

# Algebra I

**Course Number:** MA2003

**Grade level:** 9

**Credits:** 1.0

**Prerequisite Courses:** Pre-Algebra

## Course Description

Challenging students' mastery of learned algebraic skills, MA2003 provides in-depth coverage of writing, solving, and graphing a variety of equations and inequalities, as well as linear systems. Interactive activities provide students with opportunities to explore and discover algebraic principles on their own and encourage application of learned skills to real-world problems. Over the course of the two semesters, students at the high-school level use the properties of real numbers to explore relevant, project-based learning activities that provide a deeper understanding of the subject matter.

## Course Objectives

Throughout the course, you will meet the following goals:

- Understand the properties of the real number system
- Use variables to represent quantities that are unknown, can change, or are dependent on other quantities
- Write, evaluate, simplify, and manipulate algebraic expressions, equations, and inequalities
- Model real-world phenomena with the language of algebra
- Represent relationships between quantities symbolically and graphically and make use of both representations to solve problems
- Communicate about reasoning mathematically and evaluate the mathematical reasoning of others

## 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, e-mail, chat, and system announcements. Through this communication with your teacher, you will monitor your progress through the course and improve your learning by reviewing material that was challenging for you.

You will also communicate with classmates, either via online tools or face-to-face, as you do the following:

- Collaborate on projects
- Ask and answer questions in your peer group
- Develop 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.

<b>Assignments</b>	<b>20%</b>
<b>Labs</b>	0%
<b>Lesson Quizzes</b>	30%
<b>Unit Tests</b>	30%
<b>Cumulative Exams</b>	20%
<b>Additional</b>	0%

## Scope and Sequence

When you log into the Virtual Classroom, you can view the entire course map, which provides a scope and sequence of all topics you will study. Clicking a lesson's link in the course map leads to a page listing instructional activities, assignments, and learning objectives specific to that lesson. The units of study are summarized below.

- Unit 1:** The Real Number System
- Unit 2:** Laws of Exponents
- Unit 3:** One-variable Equations
- Unit 4:** Radical Expressions
- Unit 5:** Multistep Equations
- Unit 6:** One-variable Inequalities
- Unit 7:** Absolute Value Equations and Inequalities
- Unit 8:** Represent Relationships
- Unit 9:** Linear Relationships
- Unit 10:** Write Linear Equations
- Unit 11:** Linear Systems
- Unit 12:** Statistics
- Unit 13:** Probability
- Unit 14:** Polynomial Operations
- Unit 15:** Factor Polynomials
- Unit 16:** Rational Expressions

**Unit 17:** Quadratic Functions

**Unit 18:** Quadratic Equations

**Unit 19:** Number Patterns and Exponential Functions

**Unit 20:** Functions and Transformations