Mathematics 7

Course Overview and Syllabus

Course Number: 2204

Grade Level: 7

Prerequisite Courses: Mathematics 6

Credits: 1.0

Course Description

This yearlong course yearlong course begins with an in-depth study of proportional reasoning during which students utilize concrete models such as bar diagrams and tables to increase and develop conceptual understanding of rates, ratios, proportions, and percentages. Students' number fluency and understanding of the rational number system are extended as they perform operations with signed rational numbers embedded in real-world contexts. In statistics, students develop meanings for representative samples, measures of central tendency, variation, and the ideal representation for comparisons of given data sets. Students develop an understanding of both theoretical and experimental probability. Throughout the course, students build fluency in writing expressions and equations that model real-world scenarios. They apply their understanding of inverse operations to solve multi-step equations and inequalities. Students build on their proportional reasoning to solve problems about scale drawings by relating the corresponding lengths between objects. The course concludes with a geometric analysis of angle relationships, area, and volume of both two- and three-dimensional figures.

Course Objectives

Throughout the course, you will meet the following goals:

- Apply mathematical reasoning skills and statistical analysis to solve real-world problems.
- Effectively translate between graphic, numeric, symbolic, and verbal representations.
- Learn to select and use appropriate mathematical knowledge when investigating problems.
- Apply proportional reasoning, utilizing multiplication and division to solve problems with ratios, rates, and scale factors.
- Develop a probability model comparing and contrasting theoretical and experimental probabilities.
- Work with two- and three-dimensional figures to solve problems involving area, surface area, and volume.

The course objectives are implemented throughout specific lessons, focusing on applying properties to equations, 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%

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: Proportional Relationships and Percents
Unit 2: Operations with Integers
Unit 3: Operations with Rational Numbers
Unit 4: Probability and Data Representation
Unit 5: Sampling and Comparing Populations
Unit 6: Expressions and Exponents
Unit 7: Equations and Inequalities
Unit 8: Scale Drawings, Transformations, and Similar Triangles
Unit 9: Two- and Three-Dimensional Geometry

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.