Mathematics III
Course Overview and Syllabus

Grade level: 9–12

Prerequisite Courses: Mathematics I and II   **Credits:** 1.0

Course Description

This course synthesizes previous mathematical learning in four focused areas of instruction. First, students relate visual displays and summary statistics to various types of data and to probability distributions with a focus on drawing conclusions from the data. Then, students embark on an in-depth study of polynomial, rational, and radical functions, drawing on concepts of integers and number properties to understand polynomial operations and the combination of functions through operations. This section of instruction builds to the Fundamental Theorem of Algebra. Students then expand the study of right-triangle trigonometry they began in Mathematics II to include non-right triangles, developing the Laws of Sines and Cosines. Finally, students model an array of real-world situations with all the types of functions they have studied, including work with logarithms to solve exponential equations. As they synthesize and generalize what they have learned about a variety of function families, students appreciate the usefulness and relevance of mathematics in the real world.

Course Objectives

Throughout the course, you will meet the following goals:

- Demonstrate an understanding of polynomial, rational, radical, and trigonometric functions
- Communicate effectively using graphic, numeric, symbolic, and verbal representations
- Apply various functions learned to real world applications
- Understand and apply the Laws of Sines and Cosines to problems
- 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: Inferences and Conclusions from Data

Unit 2: Polynomials, Rational, and Radical Relationships: Part One

Unit 3: Polynomials, Rational, and Radical Relationships: Part Two

Unit 4: Polynomials, Rational, and Radical Relationships: Part Three

Unit 5: Trigonometry of General Triangles and Trigonometric Functions

Unit 6: Mathematical Modeling: Part One

Unit 7: Mathematical Modeling: Part Two

Unit 8: Mathematical Modeling: Part Three

Unit 9: Mathematical Modeling: Part Four

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.