

MATH 1316 Plane Trigonometry, Fall 2025 Syllabus

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Office Hours: MW: 11 am - Noon, TR: 9 am - 10:50 am, F: 8 am - 11 am

Prerequisites: two years of high school algebra or successful completion of MATH 1314

Materials: We will be using the text Precalculus 2nd ed. by Abramson, et al. via OpenStax. This text is free and available via a link on Blackboard. Students will also require the following materials:

- **Calculator:** a scientific calculator (or a calculator that can perform trigonometry calculations) is a requirement. A graphing calculator is helpful, but is not required.
- **Gradescope:** this can be downloaded as an app, as well as accessed from a web browser. This is the way you will be turning in your assignments, and how your feedback will be made available to you.
- **OneNote:**(Optional) Microsoft OneNote (all SPC students have access to this program via their mySPC account) will be used to store nearly all board work done during class. Students will also have their own personal sections (shared with me) to ask questions, take their own notes if desired, and more. I recommend that students take advantage of the program.

This course partially satisfies a Core Curriculum Requirement: Mathematics Foundational Component Area (020)

Core Curriculum Objectives:

- Communications skills - to include effective written, oral and visual communication
- Critical thinking skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- Empirical and quantitative competency skills - to manipulate and analyze numerical data or observable facts resulting in informed conclusions.

Student Learning Outcomes: Upon completion of this course and receiving a passing grade, the student will be able to:

1. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
2. Graph trigonometric functions and their transformations.
3. Prove trigonometric identities.
4. Solve trigonometric equations.
5. Solve right and oblique triangles.
6. Use the concepts of trigonometry to solve applications.

IT IS THE RESPONSIBILITY OF THE STUDENT TO BE FAMILIAR WITH SOUTH PLAINS COLLEGE POLICIES. BELOW ARE ITEMS SPECIFIC TO THIS COURSE

Assessment: Grading will be done according to the standard 10 percent scale (i.e. 100% - 90% is an A, etc.) with assignments weighted according to the following:

Assignments	20%
Tests (each)	20%
Final Exam	20%

Pedagogy: This class is conducted in a “flipped” model. That is, students are expected to introduce themselves to the material and begin working on the material *before* the class meeting. Class time will be spent discussing more difficult parts of the material, answering student questions, and working on parts of the homework as a class or small groups.

Class Attendance: Students are expected to be in class and prepared for the day’s lesson. Students are responsible for the material covered in this course, whether or not they are in class for any reason. A student missing more than 4 individual class days without continuing notification may be dropped from the course. Please note that state guidelines only allow for 6 withdrawn courses total.

Assignments (including exams) cannot be submitted late, nor made up in the case of an absence except at my discretion

Assignments: Assignments over the learning material will be turned in almost daily to Gradescope. They should consist of any notes taken over the material (from any source!) and fully worked problems from the assignments given over the material. Additional study helps/habits such as mind-maps and written summaries can (and should!) be included within these assignments. They will be graded on both the quantity and quality of the content submitted. Quizzes will be assigned at the end of class weekly and will be calculated as part of the Assignments grade.

Exams: There will be two midterm exams given during this course. During exams cell phones, laptops, and other such objects should be turned off and put away. There is no tolerance for violations. Students who break these rules will be asked to leave the exam (counted as an absence) and receive a zero for their exam grade. *Makeup exams are not given.*

Final Exam: The final exam is comprehensive, and a required part of the course. Failure to take the final exam results in an automatic F. As the final exam is comprehensive, your course grade will not be lower than your final exam score. Find your final exam time based on your section below:

002	Thursday, December 11, 10:15 am - 12:15 pm
601	Wednesday, December 10, 7:15 pm - 9:15 pm

Extra Credit: Extra credit is not offered in this course. Occasionally bonus problems may be assigned on exams.

Week	Content Covered	Sections
Week 1 8/25 - 8/29	Angles, Circles, Geometry	5.1
Week 2 9/1 - 9/5	9/1 - <i>Labor Day</i> Unit Circle with Sine and Cosine Unit Circle with other Trigonometric Functions	5.2 5.3
Week 3 9/8 - 9/12	Right Triangles	5.4
Week 4 9/15 - 9/19	Graphs of Sine and Cosine Graphs of Other Functions	6.1 6.2
Week 5 9/22 - 9/26	Inverse Trigonometric Functions	6.3
Week 6 9/29 - 10/3	EXAM - Trigonometry Basics (Ch. 5 and 6) Fundamental Identities	7.1
Week 7 10/6 - 10/10	Sum/Difference Identities Multiple Angle Identities	7.2 7.3
Week 8 10/13 - 10/17	Product-Sum and Sum-Product Identities Solving Equations	7.4 7.5
Week 9 10/20 - 10/24	EXAM - Analytic Trigonometry (Ch. 7) Modeling with Trigonometric Functions	7.6
Week 10 10/27 - 10/31	Law of Sines Law of Cosines, Areas	8.1 8.2
Week 11 11/3 - 11/7	Polar Equations/Functions Polar Graphs	8.3 8.4
Week 12 11/10 - 11/14	Parametric Equations Parametric Graphs	8.6 8.7
Week 13 11/17 - 11/21	Vectors	8.8
Week 14 11/24 - 11/28	EXAM - Applications of Trigonometry 11/26 - 11/28: <i>Thanksgiving Break</i>	
Week 15 12/1 - 12/5	Course Review	
Week 16 12/8 - 12/11	FINAL EXAM	