PRECALCULUS

Math-2412-151/451

KNOWLEDGE IS POWER

SPRING 2024

Dr. Sheyleah Harris-Plant

DR. HP

Welcome to Precalculus

This is an online course that allows for us to study according to our schedule.

Are you ready to explore the integrated algebra, trigonometry, and analytic geometry skills used in Calculus? As your instructor, I am looking forward to providing you the opportunity to acquire and practice the math skills needed to be successful in Calculus.

Student Drop-in Hours (A.K.A. Office Hours)
Levelland (M120A):
Tuesdays and Thursdays   1:00 pm - 3:00 pm

Online:
Tuesdays and Thursdays   3:00 pm - 4:30 pm
Wednesdays   6:30 pm - 7:30 pm
Fridays   11:00 am - noon

or **by appointment**

SCAN ME

(scan QR code or use the link to make an appointment)
https://outlook.office365.com/owa/calendar/DrHP@southplainscollege.edu/bookings/

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?

PH: 806-716-2665

MATH BUILDING 120A

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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.

Each lecture has notes available to be printed and lecture videos covering the lecture notes. The lecture notes will not be submitted. How much of the lecture is required for each individual is individual to them according to their learning style and mathematical history.

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:

- Apply knowledge of properties of functions.
- Solve algebraic and transcendental equations.
- Apply graphing techniques to algebraic and transcendental functions.
- Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
- Prove trigonometric identities.
- Solve right and oblique triangles.

SUPPLIES & OPTIONAL TEXTS

Writing Utensil

8.5 inch x 11 inch paper

Scientific Calculator (No Graphing)
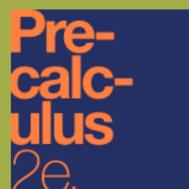
Precalculus, 2nd ed. OpenStax
ISBN 9781951693398

Precalculus, 8th ed. Ron Larson
ISBN 9781439045770
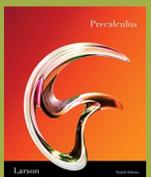
Good Internet Connection

Web Camera

Precalculus, 2nd ed. Cynthia Young
ISBN 9780470904138

What are the assignments for this class?

Memory Quizzes (Worth 0.50 points each)
Write the answer only from memory; do not write the question shown. Submit in class. The assignment will be graded as correct or incorrect. There will be 14 quizzes, with 4 quizzes being extra credit.

Mastery Assessments (Worth 1 point each)
Free response assessment that you can use your notes and practice problems. 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 and take it in class. There will be 15 assessments, with 5 assessments being extra credit.

Assignment Wrappers (Worth 0.3125 points each)
Answer questions on Blackboard to reflect and review mistakes and learn from them. The assignment will be graded by completion. There will be 16 assignments, with no extra credit assignments.

Unit Exams (Worth 10 points each)
Free response assessment that you can not use your notes or practice problems. No make-up exams will be given. 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 6 exams, with no extra credit assignments.

Final Exam (Worth 20 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. There will only be one assignment at the end of the semester.

ASSIGNMENT WEIGHTS

The 100 point system is used for grading. 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

- Memory Quizzes: 5 points
- Mastery Assessments: 10 points
- Assignment Wrappers: 5 points
- Unit Exams: 60 points
- Final Exam: 20 points

Memory Quizzes ▪ Mastery Assessments
▪ Assignment Wrappers ▪ Unit Exams
▪ Final Exam

