

Algebra I

Course Overview and Syllabus

Course Number: 4411

Grade Level: 9–12

Prerequisite Courses: Pre-Algebra

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 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:

- Recognize the logical relationships between a conditional statement and its inverse, converse, and contrapositive.
- Analyze the relationships between lines, angles, and polygons to solve real-world and mathematical problems
- Solve real-world and mathematical problems using the surface area and volume of prisms, cylinders, pyramids, cones, spheres, and composites of these figures.
- Evaluate how to solve problems using properties of circles.
- Develop and verify mathematical relationships of right triangles and trigonometric ratios to solve real-world and mathematical problems.

The course objectives are implemented throughout specific lessons, focusing on applying theorems and properties, using mathematical reasoning to construct arguments and solving real world and mathematical problems.

The lesson objectives are assessed through assignments, quizzes, unit tests, performance tasks and cumulative exams.

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, and will provide you with hours of availability, contact policies, and any synchronous attendance requirements. 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%
Projects	10%
Additional	0%

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:

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| Unit 1: Representing Relationships | Unit 5: Systems of Equations and Inequalities |
| Unit 2: Linear Functions | Unit 6: Nonlinear Functions |
| Unit 3: Linear Equations and Inequalities | Unit 7: Polynomial Expressions |
| Unit 4: Applications of Probability and Geometry | Unit 8: Data Analysis |

Standards Alignment

The course was designed to meet the requirements of the 2016 Oklahoma Academic Standards for Mathematics. The standards aligned to each lesson are available in the student portal in the lesson information panel.

Materials and Technology Requirements

All course materials are provided through the student portal. You will become familiar with them through an orientation video and the student handbook. These resources are available within the Student Organizer, where you can also check the status of your operating system, processor speed, plug-ins and connection speed.

Accessibility

The course is designed for accessibility to all students. The system provides features and accommodations to meet the needs of ELL and students with IEP's, 504 plans, and Section 508. These accommodations include addressing multiple learning styles, accommodations for assessments, video caption/transcripts, read-aloud and translation tools, and many other features/accommodations.