Plane Trigonomety

Fall 2023 | MATH-1316

Welcome to Plane Trigonometry!!

Are you ready to explore the relationship between the angles and sides of a triangle? As your instructor, I am looking forward to teaching you the math skills needed for creating satellite systems, roofing a house, creating maps, and navigating ships and aircraft.

Email: sharris@southplainscollege.edu

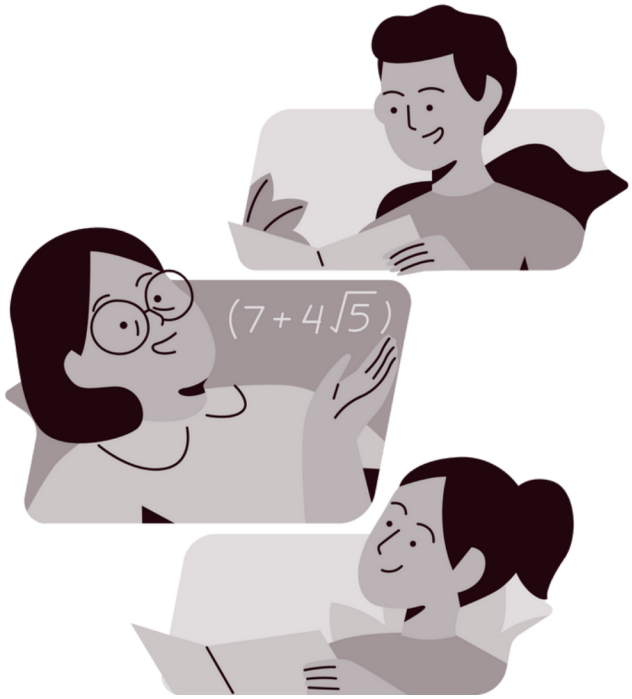
Phone: (806) 716-2665

Office: Mathematics and Engineering 120A

Levelland (M120A) Office Hours: TR 11:00 am - noon; TR 1:00 pm - 2:30 pm
Lubbock Downtown Center (B001) Office Hours: W 4:30 pm - 5:30 pm
Virtual Office Hours: M 6:00 pm - 7:00 pm; T 7:00 pm - 8:00 pm;
R 4:00 pm -5:00 pm; F 10:00 am - 11:00 am

What will you learn this semester?

1. *Compute the values of trigonometric functions*
2. *Graph trigonometric functions*
3. *Prove trigonometric identities.*
4. *Solve trigonometric equations.*
5. *Solve right and oblique triangles.*
6. *Use the concepts of trigonometry to solve applications.*



What am I required to do for this class?

Download/Print Notes

Each section has notes embedded in Blackboard in the Course Content for each week.

Submit Assignments

Turn in all assignments on time. Early submissions are welcome! Late assignments will not be accepted.

Watch Every Video

Each section has lecture videos embedded in Blackboard in the Course Content for each week.

Work Practice Problems

Each lecture embedded in Blackboard has Practice Problems for you to work.

Work Every In-Class Example

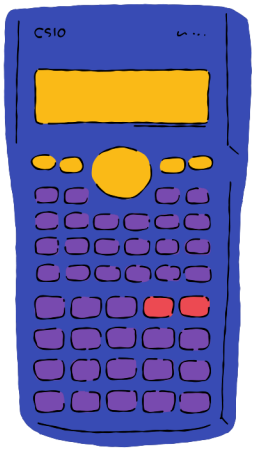
Each lecture embedded in Blackboard has In-Class Examples for you to work.

What supplies or resources are needed for this class?

