math143 Syllabus

Math 143: Pre-Calculus Algebra and Trigonometry

Text: *Precalculus, 2nd Edition*, Cynthia Young, Wiley, 2014.

Prerequisites: Minimum ACT math score of 26 or placement by the Advance Credit Exam.

WILEY PLUS is required. A TI-83 or TI-84 Graphing Calculator is required.

Sections and Topics

- Orientation and Algebra Review
- 1.1 Functions (WP / HW assignment; no lecture)
- 1.2 Graphs of Functions (WP / HW;)
- 1.3 Graphing Techniques: Transformations (WP/HW)
- 1.4 Combining Functions
- 1.5 One-to-One Functions and Inverse Functions
- 2.1 Quadratic Functions
- 2.2 Polynomial Functions of Higher Degree
- 2.3 Dividing Polynomials
- 2.4 The Real Zeros of a Polynomial Function
- 2.5 Complex Zeros: The Fundamental Theorem of Algebra
- 2.6 Rational Functions Review for Test 1
- 3.1 Exponential Functions and Their Graphs
- 3.2 Logarithmic Functions and Their Graphs
- 3.3 Properties of Logarithms
- 3.4 Exponential and Logarithmic Equations
- 3.5 Exponential and Logarithmic Models
- 0.6 Linear Functions
- 0.8 Linear Regression: Best Fit
- 8.1 Systems of Linear Equations in Two Variables
- 8.3 Systems of Linear Equations and Matrices
- 8.4 Matrix Algebra (Emphasis on Calculator)
- 4.1 Angle Measure
- 4.2 Right Triangle Trigonometry
- 4.3 Trigonometric Functions of Angles
- 4.4 The Law of Sines
- 4.5 The Law of Cosines
- 5.1 Trigonometric Functions: The Unit Circle
- 5.2 Graphs of Sine and Cosine Functions
- 5.3 Graphs of Other Trigonometric Functions
- 6.1 Verifying Trigonometric Identities
- 6.2 Sum and Difference Identities

- 6.3 Double-Angle and Half-Angle Identities
- 6.5 Inverse Trigonometric Functions
- 6.6 Trigonometric Equations
- 7.1 Vectors
- 7.2 The Dot Product
- 7.3 Polar Form of Complex Numbers
- 7.4 Products, Quotients, Powers, and Roots of Complex Numbers
- 7.5 Polar Coordinates and Graphs of Polar Equations
- 9.9 Parametric Equations and Graphs

Last updated 11 August 2015