Algebra II (Mathematics)

Elective – Year – 10/11/12

Prerequisites: Geometry (can be concurrent) and/or department recommendation

Course Philosophy and Description

The philosophy of Algebra II revolves around the ability of math to describe quantitatively the wonders of God's creation. This course in Algebra reviews and strengthens the equation solving skills learned in Algebra I. Quadratics and equations of higher degree are introduced along with conics, circular functions, and trigonometry.

Course Goal

The student will:

1. review the concepts learned in previous math courses.
2. acquire several techniques to solve linear equations simultaneously.
3. study the algebra of matrices, relations and functions.
4. perfect the use of the quadratic formula in solving second degree functions and functions of higher degree.
5. study conic sections analytically.
6. extend the study of roots and powers to logarithms with various bases.
7. learn to view trigonometry as several circular functions.

Course Objectives

The student should be able to:

1. solve an equation or inequality.
2. translate a problem into an equation or a system of equations.
3. solve systems of equations using several techniques.
4. solve quadratics using several methods.
5. analyze and sketch elementary conics.
6. find both real and imaginary roots of higher degree functions.
7. approximate irrational roots of functions.
8. use logarithms in solving exponential equations.
9. solve problems using trigonometric equations.

Course Outline

1. Review solving of elementary linear equations
2. Review of simultaneous equations-graphing and solution
3. Introduction to matrix algebra
4. Quadratics
5. Conics
6. Higher degree equations
7. Logarithms
8. Trigonometry

Instructional Strategies

Teaching strategies include lecture, demonstration, group activities, and daily practice.

Student Materials

Algebra II Applications and Connections Glencoe/McGraw –Hill, 1992, notebook, scientific calculator, three-ring binder

Grading

The student's semester grade is based on a point system. Points will be derived from daily assignments, quizzes, chapter tests and the semester test. All daily assignments are graded on a three-point system. The first point is received for completing the assignment on time. The second point is received for showing work for the problems on the assignment. The third point is received for passing the assignment. Percents for grading go as follows:

A+ = 100-99%	**A = 98-93%**	**A- = 92-90%**
B+ = 89-87%	**B = 86-83%**	**B- = 82-80%**
C+ = 79-77%	**C = 76-73%**	**C- = 72-70%**
D+ = 69-67%	**D = 66-63%**	**D- = 62-60%**
F = 59-0%		

Classroom Procedures

Chapter tests will be given every two or three weeks. Missed tests should be made up in two days. Daily homework assignments will be given credit for completion and will be part of the overall semester grade. All daily assignments from the text must be done in the student's notebook. These notebooks may be collected at any time. Quizzes will be given for each new concept or lesson taught. These should be made up upon return to school if missed. It is the student's responsibility to get assignments when class is missed.

All students need to be seated when the bell rings. We will normally begin class by reviewing the previous lesson. Be prepared to ask questions if you did not understand something. Do not come to class and say "I didn't get it." Questions need to be specific. This review will then be followed by a quiz to test this knowledge. Remember to show your work as you do problems on both your quizzes and assignments. You will not get credit if you do not show your work.