

MATH 1316 (3:3:0)

TRIGONOMETRY

MATHEMATICS DEPARTMENT

Division of Arts & Sciences

South Plains College

SUMMER II 2024

Shirley Davis

Table of Contents

I. Instructor Info	3
II. Course Info	3
III. Attendance Policy	3
IV. Equipment	4
V. Coursework Policies	5
VI. Responsibilities & Consequences	7
VII. Questions:	7
VIII. Objectives:	8
IX. SPC Policies & Procedures	8
X. Course Outline.....	9
INDEX	10
<i>ACKNOWLEDGMENTS</i>	10

Table of Figures

<i>Table 1 – Grading Scale</i>	5
<i>Table 2 – Notebook Material</i>	6
<i>Table 3 – Special Dates</i>	6
<i>Table 4 – Course Outline</i>	9

South Plains College

MATH 1316 – Trigonometry

{ Section 601, M-R 6 – 7:55 pm
Section 605, M-R 6 – 7:55 pm

{ LBK Downtown, Rm. B010
LBK Downtown, Rm. B010 , respectively

Summer II 2024

I. Instructor Info

Professor: Miss S. Davis

Office: 103 MATH Bldg. (Levelland campus)

Phone: (806) 716 – 2699

E-mail address: sdavis@SouthPlainsCollege.edu (This is NOT Bb email.)

➤ Any questions or comments should be sent using **Blackboard email** not your SPC email.

➤ **Response Times**

I will do my best to respond to your email within a reasonable time frame. If the emails are overwhelming in volume then please allow me 48 hours = 2 business days of receipt Monday through Thursday throughout the regular business day Monday through Thursday to respond to your email. If I do not respond within 48 hours please email again. Response times are dependent on whether my proposed method of emailing is respectively followed. In other words, if you decline to follow my instructions for emailing me through Blackboard and email me through my SPC email account then response times could take weeks.

➤ **Messaging/Announcements:** Blackboard email and postings will be used as our primary virtual means of communication. SPC Email will NOT be used since student emails can be overwhelmed by administrative emails. Your course will be contained within Blackboard. The instructor will post general announcements in Blackboard.

You must check Blackboard homepage on a regular basis preferably daily.

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
By Appointment				
At the times of your designated appointment, I will be available to help you. When you come, I will be doing something else, but I will stop and help you.				

II. Course Info

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.

Text:

Trigonometry, 10th edition, Lial, Hornsby, Schneider, & Daniels, Addison Wesley. (ISBN: 978-0-321-67177-6)

Supplies:

Scientific calculator (or graphing calculator), Graph paper, a ruler, (at least a 3 in ring) notebook, hole puncher, stapler, a staple puller, & a red pen/pencil.

(If your lack of responsibility results in you asking to borrow any of the supplies from me then there will be automatic 5 point deduction from your final grade. **Bring your supplies to class everyday!**)

Purpose:

To provide a transferable course and the mathematical background necessary for Mathematic & Engineer majors and students in the medical and physical sciences.

Prerequisites: Successful completion of MATH 1314 and strong algebraic skills.

III. Attendance Policy

Attendance:

Lectures, effort, engagement, and Q&A are the most important 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 has the right to drop the student with a grade of F or an X, depending on the instructor's discretion.

[Return to Table of Contents](#)

IV. Equipment

A. Online Essentials:

1.) Internet access

- Working, reliable internet access.
- Libraries, school and public communities, are a great source to computer accessibility.
- Computer

2.) Blackboard (Bb)

- The online course management system that will be used for this course.
- Information is provided to you for this class in the **Trig Bb**. All the information for this class will exist on Blackboard including but not limited to syllabus & compendium, homework assignments, & etc., but additional material involves Tutoring opportunities and miscellaneous administrative information. Please be responsible to log in to Blackboard and visit **Trig Bb** page and peruse through it to become familiar with all the items.

Login at <http://southplainscollege.blackboard.com> . The user name and password should be the same as the MySPC and SPC email.

User name: first initial, last name, and last 4 digits of the Student ID

Password: Original Campus Connect Pin No. (located on SPC acceptance letter)

- *Technical Support:* Student support is available by emailing blackboard@southplainscollege.edu or calling 716-2962. When emailing a request for help, include your full name, course(s) enrolled in, name of instructor(s) and a phone number where you can be reached.

