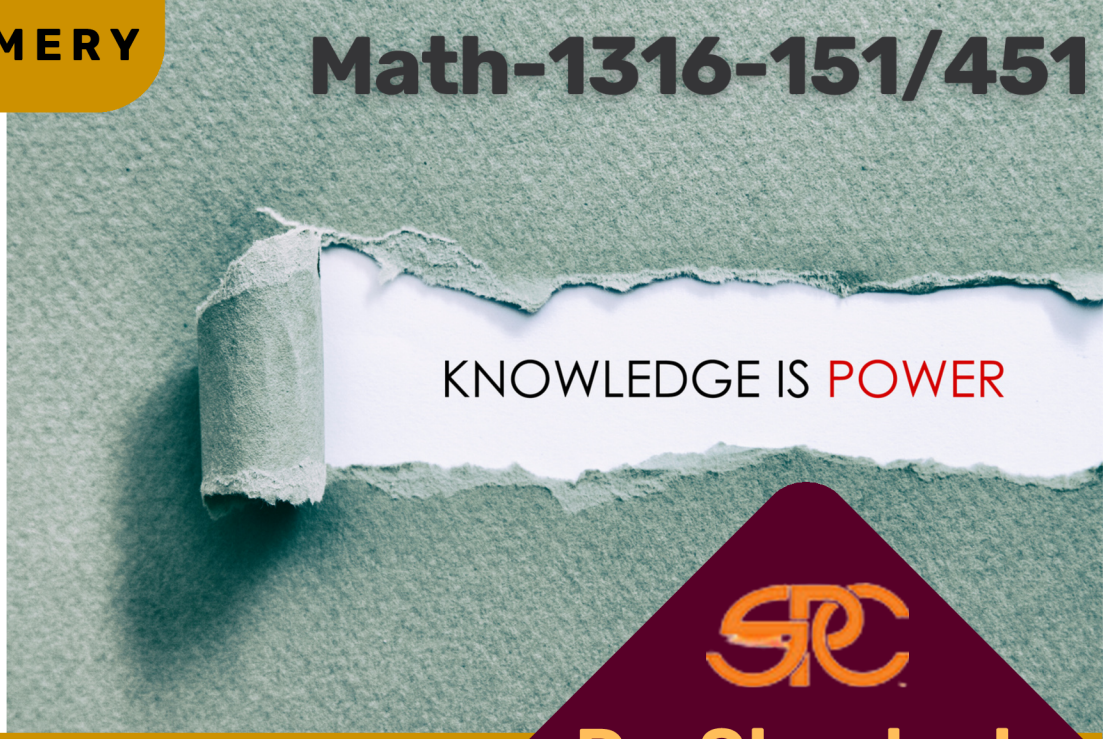
PLANE TRIGONOMERY

Math-1316-151/451



SPRING 2025

Dr. Sheyleah Harris-Plant
(she, her, hers)

DR. HP

Welcome to Plane Trigonometry

This is an online course that allows for us to study according to your schedule, but assignments have due dates.

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.

Student Help Sessions (A.K.A. Office Hours)
Lubbock Downtown Center (B001):
Mondays and Wednesdays 5:30 pm - 6:30 pm

Levelland Campus (Math Building M120A):
Tuesdays and Thursdays 3:00 pm - 4:00 pm

Online (Virtual) (Link on Blackboard):
Tuesdays 1:00 pm - 2:00 pm
Wednesdays 8:00 am - 9:00 am
Thursdays 8:00 pm - 9:00 pm
Fridays 1:30 pm - 2:30 pm
or **by appointment**
(scan QR code or use the link to make an appointment)
Schedule an appointment

CONTENTS

1 What will we learn in this class?

2 What are we required to do in this class?

3 How do we pass this class?

4 What resources do we have to be successful?

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What are we required to do for this class?

Our classroom is online. This means the lecture material is on Blackboard.

The due dates for assignments can be found on the document class calendar, the Blackboard calendar, and the assignments in Blackboard.

Each lecture has notes available to be printed and lecture videos covering the lecture notes. The lecture notes will be submitted and graded on completion.

Practice problems (homework problems) will not be collected for a grade because the amount of practice each person needs is individual to their learning style and mathematical history.

Our focus is on learning and mastery of the material.

