**Math 1001: Quantitative Skills and Reasoning**

**Only Appropriate for Liberal Arts majors (except for BA Communication majors)**

*This course places quantitative skills and reasoning in the context of experiences that students will be likely to encounter. It emphasizes processing information in context from a variety of representations, understanding of both the information and the processing, and understanding which conclusions can be reasonably determined.*

* Set Theory
  + Set Operations
  + Venn Diagrams
  + Survey Problems
* Logic
  + Statements and Connectives
  + Truth Tables
  + Equivalent Statements
* Algebra
  + Simplifying Expressions
  + Linear Equations
  + Linear Inequalities
  + Quadratic Equations
  + Graphs of Linear Functions
  + Systems of Linear Equations
  + Modeling Exponential, Logarithmic, and Quadratic Functions
* Counting and Probability
  + Counting Methods
  + Probability
  + Odds
  + Expected Value
* Statistics
  + Populations and Samples
  + Displaying Data
  + Measures of Central Tendency
  + Measures of Dispersion
  + Correlation and Regression

**MATH 1101: Introduction to Mathematical Modeling**

**Most Appropriate for Liberal Arts, Business, Early Childhood Education, and Nursing Majors**

*This course is an introduction to mathematical modeling using graphical, numerical, symbolic, and verbal techniques to describe and explore real-world data and phenomena. Emphasis is on the use of linear, polynomial, exponential, and logarithmic functions to investigate and analyze applied problems and questions, supported by the use of appropriate technology, and on effective communication of quantitative concepts and results.*

* Operations and numbers
* Relations, data, and scatterplots
* Functions and function notation
* Graphs of functions
* Linear functions and lines
* Solving linear equations and inequalities
* Linear modeling
* Quadratic models and parabolas
* Solving quadratic equations
* Function operations and composition
* Function inverses
* Exponential growth and decay models
* Logarithms and logarithm models
* Rules of logarithms and change of base
* Solving exponential and logarithm equations

**MATH 1111: College Algebra**

Most Appropriate for Science, Technology, Engineering, Math, and Health Professions Majors.

*Presents topics in algebra, including the number system, polynomials, algebraic functions, exponents, radicals, linear and quadratic equations, inequalities, lines in the plane, linear modeling, conics, algebra of functions, exponential and logarithmic functions and systems of equations and inequalities.*

* Polynomials
* Factoring polynomials
* Complex numbers
* Linear, rational, and absolute value equations
* Linear models
* Equations and graph in two variables
* Quadratic equations
* Functions
* Graphs of relations and functions
* Families of functions, transformations, and symmetry
* Operations with functions
* Inverse functions
* Quadratic functions and inequalities
* Zeros of polynomial functions
* Graphs of polynomial functions
* Rational functions and inequalities
* Exponential functions and their applications
* Logarithmic functions and their applications
* Rules of logarithms
* Logarithmic and exponential equations and applications