

MAC 1114: Trigonometry

Section: 3019

2 Credit Hours

Spring 2024

Instructor: Hayden Hunter
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Office Hours: LIT459
TBD

Meeting Times:

TR Period 5 (1:55 PM - 2:45 PM) MAT 0011

Course Description & Objectives

This course is the sequel to MAC1140 Precalculus Algebra and serves as an introduction to Trigonometry. Topics include a basic introduction to trigonometric functions, graphing trigonometric functions, inverse trigonometric functions, and analytic trigonometry. Although this course has no official UF course prerequisite, it assumes prior knowledge of intermediate algebra (Algebra 2) from high school. Students should be able to do arithmetic without a calculator.

After completing this course, students will be able to define and analyze trigonometric functions, their inverses, their graphs, and their properties, formulate mathematical models and solve problems using trigonometric functions and their inverses, trigonometric equations, right triangle trigonometry, and various trigonometric formulas (e.g., laws of sine and cosine, sum difference, multiple angles, product-to-sum), and verify trigonometric identities. They will also develop and solve mathematical models of real-world word problems involving trigonometric functions and communicate mathematical solutions clearly and effectively.

General Education Credit

This course is a mathematics (M) course in the UF General Education Program. Completing this course with a minimum grade of C will satisfy the student's State Core Mathematics requirement of the UF General Education Program.

Required Materials

There are no required textbooks for this course. We will make use lecture notes, as well as of a free online textbook available at [Openstax Precalculus](#). Both will be provided as supplemental material on our Canvas website. Also, in this course we will use the online platform Xronos which has been developed at UF and is supported by the Office of the Provost and the College of Liberal Arts and Sciences. Xronos is accessible through the Canvas site. More details will be given in class.

E-Learning Canvas:

E-learning canvas, a UF course management system, is located at elearning.ufl.edu. Use your Gatorlink username and password to login. All course information including your grade, syllabus, lecture notes, office hours, test locations, mail tool, discussion forum, free help information, etc. can be accessed from this site.

You are responsible for verifying that your grades are accurate. **You have one week after a score has been posted to contact your instructor if you believe there has been a recording error. There is no grade dispute at the end of the semester.**

E-mail & Canvas Messenger	All communication between student and instructor and between students should be respectful and professional. All official class communications will be sent only through ufl.edu addresses or Canvas messenger. Students are responsible for acquiring, checking their email accounts and Canvas inbox regularly, and any class information sent to their ufl.edu account. Please be sure to sign your name to your e-mails.
Lectures	This class meets twice a week on Tuesday and Thursday, 5th period (1:55pm-2:45pm) in Matherly 0010 .
Quizzes (5%)	Each week there will be a take home quiz consisting of 3 to 4 questions based on the material covered that week. The quiz will be distributed Tuesday that week and is due the following Tuesday in class. The two lowest quiz grades will be dropped at the end of the semester. These will be graded based on accuracy and work shown. You will earn no points for unsupported answers.
Guided Lecture Notes (5%)	Each week students will complete a set of guided notes consisting of conceptual questions and practice problems corresponding to the lectures that week. These will be made available on Canvas Tuesday that week, and are due the following Tuesday in class. They will be graded based on completion.
Online Homework (30%)	<p>FIREFOX RECOMMENDED FOR XRONOS. In this course we will be using the online platform Xronos which is free of charge and will be explained during class. Complete Xronos homework by first navigating to our Canvas page. Once in Canvas, go to the assignments section of canvas and complete assignments directly. There is a slight delay in scores being recorded to Xronos. Be patient as your gradebook will update a little bit every so often until you reach 100 percent for the assignment. Please double-check in the canvas gradebook that your scores are in fact recording. Reach out to me as soon as possible if any technical difficulties arise.</p> <p>Online homework assignments will be assigned in groups based on the unit. An assignment group is due just before the date of the relevant exam. Please do not wait until the last minute to start your homework. All assignments are released in advance so you can divvy up your time how you choose. No assignments can be submitted after the due date. There will be a total of three dropped Xronos homework grades at the end of the semester.</p> <p>All assignments will have posted due dates and these due dates will not be extended under any circumstance.</p> <p>Personal computer issues, will NOT be a reason to offer any type of extension.</p>
Exams (60%)	<p>We will have three exams throughout the semester, each corresponding to one unit. The exams will be taken in class, and all questions will be free-response.</p> <p>Exam dates are as follows:</p> <p>Exam 1: TBD</p> <p>Exam 2: TBD</p> <p>Exam 3: TBD</p> <p>Makeup: TBD</p>
Class Participation	Attendance in class is mandatory. Students who come to class prepared and participate are more likely to do well in the course.

