Trigonometry
Course Overview and Syllabus

Course Number: 4750   **Grade Level:** 9–12

Prerequisite Courses: Algebra II   **Credits:** 0.5

Course Description

In this one-semester course, students use their geometry and algebra skills to begin their study of trigonometry. Students will be required to express understanding using qualitative, quantitative, algebraic, and graphing skills. This course begins with a quick overview of right-triangle relationships before introducing trigonometric functions and their applications. Students explore angles and radian measures, circular trigonometry, and the unit circle. Students extend their understanding to trigonometric graphs, including the effects of translations and the inverses of trigonometric functions. This leads to the laws of sines and cosines, followed by an in-depth exploration of trigonometric identities and applications. This course ends with an introduction to the polar coordinate system, complex numbers, and DeMoivre's theorem.

Course Objectives

Throughout the course, you will meet the following goals:

- Define and apply the six trigonometric functions
- Understand the connection between trigonometric and circular functions
- Graph all six trigonometric functions and their transformations
- Solve problems in oblique triangles using the Law of Sines, Cosines, and area formulas
- Use the basic trigonometric identities to verify other trigonometric identities and to simplify complex trigonometry expressions
- Solve trigonometric equations
- Plot points and graph equations in the polar coordinate system
- Use trigonometry concepts to solve real-world problems

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.

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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	40%
Cumulative Exams	20%
Assignments	10%
Lab	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: Right Triangle Relationships

Unit 2: Applying Trigonometric Functions

Unit 3: Trigonometric Angles

Unit 4: Circular Trigonometry

Unit 5: Trigonometric Graphs

Unit 6: Translations of Trigonometric Graphs

Unit 7: Law of Sines

Unit 8: Trigonometric Identities

Unit 9: Trigonometric Identity Application

Unit 10: Polar Coordinate System

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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.