Final Exam
20

Mastery Assessments
10

Assignment Wrappers
5

Unit Exams
60
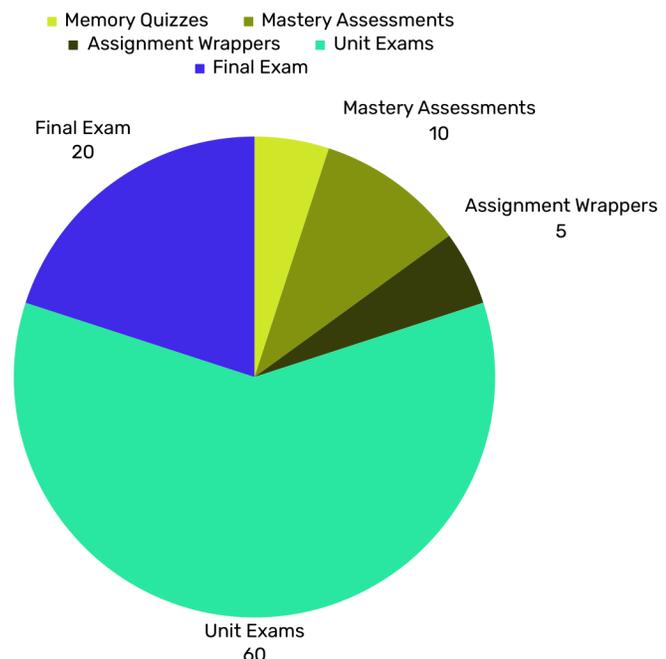
Participation Expectations

Accountability

If you miss an assignment or fall behind, all notes are on Blackboard for you to access.

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.

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.

WEB & EMAIL

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

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MATH BUILDING 120A

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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

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Days	Actions
Sunday – Tuesday	Watch the week's lecture videos and work examples
Wednesday– Friday	Practice skills covered in week's material Ask any questions Submit assignments
Saturday	Catch up, if you fell behind during the week or needed extra time

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 virtual flashcards 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/teacheredtutoring.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

The expert in anything was once a beginner.
    - Helen Hayes

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

Health & Wellness

The Health and Wellness Center at South Plains College oversees the provision of mental health services, student health services, and disability services to its students. Please click below for more information on these services.

- Mental Health Resources
- Counseling @ SPC
- Student Health
- Disability Services
- Drug & Alcohol Prevention
- Title IX Pregnancy
- Emergency Resources
- Texan Food Pantry
- COVID Response
- First Step/Non-Traditional Student Scholarship Application

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MATH BUILDING 120A

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Keep track of your grades

Assignment	Grade Category	Grade
Syllabus Receipt	Assignment Wrapper	
Week 1 Mastery Assessment	Mastery Assessment	
Week 2 Mastery Assessment	Mastery Assessment	
Week 3 Mastery Assessment	Mastery Assessment	
Week 4 Mastery Assessment	Mastery Assessment	
Week 5 Mastery Assessment	Mastery Assessment	
Week 6 Mastery Assessment	Mastery Assessment	
Week 7 Mastery Assessment	Mastery Assessment	
Week 8 Mastery Assessment	Mastery Assessment	
Week 9 Mastery Assessment	Mastery Assessment	
Week 10 Mastery Assessment	Mastery Assessment	
Week 11 Mastery Assessment	Mastery Assessment	

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59.49 and below earn an F

- Memory Quizzes: 0.5 points each
- Mastery Assessments: 1 point each
- Assignment Wrappers: 0.3125 points each
- Unit Exams: 10 points each
- Final Exam: 20 points

