



Syllabus

Contents

[Course Materials](#)

[Assignments](#)

[Exams](#)

[Grading](#)

What You Should Already Know

Before beginning this course, you should have taken PRECALC-041 or the equivalent of one semester of precalculus.

Learning Outcomes

You will be expected to demonstrate mastery of the following outcomes throughout your study in this course:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

You should keep these eight primary outcomes in mind as you complete this course or any math course. This course's specific outcomes will help you to expand on mathematical principles you learned in previous math classes. After successful completion of the course, you will be able to do the following:

1. Use trigonometric functions to solve angle values in degrees and in radians. Convert between degrees and radians.
2. Graph trigonometric functions and use trigonometric functions to model periodic data.
3. Use trigonometric identities to solve problems. Verify trigonometric identities.
4. Use polar coordinates and polar equations to solve problems. Use polar form while working with complex numbers and with vectors.
5. Solve problems related to conic sections, including circles, ellipses, parabolas, and hyperbolas.
6. Use matrix operations and matrix row operations to solve systems of equations.
7. Use the fundamental counting principle and the binomial theorem in calculating probabilities.

Course Materials

There is no textbook for this course; the course content is all you will need. You will also need a scientific calculator and some kind of graphing utility. A graphing calculator fits both needs and might be a good investment for future classes. You can find many great online graphing tools and calculators.

StudyForge

StudyForge is a company that has recorded thousands of videos ranging from precalculus concepts up through calculus and higher levels of mathematics. With your enrollment, you'll receive a subscription to the StudyForge content, and you won't need to do anything besides click the links in the course content to access the videos.

Internet Access

This course's explorations require an internet connection capable of delivering streamed audio and video through Adobe Connect.

Course Organization

Each lesson is broken into sections based on learning outcomes. Each section has content for you to learn and is followed by a small, non-graded self-check that will help you determine how well you are learning the material.

Assignments

Unit Quizzes and Review Quizzes

You'll complete a unit quiz at the end of each unit. There are also two review quizzes covering all of the concepts from the preceding units. These assignments are open-book quizzes. If you find that you are relying heavily on the course material to successfully complete these assignments, you will want to increase your study time, because the final exam is not open book.

Show-Your-Work Assignments

You will be required to show your work or justify your answers during show-your-work assignments and on the exam. Your work will be reviewed for partial credit, and your grade will be updated when applicable. For partial credit, you must show your work in the space provided. The following rubric shows how your work will be graded:

FULL CREDIT	Answer is correct; clear understanding of mathematical processes and reasoning is demonstrated.
3/4 CREDIT	Answer is incorrect; clear understanding of mathematical processes and reasoning is demonstrated, but with one or two minor errors.
HALF CREDIT	Answer is incorrect; multiple minor errors; demonstrates incomplete understanding of topic.
1/4 CREDIT	Answer is incorrect; critical errors; demonstrates incomplete understanding of topic.
NO CREDIT	Answer is incorrect; no work or justification is shown, or the work demonstrates lack of understanding of topic.

Essay Assignments

At midcourse and at the end of your course, you will complete an essay assignment. In these assignments, you will be required to describe your strategies and reasoning for various mathematical principles. Please note that providing correct answers is not the goal of the essay assignments;

your ideas and reasoning are much more important (notice how providing correct answers only accounts for one quarter of the possible credit). Please take the time to explain your thought process and steps for solving the problems. Here's how your work will be graded:

FULL CREDIT	Response employs correct principles and explains how solution was derived; correct strategies used.
3/4 CREDIT	Response employs correct principles with minor flaws; response partially explains how solution was derived; correct strategies used but with one or two minor errors.
HALF CREDIT	Response employs principles with moderate flaws; response partially explains how solution was derived; incorrect strategies used.
1/4 CREDIT	Response may display correct answers with little or no explanation; response employs principles with critical flaws or doesn't explain how solution was derived; incorrect strategies used.
NO CREDIT	No explanation is shown or the work demonstrates lack of understanding of correct strategies; answers are incorrect.

Exams

After completing all units, you will take the final exam. As noted, the final exam is comprehensive—in other words, it covers all material in this course. It consists of around 50 questions, which are very much like those in the unit quizzes. You may use scratch paper and a scientific or graphing calculator on the exam. You will be required to show your work for some exam questions.

Grading

The following tables show the grading breakdown and grading scale for this course:

Graded Event	Weight	Quantity	Total
Unit Quizzes	5.7%	7	40%
Show Your Work	2.9%	7	20%
Review Quizzes	5%	2	10%
Essay Assignments	10%	2	20%
Final Exam	10%	1	10%

Grading Scale	
A	100%–93%
A–	92%–90%
B+	89%–87%
B	86%–83%
B–	82%–80%
C+	79%–77%
C	76%–73%
C–	72%–70%
D+	69%–67%
D	66%–63%
D–	62%–60%
E (fail)	59% or below