

Algebra II Honors

Course Overview and Syllabus

Course Number: MA3111H

Grade Level: 10–12

Prerequisite Courses: Algebra I, Geometry

Credits: 1.0

Course Description

This full-year course focuses on functions, polynomials, periodic phenomena, and collecting and analyzing data. 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. Students will also explore the structure of expressions, leading them to rewrite and isolate elements in terms of its context. Process 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
- Assessments, including quizzes, tests, and cumulative exams

Communication

Your teacher will communicate with you regularly through discussions, e-mail, 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
Quiz	20%
Test	30%
Exam	20%
Assignment	20%
Additional	0%
Project	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:** Relationships Between Quantities
- Unit 2:** Quadratics and Complex Numbers
- Unit 3:** Polynomial Operations
- Unit 4:** Polynomial Functions
- Unit 5:** Rational Functions
- Unit 6:** Radical Functions

- Unit 7:** Exponential and Logarithmic Functions
- Unit 8:** Statistics and Probability
- Unit 9:** Trigonometric Functions
- Unit 10:** Mathematical Modeling