COURSE LEARNING GOALS

At the end of the semester, we will be able to:

- Compute the values of trigonometric functions
- Graph trigonometric functions
- Prove trigonometric identities
- Solve trigonometric equations
- Solve right and oblique triangles
- Use the concepts of trigonometry to solve applications.

SUPPLIES

Writing Utensil

8.5 inch x 11 inch paper

Non-Programmable Scientific Calculator (No Graphing)

Good Internet Connection

Web Camera

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What are the assignments for this class?

Weekly Lecture Notes (Worth 0.50 points each)

Each week has lecture notes available to be printed and lecture videos covering the lecture notes. The lecture notes will be submitted on Blackboard and graded on completion. There will be 15 notes, with 5 notes being extra credit. Any missed lecture notes will not be allowed to be taken after the due date.

Memory Quizzes (Worth 0.50 points each)

Multiple Choice assessment that will be completed using your memory. Notes or calculators are not allowed to be used. The assignment is administered and submitted weekly in Blackboard. The assignment will be graded as correct or incorrect. There will be 14 quizzes, with 4 quizzes being extra credit. Any missed Memory Quiz will not be allowed to be taken after the due date.

Mastery Assessments (Worth 0.5 point each)

Free response assessment that you can use your notes. The purpose of the assignment is to give us a snapshot of the mastery of the course material for that week. Upload work weekly on Gradescope. There will be 15 assessments, with 5 assessments being extra credit. Any missed Mastery Assessment will not be allowed to be taken after the due date.

Learning Reflections (Worth 0.5 points each)

Answer questions on Blackboard weekly to reflect, review mistakes, and learn from them. The assignment will be graded by completion. There will be 15 assignments, with 5 assignments being extra credit. Any missed Learning Reflection will not be allowed to be taken after the due date.

Unit Exams (Worth 12 points each)

Free response assessment that you can not use your notes or practice problems. Any missed exam will not be allowed to be taken after the due date. The purpose of the assignment is to give us a snapshot of the mastery of the unit material at that time. Upload work on Gradescope. There will be 5 exams, with no extra credit assignments.

Written Final Exams (Worth 10 points)

Comprehensive free response assessment that you can not use your notes or practice problems. If you do not attempt the Final Exam you will earn an F for the class even if enough points to pass has been earned. There will only be one assignment at the end of the semester.

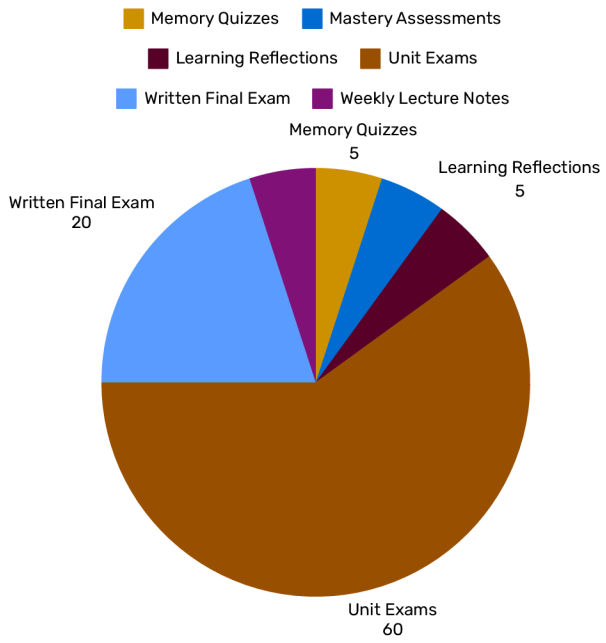
To find the relative (percentage) grade, divide the total points by the possible points and multiply by 100.

ASSIGNMENT WEIGHTS

The 100 point system is used for grading and will the highest grade reported at the end of the semester. All assignments will add up to 100 points.

89.5 and above earn an A
79.5 - 89.49 earn a B
69.5 - 79.49 earn a C
59.5 - 69.49 earn a D
59.49 and below earn an F

- Weekly Lecture Notes: 5 points
- Memory Quizzes: 5 points
- Mastery Assessments: 5 points
- Learning Reflections: 5 points
- Unit Exams: 60 points
- Written Final Exam: 20 points



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Participation Expectations

Accountability

If you miss an assignment or fall behind, all notes are on Blackboard for you to access. Late coursework is not accepted, nor will be allowed to be taken or submitted after the due date.

