Math 112  **College Algebra**  (4 semester hours)

**Course Description:**

Concepts of algebra (real numbers, exponents, polynomials, rational expressions), equations and inequalities, functions and graphs, polynomial and rational functions, exponential and logarithmic functions, systems of equations and inequalities, matrices and determinants, conic sections, sequences and series, probability, and binomial theorem.

*Prerequisites: Satisfy Placement Table in this section, or MATH 098 with grade of P.*

**Learning Outcomes:**

Students will be able to
1. Apply properties of the real and complex number systems
2. Apply properties of polynomial, rational, algebraic, absolute value, exponential, and logarithmic functions
3. Solve algebraic, absolute value, exponential, and logarithmic equations and inequalities
4. Develop and solve systems of equations
5. Model and solve real world problems

**Content Outline:**

1. Functions and graphs
2. Linear functions and equations
3. Quadratic functions and equations
4. Nonlinear functions and equations
5. Exponential and logarithmic functions
6. Systems of equations and inequalities
7. Matrices
8. Sequences and series

**Textbook/Related Readings/Materials:**

G. Rockswold, *College Algebra with Modeling & Visualization*
Stewart, Redlin, and Watson, *College Algebra*
J. Sullivan, *College Algebra*