Memory Quizzes   Mastery Assessments
Assignment Wrappers   Unit Exams
Final Exam

Final Exam
20

Mastery Assessments
10

Assignment Wrappers
5

Unit Exams
60
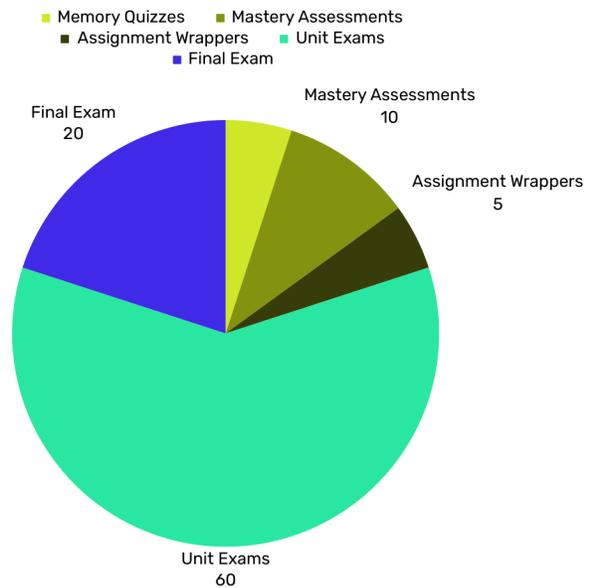
Keep track of your grades

Assignment	Grade Category	Grade
Week 12 Mastery Assessment	Mastery Assessment	
Week 13 Mastery Assessment	Mastery Assessment	
Week 14 Mastery Assessment	Mastery Assessment	
Week 15 Mastery Assessment	Mastery Assessment	
Memory Quiz 1	Memory Quiz	
Memory Quiz 2	Memory Quiz	
Memory Quiz 3	Memory Quiz	
Memory Quiz 4	Memory Quiz	
Memory Quiz 5	Memory Quiz	
Memory Quiz 6	Memory Quiz	
Memory Quiz 7	Memory Quiz	
Memory Quiz 8	Memory Quiz	
Memory Quiz 9	Memory Quiz	
Memory Quiz 10	Memory Quiz	
Memory Quiz 11	Memory Quiz	

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Memory Quizzes • Mastery Assessments
Assignment Wrappers • Unit Exams
Final Exam

Final Exam
20

Mastery Assessments
10

Assignment Wrappers
5
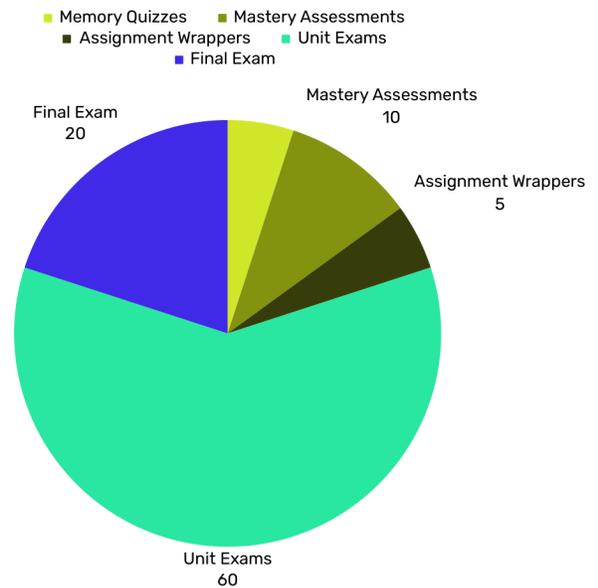
Unit Exams
60

Keep track of your grades

Assignment	Grade Category	Grade
Memory Quiz 12	Memory Quiz	
Memory Quiz 13	Memory Quiz	
Memory Quiz 14	Memory Quiz	
Exam 1 (Unit 1)	Unit Exam	
Exam 2 (Unit 2)	Unit Exam	
Exam 3 (Unit 3)	Unit Exam	
Exam 4 (Unit 4)	Unit Exam	
Exam 5 (Unit 5)	Unit Exam	
Exam 6 (Unit 6)	Unit Exam	
Week 1 Wrapper	Assignment Wrapper	
Week 2 Wrapper	Assignment Wrapper	
Week 3 Wrapper	Assignment Wrapper	
Week 4 Wrapper	Assignment Wrapper	
Week 5 Wrapper	Assignment Wrapper	

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Memory Quizzes   Mastery Assessments
Assignment Wrappers   Unit Exams
Final Exam

