Calculus with Analytic Geometry I
MAC 2311 Lecture
4 Credit Hours
Spring 2026

Instructor:	Dr. John Streese
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Office Hours:	LIT 423
Mondays:	Period 5 (11:45am - 12:35pm)
Wednesdays:	Period 7 (1:55pm- 2:45pm)
Thursdays:	Period 6 (12:50pm - 1:40pm)

Main Lecture:

MWF Period 3 Streese (9:35am - 10:25am) Carleton Auditorium Room 100 CAR 100

Discussion Section	Time	Location	TA
3076	R Period 3 (9:35 AM - 10:25 AM)	LIT 223	Mkrtchyan
3078	R Period 3 (9:35 AM - 10:25 AM)	LIT 221	Robinson, C.
5962	T Period 3 (9:35 AM - 10:25 AM)	LIT 125	Michele
02H2	R Period 4 (10:40 AM - 11:30 AM)	MAT 15	Fant
3074	T Period 4 (10:40 AM - 11:30 AM)	LIT 233	Michele
5963	T Period 4 (10:40 AM - 11:30 AM)	LIT 223	Bridges
6082	T Period 4 (10:40 AM - 11:30 AM)	LIT 221	Adedeji
6510	R Period 4 (10:40 AM - 11:30 AM)	MAT 14	Hartman
057E	T Period 5 (11:45 AM - 12:35 PM)	LIT 233	Bridges
3089	T Period 5 (11:45 AM - 12:35 PM)	LIT 223	Polli
6462	T Period 5 (11:45 AM - 12:35 PM)	LIT 221	Adedeji
7445	R Period 5 (11:45 AM - 12:35 PM)	MAT 12	Fant
3069	T Period 6 (12:50 PM - 1:40 PM)	LIT 219	Beye
3090	T Period 6 (12:50 PM - 1:40 PM)	LIT 217	Polli
7665	R Period 6 (12:50 PM - 1:40 PM)	LIT 223	Robinson, C.
3073	T Period 7 (10:40 AM - 11:30 AM)	LIT 219	Beye
300000	R Period 7 (1:55 PM - 2:45 PM)	LIT 219	Hartman
7656	R Period 7 (1:55 PM - 2:45 PM)	MAT 11	Mkrtchyan
169H	UF ONLINE		Streese/Dhar
187F	RESIDENTIAL ONLINE		Streese/Dhar
1772	DUAL ENROLLMENT		Streese/Dhar

Prerequisites Any of the following: Minimum acceptable score on the online mathematics placement exam (ALEKS), which is a 76 or higher; a grade of C in a MAC course numbered 1147 or higher; AP credit for MAC2311; IB credit for a MAC course numbered 1147 or higher. Any course grades, AP, or IB scores used to meet this prerequisite must be on file at UF by registration.

Course Description

In this course, students will develop problem solving skills, critical thinking, computational proficiency, and contextual fluency through the study of limits, derivatives, and definite and indefinite integrals of functions of one variable, including algebraic, exponential, logarithmic, and trigonometric functions, and applications. Topics will include limits, continuity, differentiation and rates of change, optimization, curve sketching, and introduction to integration and area.

Course Goals

The following are broad goals that students taking MAC2311 will achieve upon successful completion of the course:

- Students will develop a strong understanding of Limits, Derivatives, and Integrals.
- Students will apply calculus problem-solving techniques to solve mathematical, real-world problems.
- This course will enhance a student's mathematical reasoning, logicial faculties, and general problem-solving skills.

General Education Objectives and Learning Outcomes

General Education Objectives provides a description of how the general education requirements are being met. See specifically the relevant mathematics (M) subject area description at the aforementioned link.

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. Courses in mathematics provide instruction in computational strategies in fundamental mathematics including at least one of the following: solving equations and inequalities, logic, statistics, algebra, trigonometry, inductive and deductive reasoning. These courses include reasoning in abstract mathematical systems, formulating mathematical models and arguments, using mathematical models to solve problems and applying mathematical concepts effectively to real-world situations.

After successful completion of this course students will have demonstrated competency in the following Student Learning Outcomes (SLOs):

- **Content:** *Students demonstrate competence in the terminology, concepts, theories, and methodologies used within the discipline.* After completing this course students will gain a knowledge of limits, differentiation, and integration.
- **Communication:** *Students communicate knowledge, ideas, and reasoning clearly and effectively in written and oral forms appropriate to the discipline.* Throughout this course students will communicate mathematical ideas verbally in their discussion sessions and as well as through writing on discussion quizzes and exams.
- **Critical Thinking:** *Students analyze information carefully and logically from multiple perspectives, using discipline-specific methods, and develop reasoned solutions to problems.* Students will apply their knowledge to solve problems concerning topics that include, but are not limited to, differentiation techniques, calcuation of exact areas under curves, application of rates of change to physical examples of position, velocity and acceleration, identifying the limit of various functions, using the derivative as a tool for approximation through differentials and linear approximation, among countless other applications.