3.) Calculator

- A scientific calculator for this course is recommended.
- Acceptable: TI-83, TI-83+, TI-84, TI-84+, or TI-84+ Silver Edition but many others are also acceptable.
- Any other graphing calculator, you will need to read you manual to determine how to make the processes work.
- The TI graphing calculator model is not allowed in this class: TI-Nspire.
- Cell phones and similar devices may NOT be used as calculators and no sharing of calculators is allowed.

4.) Other Resources

- You are expected to keep up with the schedule set forth by the due dates of the homework assignments and the exams. If you need help, please ASK! Here are some other good resources online:
 - Your instructor is your first and BEST resource for any help!!!!
 - Free online math videos at www.khanacademy.org, www.patrickjmt.com, www.mathtv.com, & MIT Opencourseware.

5.) Troubleshooting

- Computer Issues
 - If your personal computer becomes "disabled", then you will need to seek an alternate computer source.

[Return to Table of Contents](#)

V. Coursework Policies

Assignment Policy:

Homework will be assigned daily (located on **Trig Bb**). You are expected to work all problems assigned in each assignment and to seek help when you do not understand. Although the homework assignments will not always be graded, *the practice is required in order to more fully understand each topic and to successfully negotiate the quizzes and the tests.* You are responsible for keeping up to date and prepared. Homework is to be completed and be kept in a notebook that must accompany you to each (f2f) class session. Questions over the homework problems will be discussed at the beginning of each class meeting if time permits.

Assessments:

There will be random quizzes given over the assigned homework in which no make-ups will be allowed. The number of quizzes for the summer is undetermined but only a portion will count as the quiz grade. **Make-up quizzes will NOT be given.**

Tests:

There will be four tests (final exam exclusive) face-to-face (f2f) unless circumstances change. Exams will be f2f unless there exist **verified extenuating circumstances.**

The final exam will be comprehensive.

If the final exam score is greater than the lowest non-zero major exam score then the final exam score replaces the lowest major exam score. In other words, the lowest major exam score will be deleted, and the final exam score will count two times (an exception is the Honest Effort Rule (**H.E.R.**) policy). See your OUTLINE for the approximate date for each test.

Make-up Policy:

There is no automatic provision for making up exams. Only under **verified extenuating circumstances** (e.g., death in the family, hospitalization, +COVID test) will make-up exams be inevitable. These situations will be dealt with on a trial-by-trial basis. If at all possible, the instructor should be notified prior to missing an exam.

If you happen to miss an exam, a grade of **0** will be administered, and under the **H.E.R.** (Honest Effort Rule), this missed exam of grade **0** will not be replaced by the final exam even if the final exam is greater.

Maximizing Potential

- 1.) Login to Blackboard daily;
- 2.) Attend each face-to-face class session;
- 3.) Practice the exercises in each lesson until you have full mastery of them;
- 4.) Complete each set of homework exercises;
- 5.) Complete each quiz; and
- 6.) Complete each Unit Test.

Grading Policy:

Your final grade will be based solely on major exam scores, quiz average, and a comprehensive final.

Grading Score:

$$\text{Final score} = \frac{\text{Test 1} + \text{Test 2} + \text{Test 3} + \text{Quiz Avg.} + \text{Final Exam score}}{5}$$

NOTE: If the final exam score is greater than the least non-zero major exam score (excluding the Quiz avg.) then the final exam score replaces the least non-zero major exam score. In other words, the major exam score will be deleted and the final exam score will count two times.

Grading Scale:

A:	90 and above	D:	60 – 69
B:	80 - 89	F:	59 or below
C:	70 - 79		

Table 1 – Grading Scale

Borderline Grades: These grades will be evaluated with regard to attendance and mature conduct in class.

Blackboard Gradebook: I consider Bb Gradebook the UNOFFICIAL gradebook because, at any time, it may not contain all your grades for the course. For your final score in this course, you will obtain at the end of the semester **through Texan Connect &/or Colleague.**

[Return to Table of Contents](#)

Study:

You should normally spend approximately 2-3 hours outside of class in study for each hour of lecture. Some material will require more time than other material. Also, your mathematical background is a major factor in the time spent completing the homework. Try to study the assigned lesson as soon after the class meets if possible. With your greatest effort, try not to get behind on the homework! Refer to the "How to Study" sheet for further detailed studying suggestions.

