

# Math 109: Pre-Calculus Algebra

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

**Prerequisites:** Minimum ACT math score of 23, MATH 103/104 or MATH 105 with a minimum grade of C, or departmental placement exam.

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

## Sections and Topics

- Orientation and Algebra Review
- 1.1 Functions
- 1.2 Graphs of Functions
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- 1.3 Graphing Techniques: Transformations
- 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
- 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
- 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

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