

Mathematics II

Course Overview and Syllabus

Grade level: 9–12

Prerequisite Courses: Mathematics I

Credits: 1.0

Course Description

This full-year course begins with a brief exploration of radicals and polynomials before delving into quadratic expressions, equations, and functions, including a derivation of the quadratic formula. Students then embark on a deep study of the applications of probability and develop advanced reasoning skills with a study of similarity, congruence, and proofs of mathematical theorems. Students explore right triangles with an introduction to right- triangle trigonometry before turning their attention into the geometry of circles and making informal arguments to derive formulas for the volumes of various solids.

Course Objectives

Throughout the course, you will meet the following goals:

- Demonstrate an understanding of functions and use functions to describe quantitative relationships
- Communicate effectively using graphic, numeric, symbolic, and verbal representations
- Students will solve geometric problems relating to triangles, circles, and solids
- Demonstrate an understanding of the relationship between real and non-real numbers
- Study the theory and application of probability.
- Solve and graph quadratic expressions and functions

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%

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: Extending the Number System

Unit 2: Nonlinear Functions

Unit 3: Polynomial Expressions

Unit 4: Quadratic Functions and Modeling

Unit 5: Expressions and Equations: Part One

Unit 6: Expressions and Equations: Part Two

Unit 7: Applications of Probability

Unit 8: Similarity, Right Triangle Trigonometry, and Proof: Part One

Unit 9: Similarity, Right Triangle Trigonometry, and Proof: Part Two

Unit 10: Circles With and Without Coordinates

Unit 11: Two- and Three- Dimensional Figure

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.