Final Exam
20

Mastery Assessments
10

Assignment Wrappers
5

Unit Exams
60
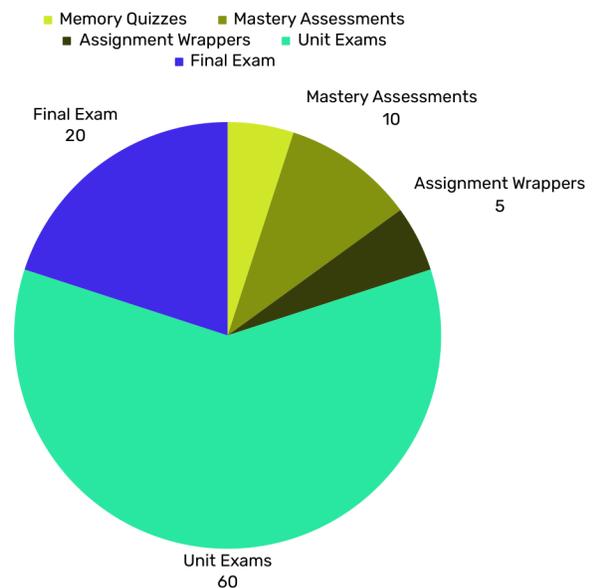
Keep track of your grades

Assignment	Grade Category	Grade
Week 6 Wrapper	Assignment Wrapper	
Week 7 Wrapper	Assignment Wrapper	
Week 8 Wrapper	Assignment Wrapper	
Week 9 Wrapper	Assignment Wrapper	
Week 10 Wrapper	Assignment Wrapper	
Week 11 Wrapper	Assignment Wrapper	
Week 12 Wrapper	Assignment Wrapper	
Week 13 Wrapper	Assignment Wrapper	
Week 14 Wrapper	Assignment Wrapper	
Week 15 Wrapper	Assignment Wrapper	
Final Exam	Final Exam	

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- Unit Exams: 10 points each
- Final Exam: 20 points

Legend: Memory Quizzes, Mastery Assessments, Assignment Wrappers, Unit Exams, Final Exam

Final Exam 20
Mastery Assessments 10
Assignment Wrappers 5
Unit Exams 60

SOUTH PLAINS COLLEGE
MATHEMATICS, ENGINEERING
& COMPUTER SCIENCE
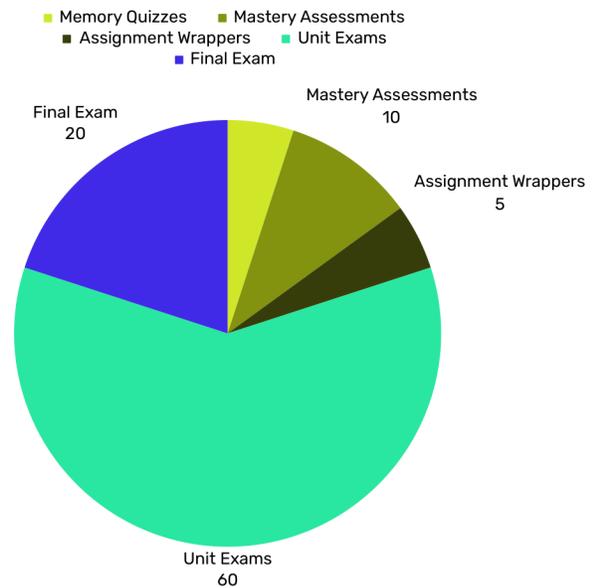
Spring 2024 MATH-2412-151/451 Tentative Calendar

Week	Day	Date	Topic	Mastery Assessment Due	Memory Quiz Due	Wrappers Due	Exam Due
1	Mon	15 Jan	No Class – Martin Luther King, Jr Birthday				
	Tue	16 Jan	• Class Introduction • Algebra Review • Angles • Non-Acute Angles	Sun, 21 Jan by 23:30 (11:30 pm) **Use Proctorio**	Not due this week	Wed, 24 Jan by 23:30 (11:30 pm)	Mon, 5 Feb by 23:30 (11:30 pm)
	Wed	17 Jan					
	Thu	18 Jan					
	Fri	19 Jan					
2	Mon	22 Jan	• Functions and Function Notation • Linear Functions • Quadratic Functions • Polynomial Functions • *Review for Exam 1 for Unit 1*	Sun, 28 Jan by 23:30 (11:30 pm) **Use Proctorio**	Sun, 28 Jan by 23:30 (11:30 pm) **Use Proctotio**	Wed, 31 Jan by 23:30 (11:30 pm)	Mon, 5 Feb by 23:30 (11:30 pm) **Use Proctorio**
	Tue	23 Jan					
	Wed	24 Jan					
	Thu	25 Jan					
	Fri	26 Jan					
3	Mon	29 Jan	• Radical Functions • Rational Functions • Trigonometric Functions • Non-Standard Position Angles	Sun, 4 Feb by 23:30 (11:30 pm) **Use Proctorio**	Sun, 4 Feb by 23:30 (11:30 pm) **Use Proctorio**	Wed, 7 Feb by 23:30 (11:30 pm)	Mon, 19 Feb by 23:30 (11:30 pm)
	Tue	30 Jan					
	Wed	31 Jan					
	Thu	1 Feb					
	Fri	2 Feb					
4	Mon	5 Feb	• Trigonometric Function Graphs • Exponential Functions • Logarithmic Functions • *Review for Exam 2 for Unit 2*	Sun, 11 Feb by 23:30 (11:30 pm) **Use Proctorio**	Sun, 11 Feb by 23:30 (11:30 pm) **Use Proctorio**	Wed, 14 Feb by 23:30 (11:30 pm)	Mon, 19 Feb by 23:30 (11:30 pm) **Use Proctorio**
	Tue	6 Feb					
	Wed	7 Feb					
	Thu	8 Feb					
	Fri	9 Feb					

