

Algebra I

Course Overview and Syllabus

Course Number: MA3109VA IC

Grade level: 9

Prerequisite Courses: None

Credits: 1.0

Course Description

This full-year course focuses on five critical areas: relationships between quantities and reasoning with equations, linear and exponential relationships, descriptive statistics, expressions and equations, and quadratic functions and modeling. This course builds on the foundation set in middle grades by deepening students' understanding of linear and exponential functions, and developing fluency in writing and solving one-variable equations and inequalities. Students will interpret, analyze, compare, and contrast functions that are represented numerically, tabularly, graphically, and algebraically. Quantitative reasoning is a common thread throughout the course as students learn how they can use algebra to represent quantities and the relationships among those quantities in a variety of ways. Standards of mathematical practice and process are embedded throughout the course, as students make sense of problem situations, solve novel problems, reason abstractly, and think critically.

Course Objectives

Throughout the course, you will meet the following goals:

- Apply quantitative reasoning in order to express relationships between quantities numerically, tabularly, graphically, and algebraically, understanding the limitations of each representation.
- Compare the key features of linear, exponential, and quadratic functions, and use these functions to model and solve problems.
- Use function notation as a way to describe a dependent relationship.
- Write and solve a variety of one- and two-variable equations and inequalities, and systems of one- and two-variable equations and inequalities, and interpret the solutions in context.
- Analyze visual data displays and summary statistics to draw conclusions about different types of data.

Student Expectations

This course requires the same level of commitment from you as a traditional classroom course. Students are expected to spend approximately five to seven hours per week online on:

- 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, 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%
Projects (Performance Tasks)	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:** Representing Relationships
- Unit 2:** Linear Functions
- Unit 3:** Linear Equations and Inequalities
- Unit 4:** Systems of Equations
- Unit 5:** Inequalities
- Unit 6:** Nonlinear Functions and Polynomial Expressions
- Unit 7:** Factoring Polynomials
- Unit 8:** Quadratic Functions
- Unit 9:** Quadratic Equations
- Unit 10:** Data Analysis and Perfect Cubes