

Montclair High School
Course Syllabus

Department: Math
Course: Pre-Calculus
Level: Honors
Credits: 5

Course Description:

This course is designed to prepare students for calculus by extensive study of trigonometry and algebra. Included in the study of algebra are linear, quadratic, and exponential functions.

Anchor Text(s):

Text Title	Publisher/Author	Year/Edition	ISBN	Text Distribution
Precalculus Fourth Edition	Prentice Hall	2009/Fourth Edition	0-321-55984-3	Individual copy available upon request

Supplementary Materials:

Teacher-prepared worksheets, notebook, scientific calculator

Units of Study:

- Trigonometry
 - Angles and their Measure
 - Central Angles and Arc Length
 - Circular Functions
 - Trigonometric Functions of Special Angles (Unit Circle)
 - Right Triangle Trigonometry
 - Law of Cosines and Law of Sines
 - Area of Triangles (Using Law of Sines and Heron's)
 - Trigonometric Identities
 - Sum and Difference Formulas
 - Double & Half Angle Formulas
 - Inverse Trigonometric Functions and Principal Values
 - Graphs of the Six Trigonometric Functions
 - Solving Trigonometric Equations
- Algebra Review
 - Piecewise functions
 - Interval Notation
 - Graphing
 - Solving Algebraic Inequalities
 - Even and Odd Functions and their Graphs
 - Composite Functions
 - Logarithmic Expressions

- Additional Topics
 - Limits

Proficiencies:

By the end of this course, students will:

- Determine the value of trig functions given the measure of an angle, the length of any two sides of a right triangle, or one value of a trig function of an angle
- Determine the values of trig functions related to special right triangles
- Determine trig values using sum and difference formulas, or when given any point on the terminal side of an angle
- Solve triangles using the law of sines and the law of cosines
- Express angle measure in radians or degrees and convert from one unit to the other
- Graph trig functions involving changes in amplitude, period, and frequency
- Use trig functions to solve real-life and geometric problems where applicable
- Verify trig identities
- Define functions and relations and recognize domain restrictions
- Perform operations on functions
- Graph linear functions, recognizing slope and intercepts, and solve proportions
- Work with equations of parallel and perpendicular lines
- Solve problems concerning arithmetic and geometric sequences and series.
- Evaluate basic limits.
- Solve problems concerning polar coordinates and complex numbers.

Evaluation & Assessment:

- Tests 55%
- Quizzes 25%
- Homework 10%
- Classwork 10%