**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\textsuperscript{th} roots of complex numbers.
8.4 Vectors.
8.5 Dot Product.
9.1 Systems of Linear Equations in Two Variables. Cover briefly.
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)).