

# Honors Pre-Calculus

## Course Overview and Syllabus

---

**Course Number:** MA1104 Honors

**Grade Level:** 9–12

**Prerequisite Courses:** Algebra II

**Credits:** 1.0

### Course Description

Exploring the relationship between advanced algebra topics and trigonometry, this informative honors level introduction to calculus challenges students to discover and comprehend the nature of graphs, nonlinear systems, and polynomial and rational functions. Encouraging logarithmic knowledge and application, this two-semester course for high school students covers many interesting and advanced subject areas in a thoughtful and supportive format, providing students a deeper understanding of topics, including limits, continuity, derivatives, and the Fundamental Theorem of Calculus.

### Course Objectives

Throughout the course, you will meet the following goals:

- Extend previous coursework with functions with a more in-depth analysis of polynomial and transcendental functions
- Use matrices and vectors to solve mathematical and real-world problems
- Use parametric equations to describe functions and model real-world concepts
- Analyze conic sections, and their rotations, in Cartesian and polar coordinate systems
- Understand the concepts of vectors, parametric equations, polar equations, and continuity

### Student Expectations

This course requires the same level of commitment from you as a traditional classroom course would. Throughout the course, you are expected to spend approximately 5–7 hours per week online on the following activities:

- 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, email, 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
Assignments	10%
Labs	0%
Lesson Quizzes	20%
Unit Tests	50%
Cumulative Exams	20%
Additional	0%

## 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:** The Nature of Functions and Complex Numbers

**Unit 2:** Matrices

**Unit 3:** Systems of Equations

**Unit 4:** Functions and Their Graphs

**Unit 5:** Rational Functions

**Unit 6:** Right Triangle and Circular Trigonometry

**Unit 7:** Graphing Trigonometric Functions

**Unit 8:** Trigonometry

**Unit 9:** Vectors

**Unit 10:** Conics and Analytic Geometry

**Unit 11:** Statistics and Probability

**Unit 12:** Mathematical Modeling

**Unit 13:** Sequences and Series