Communication

Communication is key. If you have an emergency, please 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, this makes it harder to help and work with you.

Integrity

The focus of higher education is to foster learning and encourage critical thinking. While taking shortcuts to save time or earn a grade may seem like a good idea, the results usually are lower scores and losing the opportunity to learn material. The consequences of being caught cheating could be between a zero on the assignment to being expelled from South Plains College.

Reasonable Flexibility

Extra credit points are available for all students. If you should miss an assignment deadline those extra credit points can "replace" the missed points.

EXPECTATIONS OF INSTRUCTOR

- Provide notice of any schedule changes.
- Keep Blackboard updated with grades and materials.
- Present the material in a way that the majority of the class can understand.
- Be available to those who need assistance outside of the classroom, by e-mail or in person, during office hours or scheduled appointment times.
- Maintain the course calendar and assignments.
- Uphold the policies of the college.
- Respect each student and provide the opportunity to discuss the material presented.
- Provide examinations based on the information discussed in course material.

BLACKBOARD MESSAGES & EMAIL

Communications 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 messages 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
- Respond to parents or counselors. You are the student in an adult class and should communicate for yourself

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Success Roadmap

Watch Videos

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

Practice Math Skills

Each lecture has examples worked out and some examples for you to practice. Each lecture has practice problems for you to practice your math skills.

Suggested Schedule

Days	Actions
Sunday - Tuesday	Watch the week's lecture videos and work examples
Wednesday- Friday	• Practice skills covered in week's material using practice problems • Ask any questions • Submit Mastery Assessment, Learning Reflection, Lecture Notes, Memory Quiz, and Unit Exams
Saturday	Catch up, if you fell behind during the week or needed extra time

NETIQUETTE: INTERNET ETIQUETTE

- Tip: Read everything out loud before you send it.
- Be careful with humor and sarcasm. Everyone does not read comments the same. Will everyone get the joke?
- Yes, grammar, spelling, and punctuation matter.
- Words have meaning.
- Don't post or share (even privately) inappropriate material. Nothing is truly private online.
- Be forgiving and forget others mistakes. If you're offended by something another student says online, keep in mind that you may have misunderstood their intentions. Give them the benefit of the doubt.
- Respect the time and bandwidth of others. Did you get to the point quickly?

NETIQUETTE: INTERNET ETIQUETTE CONTINUED

- Make sure identification is clear in all communications. Begin with a salutation ("Good afternoon, Dr. HP!") and end with your signature ("Hannah Kay, Plane Trigonometry Section 151").
- Be respectful. If you wouldn't say it to someone's face, don't say it online.
- Be aware of strong language, all caps (IS SHOUTING), and exclamation points. They can be misinterpreted as intense anger or humor without the appropriate context.

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We Remember

by Edgar Dale

10% of what we read

20% of what we hear

30% of what we see

50% of what we see and hear

70% of what we say and write

90% of what we do

TIPS FOR SUCCESS

- 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

MATHEMATICAL PRACTICES TO IMPROVE

1. Making sense of problems and persisting while solving them.
2. Engaging in productive struggle with mathematics problems.
3. Productively collaborate with others.
4. Communicate through mathematical writing.

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Student Resources

Class Resources

In our Blackboard course, there are a lot of resources to help us be successful.

- Each example, even the ones not worked out in the lecture videos, has a video in the example videos folder. Please keep in mind that the videos are in a playlist, and you will need to choose the required video from the list provided by the menu icon on the upper right.
- Keys (worked-out solutions) are provided for every practice problem and every assessment (after the due date) in the Keys folder.
- Under Additional Resources, there are practice slides for the memory quiz information, study tips, prerequisite math rules, graph paper, and online resources.

Free SPC Tutoring

South Plains College provides free tutoring to students. The most current schedule can be found at https://www.southplainscollege.edu/exploreprograms/artsandsciences/teachered tutoring.php or this QR Code.

SPC Policies

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/ or this QR Code.

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.

