Trigonometry

Course Overview and Syllabus

Course Number: MA3114 IC

Grade level: 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. Next, students explore trigonometric identities and applications. Students then work with complex numbers and the polar coordinate system. The course ends with an introduction to vectors and conic sections.

Course Objectives

Throughout the course, you will meet the following goals:

- Explore right triangle relationships and solve problems with triangles.
- Define and apply the six trigonometric functions.
- Use trigonometric identities to verify algebraic relationships and to solve trigonometric equations.
- Solve problems in the complex and polar coordinate systems.
- Use vectors to solve problems in mathematical and real-world contexts.
- Represent conic sections with equations and graphs.

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. 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
Quiz	20%
Test	30%
Exam	20%
Assignment	20%
Projects (Performance Tasks)	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 and Trigonometry
Unit 2: Trigonometric Functions
Unit 3: Analytic Trigonometry
Unit 4: Complex Numbers and Polar Coordinates
Unit 5: Vectors
Unit 6: Conic Sections