Writing Utensil

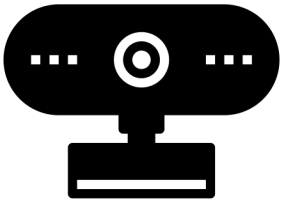
8.5 inch x 11 inch paper

Scientific Calculator (No Graphing)

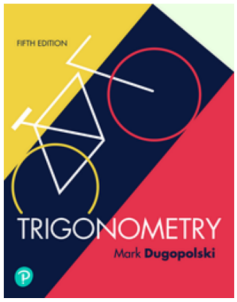


Good Internet Connection

Web Camera

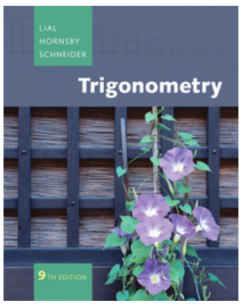


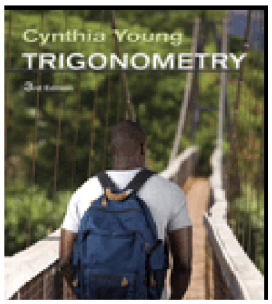
What books could help but are not required?



Trigonometry, 5th ed.
Mark Dugopolski
ISBN 9780135207338

Trigonometry, 9th ed.
Margaret L. Lial
John Hornsby
David I. Schneider
ISBN 9780321528858





Trigonometry, 3rd ed.
Cynthia Young
ISBN 9780470648025

Assignments & Grading

All assignments and exams will be graded on a point system. Points will be accumulated during the course.

1 Lecture Examples
(10 assignments, 0.5 points each)
Work out each example presented in the lecture notes. Upload work weekly on Blackboard. The assignment will be graded by completion.

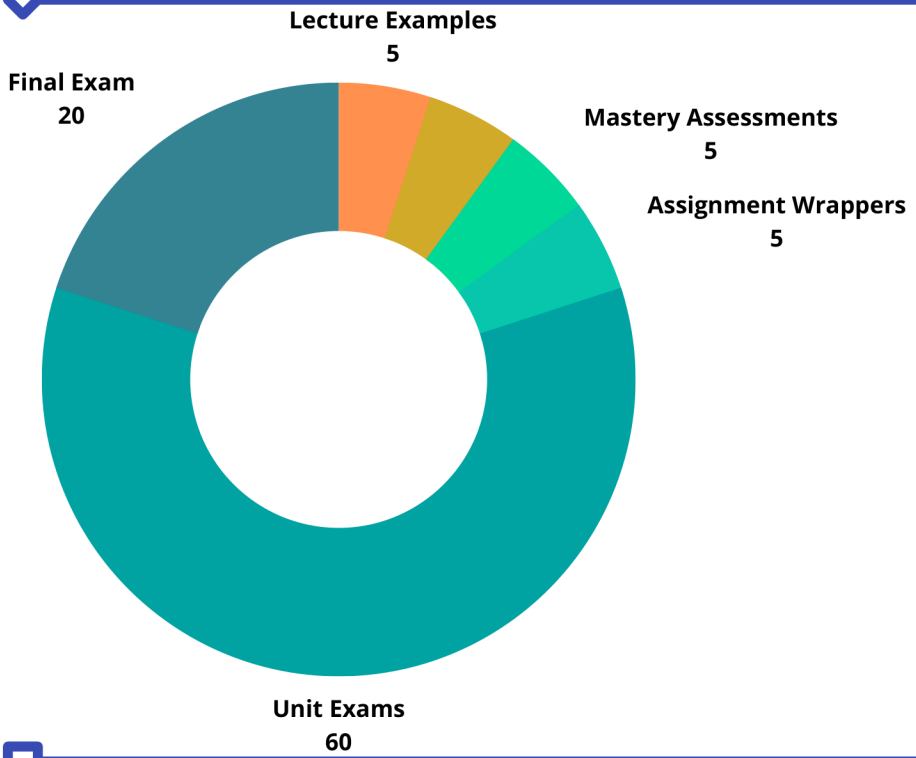
2 Memory Quizzes
(10 assignments, 0.5 points each)
Select the answer from memory, on the Blackboard assessment. The assignment will be graded as correct or incorrect.

3 Mastery Assessments
(10 assignments, 0.5 points each)
Free response assessment that you can use your notes and practice problems. Upload work weekly on Gradescope.

4 Assignment Wrappers
(20 assignments, 0.25 point each)
Answer questions on Blackboard to review your mistakes and learn from them. The assignment will be graded by completion.

5 Unit Exams
(5 assignments, 12 points each)
Free response assessment that you can not use your notes or practice problems. No make-up exams will be given. Upload work on Gradescope.

