South Plains College
Common Course Syllabus: MATH 1316
Revised December 2022

Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 1316

Course Title: Plane Trigonometry

Available Formats: conventional, hybrid, internet, and ITV

Campuses: Levelland, Downtown Center, and Dual Credit

Course Description: In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included.

Prerequisite: Minimum score of 350 on the TSIA1, minimum score of 950 on the TSIA2, a diagnostic score of 6 on the TSIA2, TSI-exempt status, or a successful completion with a grade of 'C' or better in MATH 1314.

Credit: 3 **Lecture:** 3 **Lab:** 0

Textbook: *Trigonometry*, Dugopolski, 2019, 5th Edition, Prentice Hall/Pearson Education

Supplies: Please see the instructor's course information sheet for specific supplies.

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

Core Curriculum Objectives addressed:

- **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.

Student Learning Outcomes Assessment: A pre- and post-test questions will be used to determine the extent of improvement that the students have gained during the semester

Course Evaluation: There will be departmental final exam questions given by all instructors.

Attendance/Student Engagement Policy: Attendance and engagement are the most critical activities for success in this course. The instructor maintains records of the student's attendance and submission of assignments throughout the semester. The student is expected to attend at least eighty percent (80%) of the **total** class meetings **and** submit at least eighty percent (80%) of the **total** class assignments to have the best chance of success. If the student fails to meet these minimum requirements, the instructor may remove the student from the class with an X, upon their discretion, to help the student from harming their GPA. If the student can not receive an X, the instructor will assign an F.

Plagiarism violations include, but are not limited to, the following:

1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

Cheating violations include, but are not limited to, the following:

1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain an unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect from the student and the instructor. Neither the instructor nor the student should be subject to others' rude, disruptive, intimidating, aggressive, or demeaning behavior**.** Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.

South Plains College policies concerning diversity, disabilities, non-discrimination, Title IX Pregnancy Accommodations, and Campus Concealed Carry Statements can be found here: https://www.southplainscollege.edu/syllabusstatements/.

South Plains College policies, return to campus plan, and protocols regarding COVID-19 can be found here: https://www.southplainscollege.edu/emergency/covid19-faq.php.

SPC Bookstore Price Match Guarantee Policy: If you find a lower price on a textbook, the South Plains College bookstore will match that price. The difference will be given to the

student on a bookstore gift certificate! The gift certificate can be spent on anything in the store.

If students have already purchased textbooks and then find a better price later, the South Plains College bookstore will price match through the first week of the semester. The student must have a copy of the receipt and the book has to be in stock at the competition at the time of the price match.

The South Plains College bookstore will happily price match BN.com & books on Amazon noted as *ships from and sold by Amazon.com*. Online marketplaces such as *Other Sellers* on Amazon, Amazon's Warehouse Deals, *fulfilled by* Amazon, BN.com Marketplace, and peer-to-peer pricing are not eligible. They will price match the exact textbook, in the same edition and format, including all accompanying materials, like workbooks and CDs.

A textbook is only eligible for price match if it is in stock on a competitor's website at time of the price match request. Additional membership discounts and offers cannot be applied to the student's refund.

Price matching is only available on in-store purchases. Digital books, access codes sold via publisher sites, rentals and special orders are not eligible. Only one price match per title per customer is allowed.

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any point during the semester.

MATH 1316 Plane Trigonometry Syllabus

Instructor: Jason Groves **Office:** AG107 (Levelland)
e-mail: jgroves@southplainscollege.edu **Phone:** 806-716-2739
Office Hours: Mon - Thurs: 11 am - 12:30 pm, Fri 9 am - Noon
or by appointment

Students are responsible for knowing the policies of SPC as an institution, and this information is available in the student handbook. Policies that are applied to all sections of this course per the Department of Math and Engineering are found in the common course policies preceding this document. Below are the course policies specific to this course section and this instructor.

Prerequisites: Successful completion of College Algebra (MATH 1314) or equivalent.

Materials: The following materials are required for this course

Writing: Pencil and paper are required for taking notes during videos, while reading the text, or during class meetings, as well as taking quizzes and exams. Generally, I recommend having a spiral notebook dedicated to notes and solving problems for this class, and a folder for receiving returned/graded work.

Textbook: We will be using Precalculus, 2e by Abramson, et al. via OpenStax in this class. You will find a digital copy of this on Blackboard if necessary.

Calculators: You will need a calculator with `sin`, `cos`, and `tan` keys will be required. These can be found on scientific calculators (inexpensively obtained from Wal-Mart or any other big-box store) or graphing calculators (NOTE: graphing calculators are nice, but they are not required for this course). Online options exist such as Wolfram Alpha (`wolframalpha.com`), Desmos (`www.desmos.com` Desmos also has smartphone apps) or GeoGebra (`www.geogebra.org`). Smartphone apps such as Panecal or ClassCalc are also available for low cost (or free). All are great for doing homework or studying.
Please note that computer software and mobile apps will not be allowed on exams.

Computer: Access to a computer with stable internet connection will be required for viewing course materials as well as using other software (see "Calculators" above and "Blackboard" below). The use of Chromebooks or other computers running the Chrome Operating System (ChromeOS) is discouraged, as ChromeOS is not always compatable with the software we may be using during this course. If you do not have a computer you may find success using mobile devices in some cases, and there are also suitable computers via the computer labs found at every SPC campus.

