials
4. Factoring the difference of two squares
5. Solving quadratic equations, in one variable, by factoring

Competency 7:
The student will demonstrate knowledge of linear equations in two variables by:

1. Graphing linear equations in two variables
2. Determining the slope of a line (from slope formula, graph and equations)
3. Determining the x-and y-intercepts of a line given the graph of the line its equation

Competency 8:
The student will demonstrate knowledge of rational expressions by:

1. Simplifying a rational expression by factoring
2. Solving problems involving rates and ratios
3. Simplify, multiply and divide rational expressions
4. Adding and subtracting rational expressions with monomial denominators
5. Converting units of measurement across measurement systems

Competency 9:
The student will demonstrate knowledge of radical expressions by:

1. Simplifying radical expressions using the product rule
2. Adding, subtracting, and multiplying radicals
3. Rationalizing the denominator (monomials only)

4. Solving application problems involving geometry (Pythagorean Theorem)