6 Final Exams
(1 assignment, 20 points)
Free response assessment that you can not use your notes or practice problems. If you do not attempt you earn an F for the class.



Your final grade will be based on the total points accumulated out of 100 points.

Extra Credit

Extra Credit points: you can earn up to 7 extra credit points through a variety of ways: completing the extra Lecture Examples, Memory Quizzes, Mastery Assessments, and Extra Credit Opportunities.

Participation

You Are Responsible

If you miss class or fall behind for any reason, you are responsible to obtain the notes and catch up. I cannot repeat material or change the schedule for the entire class.

Emergencies Happen

While emergencies happen, they need to serious enough to merit a late submission and they need to be verifiable to be excused. If you cannot show documentation of your emergency and/or if deemed not serious enough, your late submission will not be accepted.

Communication is Key

If you have an emergency, you need to let me know by email or phone ***immediately***. Letting me know the following day or later makes it difficult for me to discern and assess your situation. Therefore, making it harder to help and work with you.

There is (Some) Flexibility

All students can earn the extra credit points. If you should miss an assignment deadline those extra credit points can "replace" the missed points.

Integrity

It is the aim of the faculty of South Plains College to foster a spirit of complete honesty and a high standard of 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 most serious offense and renders the offender liable to serious consequences, possibly suspension. (SPC General Catalog)

Academic Integrity (Plagiarism and Cheating Policy)

"Complete honesty is required of the student in the presentation of any and all phases of course work. This idea applies to quizzes of whatever length as well to final examinations, to daily reports, and to term papers." (SPC General Catalog)

Consequences for Cheating

Plagiarism and cheating are not tolerated in this course. Under the policies of South Plains College, punishment for cheating may include no credit (failing) on the assignment, quiz, exam, or the course.

What is considered cheating?

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.

Web & Email

I regularly update Blackboard with announcements, assignments, and resources related to class. It is your responsibility to check Blackboard everyday. Any last minute changes will be posted on Blackboard as an announcement.

Emails Should Include

- Your first and last name
- Your class name and section
- Your questions and/or comments in the body of the email (not subject line)

I Will

- Check my email regularly during weekdays before 7:00 pm
- Do my best to respond within 24 hours

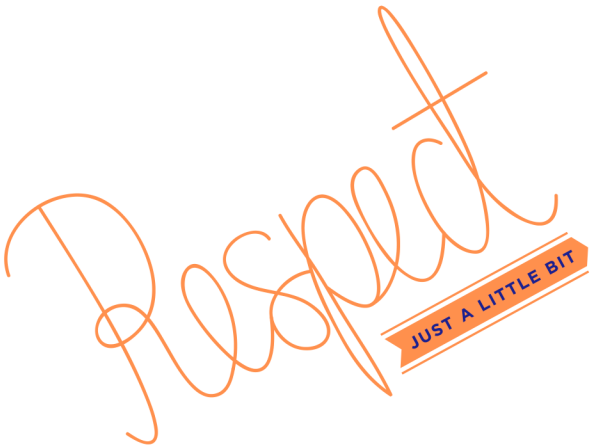
I Will Not

- Always respond immediately on weekends or holidays

I am always **happy** to meet with you for **academic advising**, **help** on assignments, or just to **chat**. My office hours are listed on the first page of this syllabus, or you can schedule an appointment for **undivided attention**.

