



**Catalog Description:**

Functions: polynomial, rational, radical, exponential, logarithmic, trigonometric, and inverse trigonometric. Applications.

**Prerequisite:**

Math Placement Level M.

**Exclusions:**

Not open to students with credit for 1144, 1148, 1149, for any higher numbered math course, or for any quarter-system math course 150 or higher.

**Text:**

College Algebra & Trigonometry Mathematics 1e, by **Miller and Gerken**, ISBN 9781259976612. This textbook is packaged with an access code to Connect Math for a period of 720 days. It may be purchased at the bookstore or online via Carmen/Canvas.

**Technology:**

Every student is required to have a graphing calculator comparable in capability to a TI-83 or TI-84. However, calculators with symbolic algebra capabilities are not allowed during exams or quizzes.

**Topics List:**

- 2.3 Functions and Relations.
- 2.4 Linear Functions. **Cover the average rate of change only.**
- 2.6 Transformations of Graphs.
- 2.7 Analyzing Graphs of Functions. **Omit step functions.**
- 2.8 Algebra and Composition of Functions.
- 3.1 Quadratic Functions. **Omit models using regression.**
- 3.2 Introduction to Polynomial Functions.
- 3.3 Division of Polynomials and The Remainder and Factor Theorems. **Omit Synthetic Division.**
- 3.4 Zeros of Polynomials. **Cover only paragraph 2 (“Apply the fundamental theorem of algebra”).**
- 3.5 Rational Functions.
- 3.6 Polynomial and Rational Inequalities. **Omit applications.**
- 4.1 Inverse functions.

*Midterm 1*



- 4.2 Exponential Functions.
- 4.3 Logarithmic Functions. Cover example 10 (magnitude of earthquake)
- 4.4 Properties of Logarithms.
- 4.5 Exponential and Logarithmic Equations.
- 4.6 Modeling with Exponential and Logarithmic Functions.  
Omit logistic growth and models using regression.
- 5.1 Angles and Their Measure.
- 5.2 Right Triangle Trigonometry.
- 5.3 Trigonometric Functions of any Angle.
- 5.4 Trigonometric Functions and The Unit Circle.
- 5.5 Graphs of Sine and Cosine Functions. Omit sinusoidal behavior.
- 5.6 Graphs of Other Trigonometric Functions.
- 5.7 Inverse Trigonometric Functions. Omit inverse cot(t), sec(t), and csc(t).
- 6.1 Fundamental Trigonometric Identities.

*Midterm 2*

- 6.2 Sum and Difference Formulas.
- 6.3 Double-Angle and Half-Angle Formulas.
- 6.5 Trigonometric Equations. Solving graphically is optional.
- 7.2 The Law of Sines.
- 7.3 The Law of Cosines.
- 8.3 Complex Numbers in Polar Form. Omit  $n^{\text{th}}$  roots of complex numbers.
- 8.4 Vectors.
- 8.5 Dot Product.
- 9.1 Systems of Linear Equations in Two Variables. Cover briefly.
- 9.2 Systems of Linear Equations in Three Variables. Omit modeling.
- 11.1 The Ellipse. Centered at the origin only (omit center (p,q)).
- 11.2 The Hyperbola. Centered at the origin only (omit center (p,q)).

*Midterm 3*

- 11.3 The Parabola. With vertex at the origin (omit vertex (p,q)).