

PRE-CALCULUS  
GRADES 11-12

(2 Semesters - Successful completion of Advanced Algebra required)

COURSE OVERVIEW:

This class continues the study of algebra begun in Algebra and Advanced Algebra, but in much greater detail. It is a preparation for Calculus. Students will learn problem solving techniques, critical thinking skills, and the use of graphing calculators. The primary focus during the second semester is on trigonometry.

UNITS OF INSTRUCTION:

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

STUDENT OUTCOMES:

1. The students will learn how to use a graphing calculator to solve complex problems that could not be easily solved otherwise.
2. The students will learn how to analyze problems algebraically, graphically, and numerically. The students will learn important concepts of calculus through the use of graphs.
3. Through the use of graphing calculators, students will learn how to accurately approximate answers.
4. Through extensive graphing, students will learn to make the connection between the algebraic solution to a problem and the geometric solution to the same problem.
5. 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. Use of a graphing calculator. Students are required to have their own TI-83 plus or TI-86
2. calculator or equivalent.
3. Dailey homework.
4. Quizzes/unit tests.
5. Students will present problem-solving strategies to the class.

ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

*Precalculus: Graphing, Numerical, Algebraic.* 5th Edition. Addison-Wesley Longman, 2001.  
(Adopted 2002)

(05/15/00)