But....please ALWAYS keep your appointments

SCAN ME

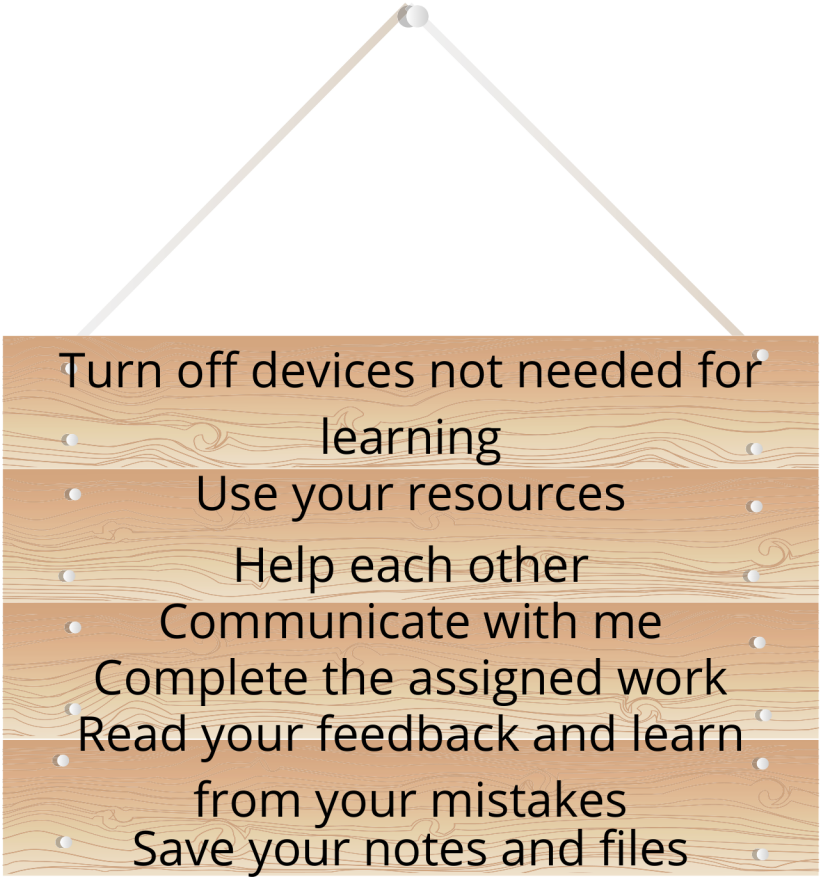


This is a classroom built on respect and a safe learning environment. Failure to be respectful may cause one of three penalties, depending on the seriousness of the offense: asked to leave the class for the day; an appointment with the Dean of Students; or expulsion from the course.

- Be Engaged
- Be Polite
- Be on Time
- Be Prepared
- Be Ready to Learn

- Name call, Marginalize, or Stereotype
- Participate Drunk or Under the Influence
- Be Distracted
- Use Inappropriate Language

How to be Successful in this Class



While unforeseen events do happen that can make college life and achievement difficult, generally speaking success is a **choice**. In order to help yourself succeed:

- Avoid distractions (cell phone, social media, games, television, or open tabs and windows on your device) when watching and working through lecture videos
- Use the resources (notes, extra videos on Blackboard, free tutoring through the college, each other, and myself) available to you
- Don't hesitate to ask for help and always communicate
- Be sure to complete the assigned work
- Read the feedback given to you on graded work to improve your skills
- Save all of your notes and work