Blackboard: Blackboard (accessible via the SPC website) will be used as a central hub for the course. Students will find this syllabus, and all other course materials, as well as assignments, grading rubrics, etc. You should be checking Blackboard daily for announcements and updates, and to access the homework. Blackboard utilizes your SPC email, thus you should also be checking your SPC email regularly.

Gradescope: Gradescope is an app that will be used for submitting written work of any form during this course. It will be how assignments are submitted, and how feedback from the grading process is viewed. If you do not have a smartphone or other mobile device, please speak with your instructor as soon as possible.

Grading: Students will be assessed based off of homework assignments, quizzes, and exams. Assignments will be weighted as shown below:

Participation	20%
Exams	60%
Final Exam	20%

Class Attendance: You are responsible for being in class and prepared for each day. In order to be prepared for class, make sure you have

- worked through the relevant videos and textbook sections;
- attempted some of the problems from the assigned exercises.

Class time will be spend answering questions over assigned exercises, demonstrating examples, and submitting assignments and quizzes.

Participation: Participation consists of homework, quizzes, exam corrections, and any other graded assignment that is not an exam.

Homework: Homework is assigned by week in Blackboard. Make sure each problem has the question number, all necessary work shown in an organized manner, and a clearly indicated answer. If a problem asks for interpretations or explanations, make sure this is done in clear and complete sentences.

Quizzes: Quizzes will be given as necessary to determine the collective standing of the class. My goal is to have at least two quizzes each week, except on weeks with exams.

Exams: There will be at least three midterm exams given during this course. Questions will be similar to assigned homework problems or quiz questions. 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. The Final Exam will be held in this classroom on Thursday, March 9, 1 pm - 3 pm

Extra Credit: Occasionally, bonus questions will be asked on exams. These problems will be approximately the same difficulty level as the rest of the exam's problems, and are offered as an opportunity to increase your exam score. They are not required.

Civility in the classroom: Students are expected to assist in maintaining a classroom environment that is conducive to learning. Distracting or offensive behavior is not permitted. Tobacco products of any kind are not permitted in the classroom.

Honesty: "Scholastic dishonesty" includes but is not limited to cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student. Incidents of academic dishonesty will be promptly reported and dealt with.

Campus Resources: Tutoring is FREE for all currently enrolled students. Make an appointment or drop-in for help at any SPC location or online! Visit the link below to learn more about how to book an appointment, view the tutoring schedule, and view tutoring locations.
`http://www.southplainscollege.edu/exploreprograms/artsandsciences/teacheredtutoring.php`

You also have 180 FREE minutes of tutoring with Tutor.com each week, and your hours reset every Monday morning. Log into Blackboard, click on the tools option from the left-hand menu bar. Click on the Tutor.com link and you will automatically be logged in for free tutoring. You may access tutor.com tutors during the following times:

- Monday – Thursday: 8pm-8am
- 6pm Friday – 8am Monday morning.

For questions regarding tutoring, please email tutoring@southplainscollege.edu or call 806-716-2538.

		Topics	Sections
Tuesday	1/17/2023	Angles	5.1
Wednesday	1/18/2023	Circle Geometry/Motion	5.1
Thursday	1/19/2023	Unit Circle and Trigonometric Functions	5.2
Monday	1/23/2023	(cont.)	5.3
Tuesday	1/24/2023	Right Triangles	5.4
Wednesday	1/25/2023	Graphs of Sine and Cosine	6.1
Thursday	1/26/2023	Graphs of Other Functions	6.2
Monday	1/30/2023	Inverse Trigonometric Functions	6.3
Tuesday	1/31/2023	EXAM - Trig Basics (Ch. 5 and 6)	
Wednesday	2/1/2023	Fundamental Identities	7.1
Thursday	2/2/2023	Sum/Difference Identities	7.2
Monday	2/6/2023	Multiple Angle Identities	7.3
Tuesday	2/7/2023	(cont.)	
Wednesday	2/8/2023	Product-Sum and Sum-Product	7.4
Thursday	2/9/2023	EXAM - Identities (7.1 - 7.4)	
Monday	2/13/2023	Solving Equations	7.5
Tuesday	2/14/2023	(cont.)	
Wednesday	2/15/2023	Modeling with Trigonometric Functions	7.6
Thursday	2/16/2023	Law of Sines	8.1
Monday	2/20/2023	Law of Cosines	8.2
Tuesday	2/21/2023	(cont.)	
Wednesday	2/22/2023	EXAM - Equations and Models	
Thursday	2/23/2023	Polar Equations/Functions	8.3
Monday	2/27/2023	Polar Graphs	8.4
Tuesday	2/28/2023	Polar Forms of Complex Numbers	8.5
Wednesday	3/1/2023	(cont.)	
Thursday	3/2/2023	Parametric Equations	8.6
Monday	3/6/2023	Parametric Graphs	8.7
Tuesday	3/7/2023	Vectors	8.8
Wednesday	3/8/2023	(cont.)/AMA	
Thursday	3/9/2023	FINAL EXAM	