The person who asks a question is a fool for five minutes, they who does not ask a question remains a fool forever.
- Chinese Proverb

I find that the harder I work, the more luck I seem to have.
- Thomas Jefferson

Learning is never done without errors and defeat.
- Vladimir Lenin

However difficult life may seem, there is always something you can do and succeed at.
- Stephen Hawking

Your talents and abilities will improve over time, but for that, you have to start.
- Martin Luther King, Jr

REAL LIFE EMERGENCY HELP

Sometimes life happens and we need help. This is the reason the South Plains College Health and Wellness Center has provided a list of emergency resources. This list includes, but is not limited to community food assistance, help paying bills, and other free or reduced cost programs. To find this list, please click on the *Emergency Resources* tab, and click the linked here. The Health and Wellness Center site is found at https://www.southplainscollege.edu/health/studenthealth.php or this QR Code

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Applications Used

Gradescope

We will use Gradescope this term, which allows us to provide fast and accurate feedback on your work. Homework will be submitted through Gradescope, and homework and exam grades will be returned through Gradescope. As soon as grades are posted, you will be notified immediately so that you can log in and see your feedback. You may also submit regrade requests if you feel that there is a mistake in the grading.

You can use your phone's camera or another scanner to upload work to Gradescope. Download the Gradescope mobile app on the **App Store** or **Google Play** to use your phone's camera and follow the prompts. If you cannot scan your assignments for any reason, please get in touch with me to make alternative arrangements. All submissions to Gradescope must be clear, legible, and double-checked to ensure all answers are properly marked. You will receive an email confirmation once your assignment is successfully submitted; please retain this for your records.

Honorlock

Honorlock will proctor your exams this semester. Honorlock is an online proctoring service that allows you to take your exam from home. You **do not** need to create an account or schedule an appointment in advance. Honorlock is available 24/7, and all required is a computer, a working webcam/microphone, your ID, and a stable internet connection.

You will need Google Chrome and download the Honorlock Chrome Extension to get started.

When you are ready to complete your assessment, log into your LMS, go to your course, and click on your exam. Clicking "Launch Proctoring" will begin the Honorlock authentication process, where you will take a picture of yourself and show your ID. You may be prompted to complete a room scan during the authentication steps. This is a test taker authentication step in which you will be asked to perform a 360-degree scan of your environment with the computer or webcam to confirm the integrity of the testing environment. Honorlock will be recording your exam session through your webcam and microphone and recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device.
Honorlock support is available 24/7/365. You may contact them through live chat on the support page or within the exam itself if you encounter any issues.

Blackboard

We will use Blackboard this term, which allows is our Learning Management System (LMS). It will house all of the course materials, resources, and grades. The gradebook will automatically give a zero for any assignment not graded by the due date. Do not worry if you submitted your assignment, I will change the grade once the assignment is graded.

Download the Blackboard mobile app on the **App Store** or **Google Play** to have mobile access to Blackboard.

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SOUTH PLAINS COLLEGE
MATHEMATICS, ENGINEERING & COMPUTER SCIENCE

Spring 2025 MATH-1316 Tentative Calendar

Week	Day	Date	Topic	Learning Reflection Due	Memory Quiz Due	Lecture Notes Due	Mastery Assessment Due	Exam Due
0	Thu	9 Jan	• Class Introduction • Algebra Review	Not due this week	Not due this week	Not due this week	Not due this week	Sun, 19 Jan by 23:30 (11:30 pm) **Use Honorlock**
	Fri	10 Jan						
1	Mon	13 Jan	• Angles • Non-Acute Angles	Not due this week	Not due this week	Sat, 18 Jan by 23:30 (11:30 pm)	Sun, 19 Jan by 23:30 (11:30 pm) **Use Honorlock**	Sun, 9 Feb by 23:30 (11:30 pm) **Use Honorlock**
	Tue	14 Jan						
	Wed	15 Jan						
	Thu	16 Jan						
	Fri	17 Jan						
2	Mon	20 Jan	• Trigonometric Functions	**No School – Martin Luther King, Jr Day**				
	Tue	21 Jan		Thu, 23 Jan by 23:30 (11:30 pm)	Sat, 25 Jan by 23:30 (11:30 pm) **Use Honorlock**	Sat, 25 Jan by 23:30 (11:30 pm)	Sun, 26 Jan by 23:30 (11:30 pm) **Use Honorlock**	Sun, 9 Feb by 23:30 (11:30 pm) **Use Honorlock**
	Wed	22 Jan						
	Thu	23 Jan						
	Fri	24 Jan						
3	Mon	27 Jan	• Non-Standard Position Angles • *Review for Unit 1 Exam*	Thu, 30 Jan by 23:30 (11:30 pm)	Sat, 1 Feb by 23:30 (11:30 pm) **Use Honorlock**	Sat, 1 Feb by 23:30 (11:30 pm)	Sun, 2 Feb by 23:30 (11:30 pm) **Use Honorlock**	Sun, 9 Feb by 23:30 (11:30 pm) **Use Honorlock**
	Tue	28 Jan						
	Wed	29 Jan						
	Thu	30 Jan						
	Fri	31 Jan						
4	Mon	3 Feb	• Using a Calculator • Solving Right Triangles	Thu, 6 Feb by 23:30 (11:30 pm)	Sat, 8 Feb by 23:30 (11:30 pm) **Use Honorlock**	Sat, 8 Feb by 23:30 (11:30 pm)	Sun, 9 Feb by 23:30 (11:30 pm) **Use Honorlock**	Sun, 2 Mar by 23:30 (11:30 pm) **Use Honorlock**
	Tue	4 Feb						
	Wed	5 Feb						
	Thu	6 Feb						
	Fri	7 Feb						