Resources

Library

Textbooks on Reserve

Technology Checkout

- Chromebooks/Laptops
- Hot Spots

Study Areas

Health & Wellness Center

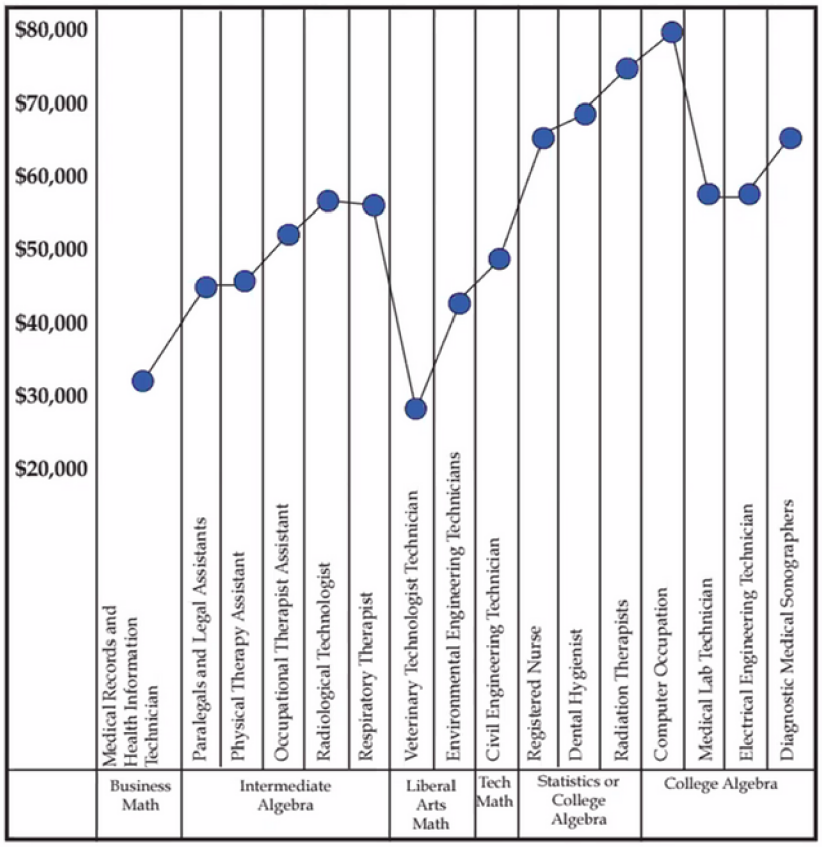
Counseling

Health Clinic

Disability Services

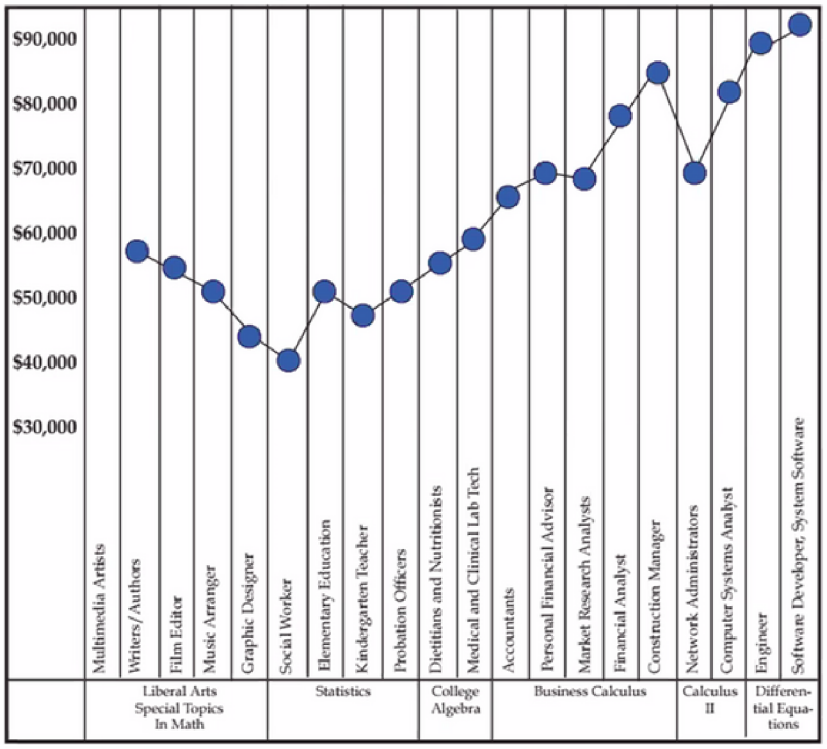
Question: How much math do I have to take?
Answer: How much money do you want to make?

Best Jobs Requiring an Associate's Degree

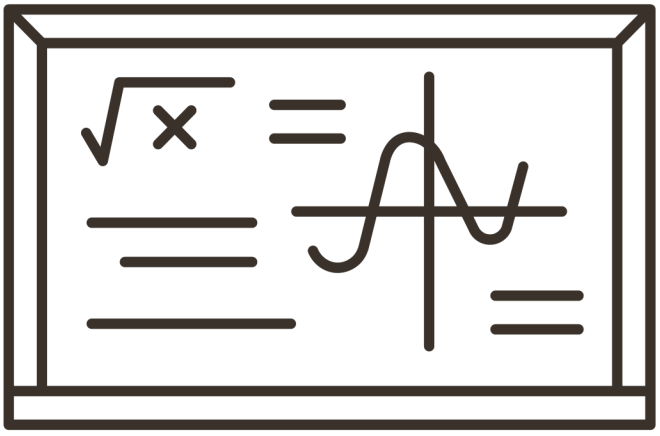


Source: *Best Jobs for the 21st Century*, Sixth Edition © JIST Works 2012
Graph: © Academic Success Press Inc. 2013

Best Jobs Requiring a Bachelor's Degree



Source: *Best Jobs for the 21st Century*, Sixth Edition © JIST Works 2012
Graph: © Academic Success Press Inc. 2013



Students will improve the following mathematical practices.

