

HONORS PRE-CALCULUS 1-2
GRADES 9-12

(2 Semesters - Successful Completion of Advanced Algebra, Teacher Recommendation)

COURSE OVERVIEW:

This course integrates college algebra, trigonometry, and analytic geometry with a strong emphasis on the concept of function. The course further emphasizes problem solving and applications. Graphing calculators are used as a tool for computation, discovery, and problem analysis.

UNITS OF INSTRUCTION:

The following functions and their graphs: polynomial, rational, exponential, logarithmic, and trigonometric; systems of equations; matrices; conic sections; sequences and series; probability.

STUDENT OUTCOMES:

1. Solve problems both algebraically and graphically using a graphic calculator.
2. Use symmetry, translation, and reflection as tools for graphing.
3. Use polynomial, exponential, logarithmic, and trigonometric functions to model situations. Formulate and solve nonlinear equations and systems including problems involving inverse variation and exponential and logarithmic growth and decay.
4. Analyze and solve problems involving triangles using trigonometric ratios.
5. Compute probabilities in counting situations involving permutations and combinations.
6. This course addresses the following state standards: 6A, 6B, 6C, 6D, 7A, 7B, 7C, 8A, 8B, 8C, 8D, 9A, 9B, 9C, 9D, 10A, 10C.

MAJOR LEARNING EXPERIENCES TO ACHIEVE OUTCOMES:

1. Daily homework. Students are required to keep an assignment notebook
2. Quizzes.
3. Unit tests.
4. Use graphing calculators as an aide to solve problems.

ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

Cohen, *Pre-Calculus with Unit-Circle Trigonometry*, 3rd ed., 1998.

(adopted, 2001)

(05/15/00)