Week	Day	Date	Topic	Mastery Assessment Due	Memory Quiz Due	Wrappers Due	Exam Due
5	Mon	12 Feb	• Properties of Logarithmic Functions • Fundamental Identities • Sum and Difference Identities • Double-Angle Identities	Sun, 18 Feb by 23:30 (11:30 pm) **Use Proctorio**	Sun, 18 Feb by 23:30 (11:30 pm) **Use Proctorio**	Wed, 21 Feb by 23:30 (11:30 pm)	Mon, 4 Mar by 23:30 (11:30 pm) **Use Proctorio**
	Tue	13 Feb					
	Wed	14 Feb					
	Thu	15 Feb					
	Fri	16 Feb					
6	Mon	19 Feb	• Half-Angle and Power-Reducing Identities • Sum-to-Product and Product-to-Sum Identities • Combining Functions • Inverse Functions • *Review for Exam 3 for Unit 3*	Sun, 25 Feb by 23:30 (11:30 pm) **Use Proctorio**	Sun, 25 Feb by 23:30 (11:30 pm) **Use Proctorio**	Wed, 28 Feb by 23:30 (11:30 pm)	Mon, 4 Mar by 23:30 (11:30 pm) **Use Proctorio**
	Tue	20 Feb					
	Wed	21 Feb					
	Thu	22 Feb					
	Fri	23 Feb					
7	Mon	26 Feb	• Transformations • Binomial Expansion • Rates of Change	Sun, 3 Mar by 23:30 (11:30 pm) **Use Proctorio**	Sun, 3 Mar by 23:30 (11:30 pm) **Use Proctorio**	Wed, 6 Mar by 23:30 (11:30 pm)	Mon, 25 Mar by 23:30 (11:30 pm) **Use Proctorio**
	Tue	27 Feb					
	Wed	28 Feb					
	Thu	29 Feb					
	Fri	1 Mar					
8	Mon	4 Mar	• Symbolic Algebraic Manipulation • Verifying Trigonometric Identities • *Review for Exam 4 for Unit 4*	Sun, 17 Mar by 23:30 (11:30 pm) **Use Proctorio**	Sun, 17 Mar by 23:30 (11:30 pm) **Use Proctorio**	Wed, 20 Mar by 23:30 (11:30 pm)	Mon, 25 Mar by 23:30 (11:30 pm) **Use Proctorio**
	Tue	5 Mar					
	Wed	6 Mar					
	Thu	7 Mar					
	Fri	8 Mar					

