

Pre-Algebra, Part 2 (ALG-043-300-001)

Mathematics Pre-Algebra, Part 2 Syllabus

Course Description

Pre-Algebra, Part 2 is divided into four units:

1. Graphs of Linear Functions
2. Systems of Linear Equations
3. Exponents and Radicals
4. Non-Linear Functions

Prerequisites

There are no prerequisites for this class.

Course Materials

There are no textbooks required for this course; all content can be found within the course lesson pages.

Students may use a handheld graphing or scientific calculator or a Desmos online calculator (found at desmos.com/scientific or desmos.com/calculator only) during the final exam; no other calculator is allowed.

Course Outcomes

As students complete the course assignments, they will increase their knowledge, improve a 21st-century skill, and develop an attribute.



Knowledge: Pre-Algebra, Part 2

In this course, *knowledge* refers to the subject matter and content students will learn while completing the readings, practices, quizzes, and assignments.

On successful completion of this course, students will be able to do the following:

1. Understand the properties of a linear function, such as slope and intercepts, by constructing graphs using various methods.

2. Determine an appropriate model function that represents a linear relationship between two quantities.
3. Extend knowledge of linear functions in order to solve systems of linear equations and graph linear inequalities.
4. Graph non-linear functions, such as absolute value, exponential, and quadratic, and describe the properties and qualities of each type of graph.
5. Simplify variable expressions using exponent properties.
6. Use functions as models to solve real-world application problems.



Twenty-First-Century Skill: Communication— Communicate Using Digital Media

As students complete this course's assignments, they will gain skills in *Communication Using Digital Media*. This skill is part of communication.



Attribute: Kindness

This course focuses on developing the attribute of *kindness* in the context of mathematics.

Grading and Assignments

<i>Grading Scale</i>		
Assignment or Exam	Grading	Percent of Total Grade
Topic Assignments	Computer Graded	20%
Application Problems and Project	Teacher Graded	15%
Module Quizzes	Computer Graded	35%

Content Guides	Teacher Graded	10%
Mid-Course Quiz and Final Exam	Computer Graded	20%

Your grade in this course will be based on these assignments and exams.

Students must pass the final exam to earn credit for the course. They may retake the final exam once for a fee.

Due Dates

The due dates in the course are only suggestions to help the students pace themselves. You do not need to complete assignments, quizzes, and exams by the due date set in the course.

Topic Assignments

Each module consists of four topics. Each topic has one assignment where students will be asked to demonstrate their knowledge of the content learned from the lesson material. In total, there are 56 assignments in the course. Students will have unlimited attempts.

Content Guides

Every module will have a content guide to help students take notes on the key topics in the lessons. Students will submit them for a grade in modules 3, 7, 11, and 15. Content guides are graded based on completion, so students will get full points if they have everything filled out.

Students will have the option to resubmit content guides for a fee.

Application Problems and Final Project

At the end of some modules, students will have application problems that challenge them to apply what they learned to real-world problems. There are instructions, templates, and a rubric provided to help students be successful in completing this portion of the course. The 21st-century skill of reasoning is taught through the completion of these projects as well. Students should integrate the practices shared in the instructions and feedback to ensure that they earn the optional micro-credential at the end of the course.

Students will have the option to resubmit application problems for a fee.

Module Quizzes

At the end of each module, students will take a quiz that covers all topics taught. While module quizzes can *not* be resubmitted for a fee, they will allow for two attempts on each question.

Exams

Students will complete these exams during the course.

Mid-Course Quiz: The mid-course quiz is found in module 8 and covers all the material learned in modules 1–7. The mid-course quiz can *not* be resubmitted for a fee, but like module quizzes, they allow for two attempts on each question.

Final Exam: The final exam is found in module 16 and is a comprehensive final that covers all material learned in the course from modules 1–15.

Students must pass the final exam with a 60% or higher to earn credit for the course; they may retake it once, for a fee, upon request.

Final Grade

The letter grade will be calculated according to these percentages.

Grading Scale	
Percent to Letter Grade Calculation	
A	100%–93%
A–	<93%–90%
B+	<90%–87%
B	<87%–83%
B–	<83%–80%
C+	<80%–77%
C	<77%–73%
C–	<73%–70%

D+	<70%–67%
D	<67%–63%
D–	<63%–60%
F (fail)	<60%–0%