Further, following university policy, you may expect a penalty (additional lost points) for attending fewer than 75% of your classes.

Make-up Policy All make-up work must be arranged with the course coordinator.

- **Make-up Exams** If you are participating in a UF sponsored event or religious observance, you may make up an exam only if you make arrangements with the course coordinator during the **FIRST TWO WEEKS OF THE COURSE**. You must present documentation of a UF sponsored event.

If illness or other extenuating circumstances cause you to miss an exam, contact the course coordinator (no later than 24 hours after the exam) by email. Then, as soon as possible after you return to campus, provide the appropriate documentation to the course coordinator. You will be allowed to sign up to take a makeup exam at the end of the semester.

Please note that students may not retake an exam. There are, however, opportunities to earn points back on exams 1 and 2. See **Extra Credit** below.

- **Make-up Xronos HW:** There are no make-ups. Xronos Homeworks are released with many weeks to complete the assignments. Please reach out to me with plenty of advance notice if you're having Xronos issues. Technical issues the day before the homework is due is not an excuse.

- **Make-up Quizzes:** There are no quiz make-ups.

- **Make-up Guided Notes:** There are no guided notes make-ups.

Incomplete Students who are currently passing a course but are unable to complete the course because of illness or emergency may be granted an incomplete grade of I which will allow the student to complete the course within the first two weeks of the following semester. See the policy on <http://www.math.ufl.edu/fac/incomplete-grades/>. If you meet the criteria, you must contact the course coordinator before finals week to be considered for an I. An I only allows you to make up your incomplete work, not redo your work.

Grading Participation: 5 %

Quizzes: 5%

Xronos Homework: 30%

Exams (30% each): 60%

Your final grade will rounded to the nearest hundredth and a letter grade will be given using the following grading scale:

90.00-100 A	87.00-89.99 A-	84.00-86.99 B+	80.00-83.99 B
77.00-79.99 B-	74.00-76.99 C+	67.00-73.99 C	64.00-66.99 C-*
60.00-63.99 D+	57.00-59.99 D	54.00-56.99 D-	0-53.99 E

***Note** A grade of C- DOES NOT give Gordon Rule or General Education credit!

For a complete explanation of current policies for assigning grade points, refer to the UF undergraduate catalog:

<https://catalog.ufl.edu/UGRD/academic-regulations/>

NOTE: We will not review disputed points at the end of the semester. All grade concerns must be settled within one week of the assignment is returned.

Extra Credit

There will be various opportunities for extra credit throughout the semester. In particular,

- Students will be able to earn back half of the points they missed on Exam 1 by making corrections and submitting them to me before Exam 2. These corrections must be written clearly and must be correct to receive the maximum number of points back.
- On Exam 2, you will be able to correct one question for full credit. As with the exam 1 corrections, these must be written clearly and be correct to receive the maximum number of points back.

Free Help

In addition to attending lecture each week and visiting me during office hours, the following aids are available.

- The Math Help Center in Little 215 is open for drop-in assistance with homework Monday through Friday from 10:40am to 3:50pm. It is staffed by mathematics graduate students and undergraduate assistants. Please note that this space is not designed for intense one-on-one tutoring, but rather as a resource for quick questions and explanations. You should not expect the staff to help you if you have not at least begun your homework and have specific questions. Moreover, they absolutely will not assist you with quizzes or any other such work.
- The Teaching Center Math Lab, located in Turlington Hall, is a tutorial service staffed by trained math and science students to provide help with your calculus questions and homework. Tutors will be glad to provide guidance on specific problems after you have attempted them on your own. You may want to attend different hours to find tutors with whom you feel most comfortable. You can also request free one-on-one tutoring.
- Private Tutors: If after availing yourself of these aids, you feel you need more help, you may obtain a list of qualified tutors for hire at <https://math.ufl.edu>. Search “tutors”.