Methods of Learning Assessment:

- a.) **Handwritten notes for video lectures.** This helps both of us to be diligent in keeping your skills on pace.
- b.) **Online/Paper quizzes.** They are practice for the tests

Notebook: Homework, quizzes, tests, and other useful material should be kept in a notebook in which the notebook will be used as a reference and study guide. The notebook will be brought to class everyday! The following material will be placed in the notebook in the order listed:

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> a.) Cover sheet including Name, Class, and Semester, b.) Syllabus, c.) Assignment sheet, d.) Notes, | | <ul style="list-style-type: none"> e.) Work, f.) Quizzes, g.) Tests, & h.) Miscellaneous |
|--|--|--|

Table 2 – Notebook Material

*To print all the material for your notebook, please visit the **Trig Blackboard** page. All printed material needs to be read at least once during the term of this course.*

Tutoring:

Free tutoring is available in the Lubbock Downtown campus basement room M25 and online. For the f2f tutor, please remember to sign in when you seek help from a tutor. For free online tutoring, please refer to **Trig Bb**.

Video Review Recordings:

Video Review Recordings for many topics in this course are available online on at the following web address <http://www.youtube.com/playlist?list=PLXbDWrtfFWZH7lun9v5eOm9BExWF1xDHw>

Critical Dates:

		Final Exam	
<i>July 31</i>	Last Day to Drop	<i>Aug 8</i>	(6 – 8, Thursday)

Table 3 – Special Dates

[Return to Table of Contents](#)

VI. Responsibilities & Consequences

Student Responsibilities:

- Attend class and be aware of announcements made in class.
- Work homework problems early enough to seek help if needed.
- Read and know the attendance policy.
- ****Please, turn off cell phones and pagers during class! ****
- **No technologic devices such as cell phones, PDA's, etc. are to be used during tests or in-class quizzes.**
- **Do not dress for the beach.**
- **In addition to the No Food or Drink classroom policy, no tobacco products are to be consumed in class.**
- **You will obtain your final grade for the class through MySPC and CampusConnect.**

Cell Phone Policy: All students will, during each class period and for its duration, place and keep their cell phone, provided that they are at the present time in possession of said device, face-down in the right-hand corner and on the top surface of their desk. If a student's cell phone activates and/or the student engages in text messaging during class at anytime during the semester, the student, by the instructor's discretion, could be permanently dismissed from the class for the remainder of the semester. If a student's cell is activated during class and/or the student engages in text messaging determined by the instructor, and **the student chose not to place their phone on top of their desk as mentioned above** then the student will be dismissed from the class by the instructor permanently.

Academic Integrity:

The attempt of any student to present as his or her own any work which he or she has not honestly performed is regarded by the faculty and administration as a serious offense and renders the offender liable to serious consequences, possibly suspension. For more detail, see "Academic Integrity" and "Student Conduct" in the South Plains College General Catalog.

You are expected to work alone on all quizzes and tests. You are not allowed to use any electronic device other than your calculator during a quiz or test. If you choose to cheat, you will be withdrawn immediately from this class with a grade of "F."

Academic Misconduct:

Complete honesty is required from students in all facets of course work including homework assignments, tests, and the final exam. See the South Plains College Catalog for more detail.

Sanctions for Cheating or Plagiarizing:

A grade of "F" in the course will be assigned to any student caught cheating or plagiarizing; additional sanctions may also be considered. Students are responsible for understanding the meanings of the words cheating and plagiarizing.

VII. Questions:

I invite all your questions **except** the following:

1. I wasn't able to make it to class. Did I miss anything? (Yes.)
2. Is this going to be on the test? (Perhaps, not directly, but if the ideas were not important, I would not be discussing them in class.)
3. Do you have the test graded? (I normally have the tests graded by the next class day. However, there are times that I do not have them graded but I will have them graded as soon as I can.)

Verified Extenuating Circumstances

Death in the family, hospitalization, +COVID test, etc. with written proof.

[Return to Table of Contents](#)

VIII. Objectives:

Course Objectives: Upon completion of this course and receiving a passing grade, the student will have mastered at least 70% of the course objectives. The course objectives state that the student will be able to:

1. Recall from memory the meaning of the six trigonometric functions.
 - Hence, compute the values of the six trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radian.
2. Be able to graph the six basic trigonometric functions and also variations and transformations of these functions.
3. Recall from memory numerous trigonometric, single and multi-angle identities and be able to use these identities to rearrange and manipulate trigonometric expressions.
 - Hence, prove trigonometric identities.
4. Be able to solve trigonometric equations giving the solutions both in degrees and radians.
5. Be able to solve right and oblique triangles.
6. Recall from memory the meaning of the six inverse trigonometric functions and their respective ranges.
7. Be able to find the solution the practical problems (applications) by making use of the expertise mentioned in objective 1 – 6.

