

Wilcox High School
Trigonometry Honors

COURSE DESCRIPTION

Honors Trigonometry is an extremely rigorous college preparatory class. A grade of C or better in Algebra 2 Honors or a B or higher in Algebra 2 is required as a prerequisite for enrollment. A grade of C or better in Honors Trigonometry satisfies one year of the UC and Cal State mathematics requirements for entry. This course is designed for students who want an accelerated place and have a desire to complete AP Calculus during high school. The course contains a minimal review of Algebra II with an emphasis on the including but not limited to: periodic functions and real variables, circular functions (using the unit circle), trigonometry functions of angles, vector and parametric equations, polar and complex numbers, conics, logarithms, sequences and series, combinations and probability, and elementary statistics.

ESSENTIAL KNOWLEDGE STANDARDS

Upon successful completion of this class, students will:

- Understand and apply the language and notation of algebraic vectors
- Understand and apply the law of sines and Law of cosines
- Evaluate trigonometric expressions involving the six trigonometric functions and their inverses in both degrees and radians with and without the use of a calculator (using the unit circle)
- Apply trigonometric concepts to real-world problems (area of sectors, arc length, and angular velocity)
- Graph the six trigonometric functions and their inverses
- Evaluate principle values of trigonometric functions and their inverses
- Understand, apply, prove and simplify trigonometric identities
- Solve trigonometric equations
- Understand and apply the translation of relations and functions and their inverses in the coordinate plane
- Understand and determine the asymptotes of rational functions
- Solve polynomial functions with rational roots of n^{th} degree
- Understand and apply exponential functions and logarithms to real-world problems
- Understand and apply the properties of arithmetic and geometric sequences and series

TEXT:

Advanced Mathematical Concepts; Glencoe

REQUIRED DAILY MATERIALS

- Pencil and eraser
- Notebook (journal)
- Textbook
- Graph paper
- Colored pencils
- Scientific calculator (preferably TI-84 plus)

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