Student Learning Outcomes

After successful completion of this course students will have demonstrated competency in the following Student Learning Outcomes (SLOs):

- Students will calculate a limit, derivative, or integral using appropriate techniques.
- Students will determine the continuity and differentiability of a function.
- Students will use limits and derivatives to analyze relatonships between the equation of a function and its graph.
- Students will apply differentiation techniques to model and solve real world problems.
- Students will use integrals and the fundamental theorem of calculus to analyze the relationship between the integral of a function and the related area.

Required Materials

There are no required textbooks for this course. We will make use of a free online textbook available at Openstax Calculus Volume 1 as well as Stewart Calculus. A link to both are provided on our Canvas homepage.

Materials and Supplies Fee

3.00 dollars (USD) for the in-person sections and 37.00 dollars for the online sections.

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, course homepage, syllabus, lecture outlines, 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 until Monday at 5pm of finals week to contact your TA or instructor if you believe there has been a recording error. There is no grade dispute beyond this time.**

Please note: Important course information is clearly communicated in this course guide, the MAC 2311 homepage and links in Canvas, and announcements in lecture and discussion. Due to the volume of email received by the instructor and TAs, we cannot reply to each request for this well publicized information. If you cannot find your answer in the resources above, there is also a **Discussion Forum** available in Canvas. Please use this to post questions and to supply answers to your fellow students. Primarily, we will use the discussion board to work together on homework problems and studying for the exam. Using these boards presents a bonus point opportunity as well.

UF Academic Policies: This course complies with all UF academic policies. For information on those policies and for resources for students, please click THIS LINK.

E-mail All communication between student and instructor and between students should be respectful and professional. All official class communications will be sent only to the ufl.edu addresses. Students are responsible for acquiring, checking their email accounts regularly, and any class information sent to their ufl.edu account. Please be sure to sign your name to your e-mails.

Lectures **The in-person sections of this course** meet for in-person 50-minute lectures Mondays, Wednesdays, and Fridays. We will meet 9:35am - 10:25am in CAR 100. Along with this, you will meet with your discussion leader once a week, either on a Tuesday or Thursday for one period a week. In your discussion class, you will (usually) take a weekly quiz. Therefore, attendance to discussion sections is mandatory, and a great way to review the past week's material. Attendance to the lectures is **strongly** encouraged, since missing just a few will put you behind in the class. We will also use lectures to review for exams the class period before they occur. Any student in the online section of this course is welcome to come to the in-person lecture as well if they like. However, you also have access to pre-recorded videos to watch online.

Lecture Quizzes Immediately after you attend the in-person lecture and/or finish watching the lecture video, you should take the corresponding lecture quiz on the material covered that particular day. The three lowest online lecture quiz grades will be dropped at the end of the semester. You have three attempts on each online canvas quiz.

Discussion Sections (in-person only) Discussion sections meet once a week on either Tuesday or Thursday depending on which section you are enrolled in. These meetings give you a valuable opportunity for open discussion of the lecture material and assigned problems in a smaller class setting. **Attendance to discussion class is required for in-person sections as it is where weekly quizzes will take place**. However, one period per week is generally not adequate to answer all questions. Be sure to take advantage of the opportunities outside of class for additional help.

Your main resource is your discussion leader. They will be available during office hours (or by appointment) to answer your questions about the course material. Your TA is responsible for grading and recording all quiz scores. You must retain all returned papers in case of any discrepancy with your course grade. As mentioned above, **you should check Canvas regularly and consult with your TA if you have any questions about recorded grades. All grade concerns must be taken care of by Monday 5pm of finals week.**

If you have concerns about your discussion class which cannot be handled by your TA please contact your instructor.

In-person Exams

Mid-term exam dates are as follows:

Exam 1: Wednesday, February 4. 2026 8:20PM - 10:00PM

Exam 2: Wednesday, March 4, 2026 8:20PM - 10:00PM

Exam 3: Thursday, April 2, 2026 8:20PM - 10:00PM

Makeup: (TENTATIVE, won't be confirmed until about a week before) Wednesday, April 22, 2026 5:10 PM - 7:05 PM

Final: Saturday, April 25, 2026 7:30AM - 9:30AM (MORNING EXAM)

There will be three (paper and pencil) midterms throughout the semester. The midterms will consist of two parts. Part 1 will be multiple choice questions. Part 2 of the midterm exams will consist of free response problems. If you are in an **online section**, these exams will be online assessments.