Calculators

Calculators are **not** allowed during exams. Every exam problem can be completely solved without use of a calculator. Calculators without graphing utilities may be used for the guided lectures notes, quizzes, and Xronos homework. You will only need a calculator in this class if a problem explicitly asks for an approximation. For example, if a problem asks for a decimal approximation of $\sin(\pi/4)$ to three decimal places, you could use your calculator to obtain 0.707. Otherwise, you should leave your answer as $\sin(\pi/4)$. These questions are rare and will not appear on any exam. Even though you're allowed a calculator on quizzes, note that the majority of points for a given problem comes from the supporting work. You will receive very few points if you just write an answer without any supporting work.

Cell Phones	Cell phones must be turned off (not on vibrate) before coming to class. Use (defined as having one physically in your hand) of a cell phone during a test or quiz will be considered contact with another person and will be viewed as a form of academic dishonesty because I cannot be assured in such a circumstance that you have not taken a picture of the test/quiz or sent a text message to someone. As a result, all infractions will be reported to the Dean of Students Office. Wait until after you have left the room and are finished with the test/quiz to use it.
Other distractions	While attending lecture, please ensure that your cellphone is on silent and that alarms are turned off. Please be respectful and attentive during lecture. Do not disturb those around you with excessive talking. You will be asked to leave the classroom if you are repeatedly disruptive during class.
Students with Learning Disabilities	Students requesting class and exam accommodations must first register with the Dean of Students Office Disability Resource Center (DRC), https://disability.ufl.edu/ . That office will provide a documentation letter via email to the course coordinator. This must be done as early as possible in the semester, at least one week before the first exam , so there is adequate time to make proper accommodations.
COVID Policy	<p>In response to COVID-19, the following recommendations are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.</p> <ul style="list-style-type: none"> • If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID-19 virus. Visit one.ufl.edu for screening / testing and vaccination opportunities. • If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated. • Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.
Diversity and Inclusion	The Mathematics Department is committed to diversity and inclusion of all students. We acknowledge, respect, and value the diverse nature, background and perspective of students and believe that it furthers academic achievements It is our intent to present materials and activities that are respectful of diversity: race, color, creed, gender, gender identity, sexual orientation, age, religious status, national origin, ethnicity, disability, socioeconomic status, and any other distinguishing qualities.
Academic Honesty Guidelines	All students are required to abide by the Academic Honesty Guidelines which have been accepted by the University. The academic community of students and faculty at the University of Florida strives to develop, sustain and protect an environment of honesty, trust, and respect. Students are expected to pursue knowledge with integrity. Exhibiting honesty in academic pursuits and reporting violations of the Academic Honesty Guidelines will encourage others to act with integrity. Violations of the Academic Honesty Guidelines shall result in judicial action and a student being subject to the sanctions in paragraph XIV of the Student Code of Conduct. The conduct set forth hereinafter constitutes a violation of the Academic Honesty Guidelines (University of Florida Rule 6C1-4.017).

The Mathematics Department expects you to follow the Student Honor Code. We are bound by university policy to report any instance of suspected cheating to the proper authorities. You may find the Student Honor Code and read more about student rights and responsibilities concerning academic honesty at the link <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student

Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Important Spring 2024 Academic Dates and Deadlines

Classes Begin	Monday, January 8
Drop/Add	Monday, January 8 - Friday, January 12 (11:59 PM)
Withdrawal deadline (full refund)	Friday, January 12 (11:59 PM)
Withdrawal deadline (25% refund)	Friday, February 2
Drop deadline (no refund)	Friday, April 12
Classes end	Wednesday, April 24

Holidays (no classes)

Spring Break Monday, March 11 - Friday, March 15

Note: Information in this syllabus is subject to change. Any changes will be clearly announced in class or through e-mail.