Week	Day	Date	Topic	Learning Reflection Due	Memory Quiz Due	Lecture Notes Due	Mastery Assessment Due	Exam Due
5	Mon	10 Feb	• Law of Sines • Law of Cosines	Thu, 13 Feb by 23:30 (11:30 pm)	Sat, 15 Feb by 23:30 (11:30 pm) **Use Honorlock**	Sat, 15 Feb by 23:30 (11:30 pm)	Sun, 16 Feb by 23:30 (11:30 pm) **Use Honorlock**	Sun, 2 Mar by 23:30 (11:30 pm) **Use Honorlock**
	Tue	11 Feb						
	Wed	12 Feb						
	Thu	13 Feb						
	Fri	14 Feb						
6	Mon	17 Feb	• Triangle Applications • Radian Applications • *Review for Unit 2 Exam*	Thu, 20 Feb by 23:30 (11:30 pm)	Sat, 22 Feb by 23:30 (11:30 pm) **Use Honorlock**	Sat, 22 Feb by 23:30 (11:30 pm)	Sun, 23 Feb by 23:30 (11:30 pm) **Use Honorlock**	Sun, 2 Mar by 23:30 (11:30 pm) **Use Honorlock**
	Tue	18 Feb						
	Wed	19 Feb						
	Thu	20 Feb						
	Fri	21 Feb						
7	Mon	24 Feb	• Characteristics of Trigonometric Functions • Sine and Cosine Graphs	Thu, 27 Feb by 23:30 (11:30 pm)	Sat, 1 Mar by 23:30 (11:30 pm) **Use Honorlock**	Sat, 1 Mar by 23:30 (11:30 pm)	Sun, 2 Mar by 23:30 (11:30 pm) **Use Honorlock**	Sun, 16 Mar by 23:30 (11:30 pm) **Use Honorlock**
	Tue	25 Feb						
	Wed	26 Feb						
	Thu	27 Feb						
	Fri	28 Feb						
8	Mon	3 Mar	• Secant and Cosecant Graphs • Tangent and Cotangent Graphs • *Review for Unit 3 Exam*	Thu, 6 Mar by 23:30 (11:30 pm)	Sat, 8 Mar by 23:30 (11:30 pm) **Use Honorlock**	Sat, 8 Mar by 23:30 (11:30 pm)	Sun, 9 Mar by 23:30 (11:30 pm) **Use Honorlock**	Sun, 16 Mar by 23:30 (11:30 pm) **Use Honorlock**
	Tue	4 Mar						
	Wed	5 Mar						
	Thu	6 Mar						
	Fri	7 Mar						