IX. SPC Policies & Procedures

A. Diversity:

In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world, and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

B. Disability Statement:

Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Special Services Office, preferably, early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Special Services Coordinator. For more information, call or visit the Special Services Office in the Student Services Building, 894-9611 ext. 2529.

C. Nondiscrimination Policy:

South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

D. Sexual Misconduct:

It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that I cannot keep information about sexual misconduct confidential if you share that information with me. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or lclevinger@southplainscollege.edu or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

E. Title IX Pregnancy Accommodations Statement:

If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To [activate](#) accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or email cgilster@southplainscollege.edu for assistance.

F. Campus Concealed Carry:

Campus Concealed Carry - Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to the SPC policy at: (http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.php) Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

X. Course Outline

<i>Course Outline</i>			
This schedule is tentative and subject to change. Changes will be announced in class.			
Monday	Tuesday	Wednesday	Thursday
		“It's not that I'm so smart; it's just that I stay with problems longer.” -- Albert Einstein	
08 - Jul 1.1 Angles 1.3 Trigonometric Functions	09 - Jul 1.4 Definitions of Trig Functions 2.1 Trig Functions of an Acute Angle	10 - Jul 2.2 Trig Functions of Non-Acute Angles 2.3 Finding Trig Functions using a Calculator 2.4 Solving Right Triangles	11 - Jul 2.4 Contd. Solving Right Triangles 2.5 Applications of Right Triangles: Bearings
15 - Jul 3.1 Radian Measure 3.2 Applications of Radian Measure	16 - Jul 3.3 Unit Circle & Circular Function 3.4 Linear & Angular Speed	17 - Jul 4.1 Graphs of Sine & Cosine Functions 4.2 Translations of the Graphs of Sine & Cosine Functions	18 - Jul <div style="text-align: center;"> TEST #1 <i>(Trig Functions & Right Triangles)</i> </div>
22 - Jul 4.3 Graphs of Tangent & Cotangent Functions 4.4 Graphs of Secant & Cosecant Functions	23 - Jul 5.1 Fundamental Identities 5.2 Verifying Fundamental Identities	24 - Jul <div style="text-align: center;"> TEST #2 <i>(Radians & Graphs of Trig Functions)</i> </div>	25 - Jul 5.3 Sum & Difference Identities for Cosine 5.4 Sum & Difference Identities for Sine & Tangent
29 - Jul 5.5 Double-Angle Identities 5.6 Half-Angle Identities	30 - Jul 6.1 Inverse Circular Functions	<div style="background-color: yellow; text-align: center; padding: 2px;"> 31 - Jul LDTD </div> <div style="text-align: center;"> TEST #3 <i>(Identities)</i> </div>	01 - Aug 6.2 Trigonometric Equations I 6.3 Trigonometric Equations II
05 - Aug 6.3 Trigonometric Equations II contd. 6.4 Inverse Trigonometric Equations 7.4 Vectors	06 - Aug 7.1 Oblique Triangles & Law of Sines 7.2 Ambiguous Case of Law of Sines	07 - Aug 7.3 Law of Cosines 7.4 (contd.) DOT Product 7.5 Applications of Vectors	<div style="font-size: 1.2em; font-weight: bold; margin: 0;"> FINAL EXAM </div> <div style="font-size: 1.1em; font-weight: bold; margin: 0;"> (6 – 8p) </div>

Table 4 – Course Outline

[Return to Table of Contents](#)

INDEX

Assessments	5	Student Responsibilities	7
Attendance	3	Supplies	3
Blackboard (Bb)	4	Tutoring	6
Calculator.....	4	Video Review Recordings	6
Critical Dates	6		

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I owe a debt of gratitude to Charlene Perez, Professor of CIS, at South Plains College for tolerating my incessant number of questions and ideas all the while being at my occasional disposal during the semester I attended BCIS 1305 – Business Computer Applications which primarily aided in the shape and refinement of this syllabus in terms of all its bells and whistles.

[Return to Table of Contents](#)