Fall 2023 MATH-2412 Tentative Calendar

Week	Day	Date	Topic	Mastery Assessment Due	Memory Quiz Due	Wrappers Due	Exam Due
9	Mon	18 Mar	• Other Types of Equations • Exponential and Logarithmic Equations • Roots of Polynomial Functions	Sun, 24 Mar by 23:30 (11:30 pm) **Use Proctorio**	Sun, 24 Mar by 23:30 (11:30 pm) **Use Proctorio**	Wed, 27 Mar by 23:30 (11:30 pm)	Mon, 8 Apr by 23:30 (11:30 pm) **Use Proctorio**
	Tue	19 Mar					
	Wed	20 Mar					
	Thu	21 Mar					
	Fri	22 Mar					
10	Mon	25 Mar	• Systems of Equations • Inequalities in One Variable • *Review for Exam 5 from Unit 5*	Sun, 31 Mar by 23:30 (11:30 pm) **Use Proctorio**	Sun, 31 Mar by 23:30 (11:30 pm) **Use Proctorio**	Wed, 3 Apr by 23:30 (11:30 pm)	Mon, 8 Apr by 23:30 (11:30 pm) **Use Proctorio**
	Tue	26 Mar					
	Wed	27 Mar					
	Thu	28 Mar					
	Fri	29 Mar					
11	Mon	1 Apr	• Partial Fractions • Sequences and Series • Geometric Sequences and Series	Sun, 7 Apr by 23:30 (11:30 pm) **Use Proctorio**	Sun, 7 Apr by 23:30 (11:30 pm) **Use Proctorio**	Wed, 10 Apr by 23:30 (11:30 pm)	Mon, 29 Apr by 23:30 (11:30 pm) **Use Proctorio**
	Tue	2 Apr					
	Wed	3 Apr					
	Thu	4 Apr					
	Fri	5 Apr					
12	Mon	8 Apr	• Parabolae • Ellipses • Circles • Hyperbolae	Sun, 14 Apr by 23:30 (11:30 pm) **Use Proctorio**	Sun, 14 Apr by 23:30 (11:30 pm) **Use Proctorio**	Wed, 17 Apr by 23:30 (11:30 pm)	Mon, 29 Apr by 23:30 (11:30 pm) **Use Proctorio**
	Tue	9 Apr					
	Wed	10 Apr					
	Thu	11 Apr					
	Fri	12 Apr					

Fall 2023 MATH-2412 Tentative Calendar

Week	Day	Date	Topic	Mastery Assessment Due	Memory Quiz Due	Wrappers Due	Exam Due
13	Mon	15 Apr	• Plane Curves and Parametric Equations • Vectors and Dot Product • Polar Plane • *Review for Exam 6 from Unit 6*	Sun, 21 Apr by 23:30 (11:30 pm) **Use Proctorio**	Sun, 21 Apr by 23:30 (11:30 pm) **Use Proctorio**	Wed, 24 Apr by 23:30 (11:30 pm)	Mon, 29 Apr by 23:30 (11:30 pm) **Use Proctorio**
	Tue	16 Apr					
	Wed	17 Apr					
	Thu	18 Apr					
	Fri	19 Apr					
14	Mon	22 Apr	• Using a Calculator • Solving Right Triangles • Law of Sines	Sun, 28 Apr by 23:30 (11:30 pm) **Use Proctorio**	Sun, 28 Apr by 23:30 (11:30 pm) **Use Proctorio**	Wed, 1 May by 23:30 (11:30 pm)	Tue, 7 May by 23:30 (11:30 pm) **Use Proctorio**
	Tue	23 Apr					
	Wed	24 Apr					
	Thu	25 Apr	***Last Day to Drop a Class by 3:00 pm***				
	Fri	26 Apr	• Law of Cosines				
15	Mon	29 Apr	• Triangle Applications • Radian Applications • Vector Applications • Complex Plane and Forms of Complex Numbers	Sun, 5 May by 23:30 (11:30 pm) **Use Proctorio**	Sun, 5 May by 23:30 (11:30 pm) **Use Proctorio**	Tue, 7 May by 23:30 (11:30 pm)	Tue, 7 May by 23:30 (11:30 pm) **Use Proctorio**
	Tue	30 Apr					
	Wed	1 May					
	Thu	2 May					
	Fri	3 May					
16	Mon	6 May	*Review for Final Exam*				Tue, 7 May by 23:30 (11:30 pm)
	Tue	7 May	**Final Exam Due by 23:30 (11:30 pm) Use Proctorio**				
	Wed	8 May	**Semester Over**				
	Thu	9 May					
	Fri	10 May	**Graduation**				

Remember, use the Gradescope app to submit your written work on Mastery Assessments and Exams while still being recorded in Proctorio.