Week	Day	Date	Topic	Learning Reflection Due	Memory Quiz Due	Lecture Notes Due	Mastery Assessment Due	Exam Due
9	Mon	10 Mar	• Fundamental Identities • Simplifying Trigonometric Identities	Thu, 13 Mar by 23:30 (11:30 pm)	Sat, 15 Mar by 23:30 (11:30 pm) **Use Honorlock**	Sat, 15 Mar by 23:30 (11:30 pm)	Sun, 16 Mar by 23:30 (11:30 pm) **Use Honorlock**	Sun, 13 Apr by 23:30 (11:30 pm) **Use Honorlock**
	Tue	11 Mar						
	Wed	12 Mar						
	Thu	13 Mar						
	Fri	14 Mar						
17 Mar – 21 Mar			**No School – Spring Break**					
10	Mon	24 Mar	• Verifying Trigonometric Identities	Thu, 27 Mar by 23:30 (11:30 pm)	Sat, 29 Mar by 23:30 (11:30 pm) **Use Honorlock**	Sat, 29 Mar by 23:30 (11:30 pm)	Sun, 30 Mar by 23:30 (11:30 pm) **Use Honorlock**	Sun, 13 Apr by 23:30 (11:30 pm) **Use Honorlock**
	Tue	25 Mar						
	Wed	26 Mar						
	Thu	27 Mar						
	Fri	28 Mar						
11	Mon	31 Mar	• Inverse Trigonometric Functions • Solving Trigonometric Equations with Single Angles • *Review for Unit 4 Exam*	Thu, 3 Apr by 23:30 (11:30 pm)	Sat, 5 Apr by 23:30 (11:30 pm) **Use Honorlock**	Sat, 5 Apr by 23:30 (11:30 pm)	Sun, 6 Apr by 23:30 (11:30 pm) **Use Honorlock**	Sun, 13 Apr by 23:30 (11:30 pm) **Use Honorlock**
	Tue	1 Apr						
	Wed	2 Apr						
	Thu	3 Apr						
	Fri	4 Apr						
12	Mon	7 Apr	• Sum and Difference Identities • Double-Angle Identities	Thu, 10 Apr by 23:30 (11:30 pm)	Sat, 12 Apr by 23:30 (11:30 pm) **Use Honorlock**	Sat, 12 Apr by 23:30 (11:30 pm)	Sun, 13 Apr by 23:30 (11:30 pm) **Use Honorlock**	Sun, 27 Apr by 23:30 (11:30 pm) **Use Honorlock**
	Tue	8 Apr						
	Wed	9 Apr						
	Thu	10 Apr						
	Fri	11 Apr						

Week	Day	Date	Topic	Learning Reflection Due	Memory Quiz Due	Lecture Notes Due	Mastery Assessment Due	Exam Due
13	Mon	14 Apr	• Half-Angle and Power-Reducing Identities • Sum-to-Product and Product-to-Sum Identities • Solving Trigonometric Equations with Multiple Angles • *Review for Unit 5 Exam*	Thu, 17 Apr by 23:30 (11:30 pm)	Sat, 19 Apr by 23:30 (11:30 pm) **Use Honorlock**	Sat, 19 Apr by 23:30 (11:30 pm)	Sun, 20 Apr by 23:30 (11:30 pm) **Use Honorlock**	Sun, 27 Apr by 23:30 (11:30 pm) **Use Honorlock**
	Tue	15 Apr						
	Wed	16 Apr						
	Thu	17 Apr						
	Fri	18 Apr						
14	Mon	21 Apr	• Vectors and Dot Product • Vector Applications	Thu, 24 Apr by 23:30 (11:30 pm)	Sat, 26 Apr by 23:30 (11:30 pm)	Sat, 26 Apr by 23:30 (11:30 pm)	Sun, 27 Apr by 23:30 (11:30 pm)	Wed, 7 May by 23:30 (11:30 pm) **Use Honorlock**
	Tue	22 Apr						
	Wed	23 Apr						
	Thu	24 Apr		*Last Day to Drop a Class*				
	Fri	25 Apr			**Use Honorlock**		**Use Honorlock**	
15	Mon	28 Apr	• Polar Plane • Complex Plane and Forms of Complex Numbers	Thu, 1 May by 23:30 (11:30 pm)	Sat, 3 May by 23:30 (11:30 pm) **Use Honorlock**	Sat, 3 May by 23:30 (11:30 pm)	Sun, 4 May by 23:30 (11:30 pm) **Use Honorlock**	Wed, 7 May by 23:30 (11:30 pm) **Use Honorlock**
	Tue	29 Apr						
	Wed	30 Apr						
	Thu	1 May						
	Fri	2 May						
16	Mon	5 May	*Review for Final Exam*	Wed, 7 May by 23:30 (11:30 pm)	Not due this week	Not due this week	Not due this week	Wed, 7 May by 23:30 (11:30 pm) **Use Honorlock**
	Tue	6 May						
	Wed	7 May	**Final Exam Due by 23:30 (11:30 pm) Use Honorlock**					
	Thu	8 May	**Semester Over**					
	Fri	9 May	**Graduation**					