Honors Algebra II

Syllabus

Course Number: MA3111H

Grade level: 9–12

Prerequisite Courses: Algebra I, Geometry

Credits: 1.0

Course Description

Similar to the base Algebra II course, this rigorous honors course focuses on the four critical areas of the Common Core model pathway for Algebra II: functions, polynomials, periodic phenomena, and collecting and analyzing data. The course begins with a review of linear and quadratic functions, to solidify a foundation for learning these new functions. Students will make connections between verbal, numeric, algebraic, and graphical representations of functions and apply this knowledge as they create equations and inequalities that can be used to model and solve mathematical and real-world problems. As students refine and expand their algebraic skills, they will draw analogies between the operations and field properties of real numbers and those of complex numbers and algebraic expressions. Throughout the course students complete hands on activities and performance tasks which require them to write out and show calculations. During the final unit of the course students practice using what they have learned and model real world situations mathematically. The Common Core practice standards are embedded throughout the course, as students solve novel problems, reason abstractly, and think critically.

Course Objectives

Throughout the course, you will meet the following goals:

- Communicate effectively using graphic, numeric, symbolic, and verbal representations
- Compare and connect the structure of the polynomial system and the system of integers
- Use the coordinate plane to extend trigonometry to model periodic phenomena
- Synthesize and generalize what you have learned about a variety of function families
- Relate visual data displays and summary statistics to different types of data, including probability distributions

Student Expectations

This course requires the same level of commitment from you as a traditional classroom course would. Throughout the course, you are expected to spend approximately 5–7 hours per week online on the following activities:

- Interactive lessons that include a mixture of instructional videos and tasks
- Assignments in which you apply and extend learning in each lesson
- Assessments, including quizzes, tests, and cumulative exams

Communication

Your teacher will communicate with you regularly through discussions, email, chat, and system announcements. You will also communicate with classmates, either via online tools or face to face, as you collaborate on projects, ask and answer questions in your peer group, and develop your speaking and listening skills.

Grading Policy

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

Grading Category	Weight
Lesson Quizzes	20%
Unit Tests	30%
Cumulative Exams	20%
Assignments	20%
Additional	0%
Projects	10%

Scope and Sequence

When you log into Edgenuity, you can view the entire course map—an interactive scope and sequence of all topics you will study. The units of study are summarized below:

Unit 1: Expressions and Equations
Unit 2: Introduction to Functions
Unit 3: Quadratics and Complex Numbers
Unit 4: Systems
Unit 5: Polynomial Operations
Unit 6: Polynomial Functions
Unit 7: Rational Functions
Unit 8: Radical Functions
Unit 9: Exponential and Logarithmic Functions
Unit 10: Statistics and Probability
Unit 11: Trigonometric Functions
Unit 12: Mathematical Modeling