

## Math 1113 Precalculus

Catalog Description: This course is an intensive study of the basic functions needed for the study of calculus. Topics include algebraic, functional, and graphical techniques for solving problems with algebraic, exponential, logarithmic, and trigonometric functions and their inverses.\*

*\*This course may be offered as a 3 or 4 credit hour course.*

- A. Algebra Topics: Between 20% and 50% of class time will be spent on topics selected from the following list. Topics covered may vary based on institutional needs.
1. Basic Function Concepts (Graphing, Domain, Range, Inverse Functions, Algebra of Functions)
  2. Polynomial Functions and Equations (May include a review of Linear and Quadratic Functions.)
  3. Rational Functions and Equations
  4. Exponential Functions, Equations and Applications
  5. Logarithmic Functions and Equations
    - i. Properties of Logarithms
    - ii. Using Logarithms to solve exponential equations
- B. Trigonometry Topics: Between 40% and 70% of class time will be spent covering the following topics.
1. Angles and Radian Measure
  2. Right Triangle Definitions and Applications
  3. Circular Functions
  4. Inverse Trigonometric Functions
  5. Identities and Trigonometric Equations
  6. Law of Sines and Law of Cosines
- C. Optional Topics: Between 0% and 20% of class time may be spent covering one or more of these areas.
1. Systems of Equations/Matrices/Determinants
  2. Polar Coordinates/DeMoivre's Theorem
  3. Sequences and Series
  4. Conic Sections
  5. Vectors

Date: March 6, 2015