1. Students will make sense of problems and persist while solving them.

2. Students will engage in productive struggle with mathematics problems.

3. Students will productively collaborate with others.

4. Students will communicate through mathematical writing.

Course Policy Regarding Positive Discourse

Students are not allowed to comment negatively about themselves or their mathematical ability, at any time, for any reason. Here are example statements that are banned, along with acceptable replacement phrases.

- I can't do this **instead, use:** I am still learning how to do this.
- That was stupid **instead, use:** That was a productive mistake.
- This is impossible **instead, use:** Something is interesting and subtle in this problem.
- I'm an idiot **instead, use:** This will take careful thought.
- I'll never understand this **instead, use:** This might take me a long time and a lot of work to figure out.
- This is terrible **instead, use:** I think I've done something incorrectly. Let me check it again.

The banned phrases represent having a fixed view of your own intelligence, which does not reflect the reality that you are all capable of dynamic, continued learning. The suggested replacement phrases support and represent a realistic perspective regarding your abilities and your capacity for improvement.

SOUTH PLAINS COLLEGE
MATHEMATICS, ENGINEERING & COMPUTER SCIENCE

Fall 2023 MATH-1316 Tentative Calendar

Week	Day	Date	Topic	Lecture Notes Due	Mastery Assessment Due	Exam Due
1	Monday	28 August	• Class Introduction • Algebra Review • Angles • Non-Acute Angles	Sunday, 3 September by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 3 September by 23:30 (11:30 pm) **Use Proctorio**	Monday, 18 September by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	29 August				
	Wednesday	30 August				
	Thursday	31 August				
	Friday	1 September				
2	Monday	4 September	**No Class – Labor Day**			
	Tuesday	5 September	• Trigonometric Functions	Sunday, 10 September by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 10 September by 23:30 (11:30 pm) **Use Proctorio**	Monday, 18 September by 23:30 (11:30 pm) **Use Proctorio**
	Wednesday	6 September				
	Thursday	7 September				
	Friday	8 September				
3	Monday	11 September	• Non-Standard Position Angles • *Review for Exam 1*	Sunday, 17 September by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 17 September by 23:30 (11:30 pm) **Use Proctorio**	Monday, 18 September by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	12 September				
	Wednesday	13 September				
	Thursday	14 September	• Using a Calculator			Monday, 9 October by 23:30 (11:30 pm) **Use Proctorio**
	Friday	15 September				
4	**Monday**	**18 September**	• Solving Right Triangles • Law of Sines	Sunday, 24 September by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 24 September by 23:30 (11:30 pm) **Use Proctorio**	Monday, 9 October by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	19 September				
	Wednesday	20 September				
	Thursday	21 September				
	Friday	22 September				

Week	Day	Date	Topic	Lecture Notes Due	Mastery Assessment Due	Exam Due
5	Monday	25 September	• Law of Cosines • Triangle Applications	Sunday, 1 October by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 1 October by 23:30 (11:30 pm) **Use Proctorio**	Monday, 9 October by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	26 September				
	Wednesday	27 September				
	Thursday	28 September				
	Friday	29 September				
6	Monday	2 October	• Radian Applications • *Review for Exam 2*	Sunday, 8 October by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 8 October by 23:30 (11:30 pm) **Use Proctorio**	Monday, 9 October by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	3 October				
	Wednesday	4 October				
	Thursday	5 October	• Characteristics of Trigonometric Functions			Monday, 23 October by 23:30 (11:30 pm) **Use Proctorio**
	Friday	6 October				
7	**Monday**	**9 October**	• Sine and Cosine Graphs • Secant and Cosecant Graphs	Sunday, 15 October by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 15 October by 23:30 (11:30 pm) **Use Proctorio**	Monday, 23 October by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	10 October				
	Wednesday	11 October				
	Thursday	12 October				
	Friday	13 October				
8	Monday	16 October	• Tangent and Cotangent Graphs • *Review for Exam 3*	Sunday, 22 October by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 22 October by 23:30 (11:30 pm) **Use Proctorio**	Monday, 23 October by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	17 October				
	Wednesday	18 October				
	Thursday	19 October	• Fundamental Identities			Monday, 13 November by 23:30 (11:30 pm) **Use Proctorio**
	Friday	20 October				

