Eighth-Grade Mathematics, Part 2 (MATH-037)

Mathematics Syllabus

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📖 Course Description

In 8th Grade Math Part 2, students will learn about the tools for understanding special equations, working with exponents including the use of scientific notations, calculating the volume of 3-dimensional figures, working with triangles in math, and using basic statistics.

This course has been divided into four main units:

- Unit 1: Review and Special Equations
- Unit 2: Exponents and Roots
- Unit 3: Volume and Triangles
- Unit 4: Statistics

Prerequisites

There are no prerequisites for this course.

It is recommended, but not required, that students take 8th-Grade Math Part 1 prior to taking this course.

Course Materials

No textbooks are 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) during the final exam; no other calculator is allowed.

Course Policies

For information about resubmitting assignments, retaking exams, how long students are given to complete the course, and other questions, please contact the AK Grad instructor.

Due Dates

There are no due dates in the course. A pacing guide can be found in the course which gives a suggested timeline for completing the course.

◎Course Outcomes

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

Knowledge: 8th-Grade Math 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. Simplify algebraic expressions and functions using the order of operations, distributive property, and combining like terms.
2. Understand the properties of exponents and know how to manipulate exponential terms.
3. Clearly explain the difference between a rational and irrational number and make calculations using them.
4. Calculate the volume of cylinders, cones, and spheres.
5. Use the Pythagorean Theorem to solve for unknown values in a real-world context.
6. Calculate and interpret data using scatterplots, lines of best fit, and two-way tables.

21st-Century Skill: *Communication—Engaging in Conversations and Discussions*

As students complete this course's assignments, they will gain skills in Engaging in Conversation and Discussions.   This skill is part of Communication.

Attribute: Resilience

This course focuses on developing the attribute of resilience in the context of 8th-grade Math.

✏Grading and Assignments

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

Assignments and Exams

Assignment or Exam	Grading	Percent of Total Grade
Content Guides	Teacher-Graded	10%
Skill Projects	Teacher-Graded	15%
Assignments	Teacher-Graded	20%
Module Quizzes	Computer-Graded	35%
Midcourse Quiz and Final Exam	Computer-Graded	20%

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 at the end of each module. Content guides are graded based on completion, so students will get full points if they have everything filled out.

Application-Skill Projects

There are 3 different skill projects that students will find in the course. At the end of each module, students are provided instructions on completing that portion of the project. These projects are an opportunity for students to apply the math that they are learning and tie that knowledge to a 21st Century Skill.

Assignments

Each module consists of 3 topics. Most topics have one assignment where students will be asked to demonstrate their knowledge of the content learned from the lesson material. In some modules, there will be an application problems page instead of the third topic. Students will have unlimited attempts on topic assignments.

Module Quizzes

At the end of each module, students will take a quiz that covers all topics taught. Module quizzes allow two attempts on each question.

Midcourse Quiz

This computer-graded quiz will cover the material up to the midcourse quiz. The questions on the midcourse quiz will be similar in format to the questions on the final exam.

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.

Resubmissions and Retakes

For questions regarding resubmissions and retakes, please contact the AK Grad instructor.

Course Grade

The letter grade will be calculated according to these percentages.

Grade 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%