



PINEWOOD – THE AMERICAN INTERNATIONAL SCHOOL OF THESSALONIKI, GREECE

NAME OF COURSE: ALGEBRA II

GRADE LEVEL: 10 – 12

SCHOOL YEAR: 2011– 2012

COURSE DESCRIPTION

This is a 2nd year algebra course, which reviews and extends concepts covered in Algebra I and Geometry. This course will continue with work in solving equations and inequalities, graphing, quadratics, systems of equations and inequalities, and rational expressions. Students will be introduced to trigonometry and also cover in detail topics such as functions, irrational and complex numbers, variations, polynomial equations, matrices, statistics, probability and analytical geometry. An emphasis is placed on problem solving, real-life applications and implementing technology. The course provides a solid background for students who plan to take higher-level math courses.

Prerequisite: Algebra I and Geometry

LEARNING OBJECTIVES

- The student will review basic concepts of algebra like the polynomials, linear equations, first-degree equations, factoring, rational expressions etc.
- The student will learn to identify quadratic functions and graph them.
- The student will be introduced formally to the concept of functions and relations and their differences.
- The student will learn about exponential and logarithmic functions.
- The student will learn how to perform basic operations, simplify, and use the properties of logarithms.
- The student will be introduced to basic applications of problem solving involving logarithms.
- The student will be introduced to right triangle trigonometry and learn how to use properly the Pythagorean Theorem as well as the basic Trigonometric Ratios of Sine, Cosine, and Tangent.

SCOPE AND SEQUENCE *

QUARTER I

- Basic Concepts of Algebra
- Inequalities and Proof
- Linear Equations

QUARTER II

- Functions and Relations
- Polynomials and Factoring
- Rational Expressions

QUARTER III

- Irrational and Complex Numbers
- Quadratic Equations and Functions
- Variation and Polynomial Equations

QUARTER IV

- Introduction to Sequences and Series
- Introduction to Exponential and Logarithmic Functions
- Triangle Trigonometry / Trigonometric Graphs, Identities & Applications

**Note that the order in scope and sequence is subject to change during the school year.*

HOMEWORK POLICY

Frequent homework assignments, based on the day's lecture and assigned out of the main textbook or given in the format of a worksheet. All homework is to be collected and graded. Homework submitted late will lose 10% of the overall score for each day late, and will only be accepted up to two days after the due date.

ASSESSMENT

- Weekly-unannounced quizzes, testing the students' understanding of the previous lecture and homework assignment.
- Frequent homework assignments, based on the days lecture and assigned out of the main textbook or given in the format of a worksheet.
- Class participation including board work, attentiveness of the student during the lecture, interest and effectiveness of the student in answering and asking questions about the lecture, and general classroom behavior of the student.
- Three to four tests per quarter, testing the student's overall knowledge and comprehension of a specific chapter or a number of sections.
- The department will not be giving any retake tests, therefore thorough preparation is expected.

GRADING POLICY

TESTS, QUIZZES AND PROJECTS: 60% of the Quarter grade

HOMEWORK: 30% of the Quarter grade

CLASS PARTICIPATION: 10% of the Quarter grade

- 4% PARTICIPATION
- 3% EFFORT
- 3% BEHAVIOR / ATTITUDE

Semester I grade: 40% Quarter I grade + 40% Quarter II grade + 20% Exam I

Semester II grade: 40% Quarter III grade + 40% Quarter IV grade + 20% Exam II

FINAL GRADE: 50% SEMESTER I GRADE + 50% SEMESTER II GRADE

RESOURCES

- Main Textbook: “Algebra and Trigonometry, Book 2” Houghton Mifflin ©1997
- Teacher generated material
- Additional support material and various other reference texts including other editions of the main text
- Using GDC along with related activities

ACADEMIC HONESTY

Academic honesty is fundamental to the integrity and operation of our school. Acts of academic dishonesty, including plagiarism (the act of presenting others’ words and ideas as one’s own without crediting the source), stealing in quizzes and tests, copying work from other students or allowing their own work to be copied, or using notes during a test, are considered serious offences. The consequences of academic dishonesty will be a zero grade on the specific test/assignment, and additional disciplinary action. The said student will be ineligible or removed from the National Honor Society.