Tentative Schedule

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	January 8	January 9	January 10 Introduction	January 11 Meet Your TA	January 12 L1 & L2 - Precalc Review pt. 1
Due					
2	January 15 L3 & L4 - Precalc Review pt. 2	January 16 Meet Your TA	January 17 L5 - Limits Introduction	January 18	January 19 L6 - Limits Continued
Due		Quiz 1: L1-L2		Quiz 1: L1-L4	
3	January 22 Holiday	January 23	January 24 L7 - Continuity and IVT	January 25	January 26 L8 - Indeterminate Forms
Due		Quiz 2: L3-L5		Quiz 2: L5-L6	
4	January 29 L9 - The Derivative	January 30	January 31 L10 - The Derivative as a Function	February 1	February 2 L11 - Derivatives of Power and Exponential functions
Due		Quiz 3: L6-L8	Xronos 3	Quiz 3: L7-L9	
5	February 5 L12 - Product Rule and Quotient Rule	February 6	February 7 Review for Exam 1 Exam 1 (L1-L11)	February 8 No Discussion	February 9 L13 - Rates of Change
Due		Quiz 4: Attendance		No Quiz	
6	February 12 L14 Derivatives of Trig. Functions	February 13	February 14 L15 - Chain Rule pt. 1	February 15	February 16 L15 - Chain Rule pt. 2
Due		Quiz 5: L12 - L13		Quiz 4: L12-L13	
7	February 19 L16 -Implicit Differentiation pt. 1	February 20	February 21 L16 - Implicit Differentiation pt. 2	February 22	February 23 Holiday
Due		Quiz 6 L14-L15		Quiz 5 L14-L15	
8	February 26 L17 - Logarithmic Differentition	February 27	February 28 L18 -Related Rates pt. 1	February 29	March 1 L18 - Related Rates pt. 2
Due		Quiz 7: L16 - L17		Quiz 6: L16-17	

Week	Monday	Tuesday	Wednesday	Thursday	Friday
9	March 4 Review for Exam 2	March 5 Exam 2 (L12-L18) Discussion: Review only	March 6 L19 - Linear Approximations and Differentials	March 7	March 8 L20 - Extreme Values, Fermat's Theorem, Critical Points
Due		No Quiz		Quiz 7: L18-L19	
10	March 11 L21 - MVT and Rolle's Theorem	March 12	March 13 L22 - First Derivative Test	March 14	March 15 L23 - Concavity and Second Derivative Test
Due		Quiz 8: L19-L20		Quiz 8: L19 - L20	
11	March 18 L24 - L'Hopital's Rule pt. 1	March 19	March 20 L24 - L'Hopital's Rule pt. 2	April 21	March 22 L25 - Curve Sketching
Due		Quiz 9: L21 - L23		Quiz 9: L21 - L23	
12	March 25 L26 - Applied Optimization pt. 1	March 26	March 27 L26 - Applied Optimization pt. 2	March 28	March 29 Holiday
Due		Quiz 10: L24-L25		Quiz 10: L24 - L25	
13	April 1 Review for Exam 3	April 2 Exam 3 (L19-26)	April 3 L27 - Antiderivatives	April 4 Discussion: Review Only	April 5 L28 - Areas and Riemann Sums
Due		No Quiz		No Quiz	
14	April 8 L29 - The Definite integral pt. 1	April 9	April 10 Thanksgiving Break	April 11 Thanksgiving Break	April 12 Thanksgiving Break
Due		Quiz 11: L27-L28		No Quiz	
15	April 15 L29 - The Definite integral pt. 2	April 16	April 17 L30 - The Fundamental Theorem of Calculus	April 18	April 19 L31 - Net Change
Due		Quiz 12: L28 - L29		Quiz 11: L28 - L29	
16	April 22 L32 - The Substitution Method for Integrals	April 23	April 24 Review for Final Exam	April 25 Reading Day - No Classes	April 26 Reading Day - No Classes
Due		No Quiz			