Week	Day	Date	Topic	Lecture Notes Due	Mastery Assessment Due	Exam Due
9	**Monday**	**23 October**	• Simplifying Trigonometric Identities • Inverse Trigonometric Functions	Sunday, 29 October by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 29 October by 23:30 (11:30 pm) **Use Proctorio**	Monday, 13 November by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	24 October				
	Wednesday	25 October				
	Thursday	26 October				
	Friday	27 October				
10	Monday	30 October	• Verifying Trigonometric Identities	Sunday, 5 November by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 5 November by 23:30 (11:30 pm) **Use Proctorio**	Monday, 13 November by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	31 October				
	Wednesday	1 November				
	Thursday	2 November				
	Friday	3 November				
11	Monday	6 November	• Solving Trigonometric Equations with Single Angles • *Review for Exam 4*	Sunday, 12 November by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 12 November by 23:30 (11:30 pm) **Use Proctorio**	Monday, 13 November by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	7 November				
	Wednesday	8 November				
	Thursday	9 November	• Sum and Difference Identities			Monday, 27 November by 23:30 (11:30 pm) **Use Proctorio**
	Friday	10 November				
12	**Monday**	**13 November**	• Double-Angle Identities • Half-Angle and Power-Reducing Identities	Sunday, 19 November by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 19 November by 23:30 (11:30 pm) **Use Proctorio**	Monday, 27 November by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	14 November				
	Wednesday	15 November				
	Thursday	16 November				
	Friday	17 November				

Week	Day	Date	Topic	Lecture Notes Due	Mastery Assessment Due	Exam Due
13	Monday	20 November	• Sum-to-Product and Product-to-Sum Identities • Solving Trigonometric Equations with Multiple Angles • *Review for Exam 5*	Sunday, 26 November by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 26 November by 23:30 (11:30 pm) **Use Proctorio**	Monday, 27 November by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	21 November				
	Wednesday	22 November	**No Class – Thanksgiving Break**			
	Thursday	23 November				
	Friday	24 November				
14	**Monday**	**27 November**	• Vectors and Dot Product • Vector Applications	Sunday, 3 December by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 3 December by 23:30 (11:30 pm) **Use Proctorio**	Tuesday, 12 December by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	28 November				
	Wednesday	29 November				
	Thursday	30 November				
	Friday	1 December				
15	Monday	4 December	• Polar Plane • Complex Plane and Forms of Complex Numbers	Sunday, 10 December by 23:30 (11:30 pm) **Use Blackboard**	Sunday, 10 December by 23:30 (11:30 pm) **Use Proctorio**	Tuesday, 12 December by 23:30 (11:30 pm) **Use Proctorio**
	Tuesday	5 December				
	Wednesday	6 December				
	Thursday	7 December				
	Friday	8 December				
16	Monday	11 December	*Review for Final Exam*			Tuesday, 12 December by 23:30 (11:30 pm)
	Tuesday	12 December	**Final Exam Due by 23:30 (11:30 pm) Use Proctorio**			
	Friday	15 December	**Semester Over Fall Graduation**			

Last day to drop a class: Thursday, 30 November 2023, by 15:00 (3:00 pm)

Remember, use the Gradescope app to submit your written work on Mastery Assessments and Exams while still being recorded in Proctorio. Do not "submit" the exam in Proctorio/Blackboard until after your work is submitted in Gradescope.