Precalculus, Part 2 (PRECALC-043)

Precalculus Part 2 Syllabus

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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. You will find more information on the skill and attribute in the Getting Started module.

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 or the Desmos calculator found at desmos.com/calculator.

Course Policies

For information about resubmitting assignments, retaking exams, how long students are given to complete the course, and other questions, please contact the AK Grad instructor.

©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: 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.



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.

슈슈 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.

Grad	ing	Scal	е

Assignment or Exam	Grading	Percent of Total Grade

Topic Assignments	Computer Graded	20%
Book 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.

Book Project

The application project for this course is to apply the tools for mathematical communication in writing by making a book that explains the concepts in the course. Each module contains instructions for the book project for that particular module.

You will make one to two (single-sided) pages per module about one of the main concepts from that module. Each module will have its own set of pages for you to work on, but you will submit the pages according to the following schedule:

Modules 1–3: submit in module 3 Modules 4–5: submit in module 5 Modules 1–7: submit the first half of your book in module 8 Modules 9–11: submit in module 11 Modules 12–13: submit in module 13 Modules 14–15: submit in module 15 Complete book: compile and submit the entire book in module 16

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.

Resubmissions and Retakes

For information about resubmitting assignments and retaking exams, please contact the AK Grad instructor

Course Grade

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