

ADVANCED ALGEBRA 1-2  
GRADES 11-12  
(2 Semesters - Successful Completion of Geometry)

COURSE OVERVIEW:

This class is a continuance of the study of Algebra with emphasis on the investigation and integration of topics in geometry, statistics, trigonometry, probability, and matrix theory. Students will learn, through skill building and problem solving, how these topics are associated with other disciplines, such as geography, history, economics, and the sciences. Students will learn how critical thinking skills, such as observing, drawing, labeling, interpreting, explaining, justifying, and verifying are a part of the skill building and problem solving process. Students will also learn how to support their critical thinking processes with many current, useful, and innovative technologies, such as the graphing calculator.

UNITS OF INSTRUCTION:

The following topics are included: linear, quadratic, exponential, logarithmic, radical, rational, and polynomial functions. In addition, trigonometry, matrices, systems, and sequences are studied.

• COURSE OUTCOMES:

1.	Students will be able to identify specific characteristics of each type of function based on the graph and/or equation. (8A, 8B, 8C, 8D)
2.	Students will be able to perform mathematical operations on each type of function (8B, 8C, 8D)
3.	Students will investigate and discuss patterns, relationships and problem-solving strategies. (8B, 8C, 8D)
4.	Students will apply integrated mathematical problem-solving strategies to solve problems from within and outside mathematics. (6B, 6D, 7A, 7B, 7C, 8A, 8B, 8C, 8D)
5.	Students will apply the process of mathematical modeling to real-world problem situations. (6B, 6D, 7A, 7B, 7C, 8A, 8B, 8C, 8D)
	This course addresses the following state standards: 6A, 6B, 6C, 6D, 7A, 7B, 7C, 8A, 8B, 8C, 8D, 10A, 10C)

MAJOR LEARNING EXPERIENCES TO ACHIEVE OUTCOMES:

1.	Keep up with daily reading and homework assignments.
2.	Be an active participant in class discussions and activities.
3.	Maintain a math notebook.
4.	Quizzes – usually two per chapter
5.	Unit tests
6.	Using the graphing calculator as an aid to solving problems
7.	Final exam

ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

Larson, Kanold and Stiff. <i>Algebra 2</i> . Chicago. McDougal Littell, 2001	(adopted 2001)
Graphing calculator required: (TI-83, TI-83 Plus recommended)	

(05/15/01)  
(06/24/99)  
(05/06/96)