These midterm exams will take place in the evening, from 8:20 PM to 10:00 PM.

The FINAL EXAM will take place on Saturday, April 25, 2026 7:30AM - 9:30AM. Make a note of this now and please inform any interested parties (e.g. your parents) who may be making plans for you around that time (such as purchasing place tickets to fly home, etc.).

Each midterm exam is worth 15% of your final grade while the final exam is worth 25% of your final grade. No exam grades will be dropped. **There are no exam retakes.**

Online Exams

The midterm and final exam dates for the online sections of this course are the same dates as those listed in the previous section. However, students will have a time window between 6:30PM - 10:30PM to complete their midterms exams and a window of 10AM - 2PM to complete their final exam.

Online exams require the use of honorlock, so access to a device with a camera/microphone and stable internet is necessary. No calculators are allowed on the online exams.

Exam Policy

Please come to the exams prepared with pencils/mechanical pencils and your ID (UFID or other government issue ID). You may not use pen. **You may not use a calculator**. Do not enter the testing room until the proctors have finished setting up the room and allowed you to come in. You may not have your phone out at all during the exam. If you are using your phone during the exam, this will be considered academic dishonesty and the issue will be escalated to the appropriate channels. Respect other students and the proctors while in the testing room. Any transcription errors that occur on your scantron or free response are there to stay after the exam. These errors include, but are not limited to: bubbling in the wrong form code, not bubbling in your answers, bubbling in the wrong section number, bubbling your answers in the wrong places, leaving answers blank, etc. Providing the wrong information such as your section number or name during an exam may greatly delay the grading of your exam. It is very important that you are aware of what is going on and following directions carefully so no materials are lost and that your exam is graded properly. An exam that is lost due to incorrect bubbling or attending the wrong room will not be the fault of the instructor nor the TA and you may forfeit your grade (receive no credit) for that particular exam.

Online Homework

Complete online homework and leture quizzes via our Canvas page. You can find all your work under the "assignments" section of Canvas, found on the left side of the home page. Go to the assignments section of canvas and complete assignments directly. Please double-check in the canvas gradebook that your scores are in fact recording. Reach out to me as soon as possible of any technical difficulties that may arise. If you encounter any techincal difficulties, you can attempt to clear browsing history and/or open the assignment in a new browser. You could also try using another device such as your phone, an ipad, or one of the on-campus library computer. If you feel these difficulties will impact your performance, please let your instructor know with advanced notice. Technical difficulties are not an excuse for missing an assignment. Please start your assignments early and give ample notice if you encounter issues. There are also many libraries that you can utilize to complete your online homework as well.
Please do not wait until the last minute to start your homework. There will be a total of **three** dropped online homework grades at the end of the semester.

All assignments will have posted due dates and will follow our pace in the course. Please keep up with the due dates of assignments using canvas.

Personal computer issues are NOT a valid reason for any type of extension. The same is true to multiple assignmnets being due in other classes at the same time. Manage your time wisely.

Lecture Attendance

Lecture attendance is strongly recommended, but not required. Missing class frequently will place you behind on the material as the class moves quickly. There are no lecture attendance assessments on Monday, Wednesday, Friday. Missing class means you will need to review the posted lecture notes later on your own to catch up. The only in-class assessments this semester are those in your discussion sections, which are explained above.

Make-up Policy

Requirements for class attendance and make-up exams, assignments, and other work in the course are consistent with university policies. https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

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

• **Exam Conflicts - UF during Term Assembly Exam Policy** (catalog.ufl.edu/ugrad/current/regulations/info/exams.aspx): "During-term examinations are held during regular class times or during assembly exam periods, which are Monday-Friday from 8:20 - 10:10 p.m. (periods E2-E3) for the fall and spring terms and Monday-Friday from 7:00 - 9:45 p.m. (periods E1-E2) for the summer terms. If other classes are scheduled during an exam time, instructors must provide make-up class work for students who miss class because of an assembly exam. When two exams conflict, assembly exams (multiple sections and enrollment over 300) take precedence over non-assembly exams (single sections and/or enrollment under 300). If two assembly exams conflict, the course with the higher number will take priority. Likewise, if two non-assembly exams conflict, the higher number will again take priority. Instructors giving make-up exams will make the necessary adjustments. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence. A reasonable amount of time to make up a during-term exam is before the end of the semester in which the student is enrolled in the class."
If MAC 2311 is the lower course number, students must inform the course coordinator at least ONE WEEK in advance of the exam date so that appropriate accommodations can be made. Otherwise it may not be possible to reschedule.

