

Precalculus

Part 2

Course Description

Precalculus Part 2 is the second half of the precalculus course designed to introduce students to the foundational principles necessary for success in future calculus courses. This course also fosters math inquiry and problem-solving skills. The course has been divided into four units:

Unit 1: Trigonometry and Polar Coordinates

Unit 2: Parametric Equations and Vectors

Unit 3: Systems of Equations and Matrices

Unit 4: Conics, Sequences, and Probability

In addition, the course will also have students develop twenty-first-century skills in communication and the attribute of diligence.

Prerequisites

This is the second half of the precalculus course series. It is recommended, but not required, that students take Precalculus Part 1 before taking this course.

Course Materials

There are no textbooks required for this course. All content can be found on the course lesson pages.

Students may use a handheld graphing or scientific calculator. Another option is to use the Desmos scientific calculator found online at [desmos.com/scientific](https://www.desmos.com/scientific) or the Desmos calculator found at [desmos.com/calculator](https://www.desmos.com/calculator). The two calculators on these specific

websites are the only online calculators allowed during the final exam; no other calculator is allowed.

Due Dates

The due dates in the course are only suggestions to help the students pace themselves. You *do not* need to complete assignments, quizzes, and exams by the due date set in the course.

Course Learning Outcomes

As students complete the course assignments, they will increase their knowledge, improve a twenty-first-century skill, and develop an attribute.



Knowledge

Knowledge: Precalculus Part 2

In this course, *knowledge* refers to the subject matter and content students will learn while completing the readings, practices, quizzes, and assignments.

On successful completion of this course, students will be able to do the following:

1. Demonstrate proficiency in trigonometric concepts and complex number operations.
2. Understand and manipulate vector quantities.
3. Proficiently apply matrix operations and transformations in various contexts.
4. Demonstrate proficiency in advanced algebraic concepts and probability theory.



Skills

21st-Century Skill: Communication

As students complete this course's assignments, they will gain skills in *Communicate Using Writing*. This skill is part of the Communication skills category.



Attribute: Diligence

This course focuses on developing the attribute of *diligence* through personal reflection and application while working on precalculus topics. Throughout the course, students will read examples of mathematicians who displayed diligence and apply lessons from those historical figures to their work.

Grading and Assignments

Your grade in this course will be based on these assignments and exams.

Grading Scale

Assignment or Exam	Grading	Percent of Total Grade
Topic Assignments	Computer Graded	20%
Application Problems and Project	Teacher Graded	15%
Module Quizzes	Computer Graded	35%
Content Guides	Teacher Graded	10%
Midcourse Quiz and Final Exam	Computer Graded	20%

Topic Assignments

Each module consists of four topics. Each topic has one assignment where you will be asked to demonstrate your knowledge of the content learned from the lesson material. In total, there are 56 assignments in the course. You will have unlimited attempts.

Content Guides

Every module will have a content guide to help you take notes on the key topics in the lessons. Be sure to complete the content guides because you will submit them for a grade.

You will submit your completed content guides at the end of Unit 2 and the end of Unit 4. Content guides are graded based on completion, so you will get full points if you have everything filled out.

Application Problems and Final Project

Each module has four application problems, from which you will choose two to complete. You will get a sneak peek of one of the module application problems in the lesson. At the end of each module, you will complete the two application problems of your choice. You will submit the application problems according to the submission schedule that can be found at the top of each application problem page.

These application problems are meant to challenge you to apply what you learned to real-world problems. Instructions, templates, and rubrics are provided to help you successfully complete this portion of the course.

The module application problems are meant to prepare you for the midcourse project in module 8 and the final project in module 16. These projects will require a presentation of material where you will need to video yourself.

Module Quizzes

At the end of each module, you will take a quiz that covers all topics taught. While you have unlimited attempts for assignment questions, module quizzes will only allow for 2 attempts at each question and will not generate additional questions.

Exams

You will complete these exams during the course.

Midcourse Quiz: The midcourse quiz is found in module 8 and covers all the material learned in modules 1–7.

Final Exam: The final exam is found in module 16 and is a comprehensive final that covers all material learned in the course from modules 1–15.

Course Grade

The letter grade will be calculated according to these percentages.

Percent to Letter Grade Calculation	
A	100%–93%
A–	<93%–90%
B+	<90%–87%
B	<87%–83%
B–	<83%–80%
C+	<80%–77%
C	<77%–73%
C–	<73%–70%
D+	<70%–67%
D	<67%–63%
D–	<63%–60%
F (fail)	<60%–0%