Math 0999
Support for College Algebra (2 hrs)
Mathematics Department
Valdosta State University

Pre-requisites: **Placement into course by University guidelines.**

Co-requisite: **MATH 1111.**

Required Text: No additional text is required other than that which is required by MATH 1111 College Algebra Essentials (6th Edition) by Blitzer and Robert F.; access code to MyMathLab may also be required. Currently Math 1111 is a Day1 course and all needed electronic materials will be available on the first day of class. A code for this support course will be available from the instructor.

CALCULATOR: **TI-83, TI-83+, TI-84, or TI-84+** *(REQUIRED -- Same as Math 1111)*

COURSE DESCRIPTION: Corequisite support to provide essential quantitative skills needed to be successful in Math 1101. (This course will be taught by the same Math 1111 instructor.)

***NOTE: Learning outcomes, education outcomes, and course outline are the same as for MATH 1111. MATH 0999 by itself does not cover these topics per se but serves as support for students who are taking MATH 1101.

Student Learning Outcomes:
Upon completion of this course, students will be able to:
1. Use the rules of algebra to simplify, evaluate, rationalize, perform operations with, and apply algebraic expressions that contain both real and imaginary numbers.
2. Determine the distance between two points in the coordinate plane and find the midpoint of the line segment joining the points. Recognize, write, and graph equations of circles.
3. Solve equations (including linear, polynomial, rational, radical, exponential, logarithmic, and absolute value) and use the solutions to draw reasonable conclusions about a situation being modeled.
4. Solve and graph inequalities, including linear, polynomial, rational, and absolute value.
5. Solve quadratic equations using a variety of methods, including factoring, completing the square, the quadratic formula, extracting roots, and technology.
6. Using information about a line (such as slope, intercepts, and points on the line) to write equations, sketch graphs, and determine whether lines are parallel or perpendicular.
7. Using appropriate notation and terminology, analyze relations and functions by determining the domain, range, functional values, inverse relationships, and composition of functions both algebraically and graphically.
8. Graph quadratic functions by determining their maximum or minimum values and intercepts.
9. Analyze and sketch graphs of polynomial, rational, exponential, and logarithmic functions including transformations.
10. Use properties of logarithms to evaluate, rewrite, expand, or condense logarithmic expressions'
11. Solve systems of equations using a variety of methods, including technology.

Topics & Course Outline: (Not including Testing & Review)

Chapter/Section	Topics	Suggested Days	
		50 min lectures	75 min lectures
P1/P2/P3/P4/P5/P6	Algebraic Expressions-**OMIT: Theory of Sets-Union and Intersection**, Exponents[1]-**Scientific Notation: Converting decimals to Scientific and Scientific to Decimals only**, Radicals[1] and Rational Exponents, Polynomials, Factoring, Rational Expressions	6 days	4 days
1.1/1.2/1.3/1.4/1.5/ 1.6/1.7	Graph of an Equation, Solving Linear Equations, Solving Rational Equations, Applications with Linear Equations, Complex Numbers, Quadratic Equations, Other Type of Equations, Linear Inequalities and Absolute Value Inequalities	9 days	6 days
2.1/2.2/2.3/2.4/2.5/ 2.6/2.7/2.8	Linear Equations in the Cartesian Plane, Definitions of function, domain and range, functional notation, Analyzing Functions and their Graphs, Transformation of Functions, Combinations of Functions		