• **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 in a timely fashion 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. Generally, the make-up exam at the end of the semester is the only make-up exam that will be offered. I do not schedule make-up exams individually.

• **Exam retakes** Under no circumstance will a student be allowed to take an exam twice to improve their score. Do not sit for an exam sick and then expect to take a retake as well.

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

• **Make-up discussion quizzes**: Missed discussion quizzes can be made up if appropriate documentation is provided. You must e-mail your instructor your documentation and receive a confirmation from them to make-up the quiz - **no exceptions**. If you miss a discussion quiz, then you should contact your instructor, NOT your TA, as soon as possible to arrange a make-up quiz. I will offer four make-up quiz periods throughout the semester. You will need to attend the quiz make-up period that is directly AFTER the quiz you missed. You may show up at any time during the periods listed below, but please allow yourself at least 20 minutes for your visit. Remember, you can only make up a quiz with an excused absence. If you come to a make-up quiz session and do not provide the proctor with your e-mail confirmation from the instructor, you will be turned away from the session. Simply not going to discussion class is not a reason warranting a make-up quiz. Leaving for vacation early during scheduled UF classes does not qualify as an excused absence. In this instance, you can use the provided quiz drops. **When you attend the make-up quiz period, you will need to show me your e-mail approval for which quiz number you are making up. Typically this means showing the contents of the approval e-mail on your phone to the proctor. You will not be permitted to take a make-up quiz without the course coordinator's approval**. These make-up quiz period dates are tentative and will be confirmed a week before these proposed dates and will be announced in class and via Canvas.

Session 1: Tuesday, Feb 3 10:40am - 11:30am Location: TBD

Session 2: Monday, Mar 2 1:55pm - 2:45pm Location: TBD

Session 3: Tuesday, Mar 31 4:05pm - 4:55pm Location: TBD

Session 4: Monday, Apr 20 4:05pm - 4:55pm Location: TBD

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/incompletes.html. 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.

Online Technical Issues

For resolving technical issues relating to the online assignments, it is preferred that you do one of the following: Reach out to your instructor or TA with plenty of notice before the assignment deadline (in office hours or send a canvas message) or visit the helpdesk website (https://it.ufl.edu/helpdesk/). Any of us can help you troubleshoot your issues. These issues should not be used as an excuse the night before an assignment is due as you have have advanced access to assignments.

In-person section grading scheme

Online Homework (3 drops): 10%

Lecture Quizzes (3 drops): 10%

Discussion Quizzes (2 drops): 10%

Midterm Exam Average (3 mid-term exams): 45%

Final Exam: 25%

Online section grading scheme

Online Homework (3 drops): 15%

Lecture Quizzes (3 drops): 15%

Midterm Exam Average (3 mid-term exams): 45%

Final Exam: 25%

Grading Scale

Your final grade will rounded within 0.5 and a letter grade will be given using the following grading scale. Please note Canvas rounds for you automatically and your CANVAS GRADE is your final grade for the course. Do not reach out to me asking to give you a "grade bump".

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!

A minimum grade of C is required for general education credit.

For those who take the S-U option: 67.00-100 S 0.00-66.99 U

Approval of the S-U option must be obtained from your instructor. The deadline for filing an application with the Registrar and further restrictions on the S-U option are given in the Undergraduate Catalog.

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

https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

NOTE: We will not review disputed points at the end of the semester. All grade concerns must be settled before Monday 5pm of the final exam week.

Please refrain from reaching out at the end of the semester to ask for your grade to be rounded up or to inquire about extra assignments or opportunities. There are hard cutoffs and deadlines for all assignments for a reason. Given the number of students in this course, it is not feasible to give out extra work/assignments once the semester has ended.

Extra Credit

Each midterm exam has 105 points on it but is taken out of 100 points. The final exam has 110 points on it but is taken out of 100 points. Because of this, inherent in each exam are bonus points. There are also extra credit discussion boards worth two points each. There is one of these boards for each exam period. I will discuss discussion boards more in class.

