

math143 Syllabus

Math 143: Pre-Calculus Algebra and Trigonometry

Text: *College Algebra & Trigonometry*, Julie Miller and Donna Gerken, McGraw Hill, 2017.

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

ALEKS is required. A TI-83, TI-84, or TI-Nspire (not CAS version) graphing calculator is required.

Sections and Topics

- Sec 2.3: Functions and Relations
- Sec 2.4: Linear Equations in Two Variables and Linear Functions
- Sec 2.5: Applications of Linear Equations and Modeling
- Sec 2.6: Transformation of Graphs
- Sec 2.7: Analyzing Graphs of Functions and Piecewise-Defined Functions
- Sec 2.8: Algebra of Functions and Function Composition
- Sec 1.3: Complex Numbers
- Sec 1.4: Quadratic Equations
- Sec 3.1: Quadratic Functions and Applications
- Sec 3.2: Introduction to Polynomial Functions
- Sec 3.3: Division of Polynomials and the Remainder and Factor Theorems
- Sec 3.4: Zeros of Polynomials
- Sec 4.1: Inverse Functions
- Sec 4.2: Exponential Functions
- Sec 4.3: Logarithmic Functions
- Sec 4.4: Properties of Logarithms
- Sec 4.5: Exponential and Logarithmic Equations and Applications
- Sec 4.6: Modeling with Exponential and Logarithmic Functions
- Sec 3.5: Rational Functions
- Sec 3.6: Polynomial and Rational Inequalities
- Sec 9.1: Systems of Linear Equations in Two Variables and Applications
- Sec 9.2: Systems of Linear Equations in Three Variables and Applications
- Sec 10.1: Solving Systems of Linear Equations Using Matrices
- Sec 5.1: Angles and Their Measure
- Sec 5.2: Right Triangle Trigonometry
- Sec 5.3: Trigonometric Functions of Any Angle
- Sec 5.4: Trigonometric Functions Defined on the Unit Circle
- Sec 5.5: Graphs of the Sine and Cosine Functions
- Sec 5.6: Graph of Other Trigonometric Functions
- Sec 5.7: Inverse Trigonometric Functions

- Sec 6.1: Fundamental Trigonometric Identities
- Sec 6.2: Sum and Difference Formulas
- Sec 6.3: Double-Angle, Power-Reducing, and Half-Angle Formulas
- Sec 6.5: Trigonometric Equations
- Sec 7.1: Applications of Right Triangles
- Sec 7.2: The Law of Sines
- Sec 7.3: The Law of Cosines
- Sec 7.4: Harmonic Motion
- Sec 8.1: Polar Coordinates
- Sec 8.2: Graphs of Polar Equations
- Sec 8.3: Complex Numbers in Polar Form
- Sec 8.4: Vectors
- Sec 8.5: Dot Product
- Sec 11.6: Plane Curves and Parametric Equations

Last updated 10 August 2020