Campus Resources

In addition to attending your discussion section regularly and visiting your discussion leader, lecture, or the course coordinator, during their 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 9:30am to 4:00pm. 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.
- Office hours are a great way to get help. Consider attending your instructor or TA's office hours. If there are multiple TA's in a class, you can go to any TA's office hours. You can find these office hours listed on the canvas home page.
- The teaching center tutors hold reviews on the evenings before each exam. They also provide videos of review and sample test problems. Check the webpage, teachingcenter.ufl.edu, for a map of the location, tutoring hours, and test review dates and locations. Additional practice exams and video tutorials may be found here: https://academicresources.clas.ufl.edu/vsi/. **All students are encouraged to use the teaching center**.
- Textbooks and solutions manuals are located at reserve desks at Marston Science Library.
- 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 www.math.ufl.edu. Seach "tutors".
- The Counseling Center provides a variety of resources for mental health and well-being to students as well. Go to https://counseling.ufl.edu/

Calculators

Calculators are **NOT** permitted on exams and discussion assignments. Calculators should be used in moderation when working through homework assignments.

Cell Phones

Cell phones should be silenced (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 distruptive during class.

Students with Learning Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. See the "Get Started With the DRC" webpage on the Disability Resource Center site. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

The DRC 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 beforethe requested exam**, so there is adequate time to make proper accommodations. You must submit your ATR request on the DRC portal 4 business days' prior to the exam date to be considered. **You may not delay taking an exam simply due to not having submitted the proper DRC exam request in time.** If a student wishes to take their discussion quizzes with additional time, they must contact their instructor to set up appointments at the DRC each week. Similarly, if a student requires additional time on exams, they must schedule this to be taken through the DRC portal. Extra time cannot be provided otherwise. For online students, once your letter of accommodation has been received by your instructor, they will apply additional time to all applicable assignments in Canvas.

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 Policy

UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the UF Conduct Code website for more information at https://sccr.dso.ufl.edu/process/student-conduct-code/. If you have any questions or concerns, please consult with the instructor or TAs in this class.

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 complaintto 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. Students can complete evaluations in three ways:

1. The email they receive from GatorEvals,
2. Their Canvas course menu under GatorEvals, or
3. The central portal at https://my-ufl.bluera.com

Guidance on how to provide constructive feedback is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Detailed Course Map

This Course Map describes all topics covered in this course and what tasks students complete to achieve the Student Learning Outcomes on a weekly basis.

Unit 1

Week 1 "Lecture 1: Precalculus Review"
Dates: Aug 22 - Aug 24
Required Assignments Lecture Quiz 1:
Time Estimate: 1 Hour
1. Define the absolute value function.
2. Solve inequalities.
3. Solve equations involving roots and powers.
4. Identify and solve linear equations.

Week 2 "Lecture 2: Precalculus Review 2"
Dates: Aug 25 - Aug 26
Required Assignments: Lecture Quiz 2, Canvas HW 1-2
Time Estimate: 2 Hours
1. Identify polynomial, rational, root, trigonometric, and exponential functions.
2. Calculate values of the six trigonometric functions at various angles on the unit circle.
3. Solve trigonometric equations.

Week 2 Lecture 3: Precalculus Review 3"
Dates: Aug 27 - Aug 28
Required Assignments: Lecture Quiz 3, Canvas HW 3
Time Estimate: 2 Hours
1. Define one-to-one function.
2. Calculate the inverse of a given one-to-one function.
3. Define the domain and range of a function.
4. Find the domain and range of an inverse function.
5. Perform mathematical operations with exponential and logarithmic functions.

Week 2 Precalculus Review 4"
Dates: Aug 27 - Aug 28
Required Assignments: Lecture Quiz 4, Canvas HW 4
Time Estimate: 2 Hours
1. Define the composition of functions.
2. Find the domain of composite functions.
3. Investigate inverse functions and relate these to ideas of function composition.
4. Examine the graphs of various functions.

Week 2 "Lecture 5: Limits"
Dates: Aug 29 - Sept 2

Required Assignments: Lecture Quiz 5, Canvas HW 5
Time Estimate: 2 Hours
1. Define the meaning of limit of a function.
2. Evaluate the limit using algebraic and graphical techniques.

Week 3 "Lecture 6: Limits 2"
Dates: Sept 3 - Sept 4
Required Assignments: Lecture Quiz 6, Canvas HW 6
Time Estimate: 2 Hours
1. Define one-sided limits.
2. Define infinite limits.
3. Calculate values of limits involving absolute value expressions.

Week 3 "Lecture 7: Continuity"
Dates: Sept 5 - Sept 7
Required Assignments: Lecture Quiz 7, Canvas HW 7
Time Estimate: 2 Hours
1. Define the term continuity.
2. Identify continuous and discontinuous functions.
3. Classify the different types of discontinuities.
4. Define and apply the Intermediate Value Theorem.

Week 4 "Lecture 8: Indeterminate Forms"
Dates: Sept 8 - Sept 9
Required Assignments: Lecture Quiz 8, Canvas HW 8
Time Estimate: 3 Hours
1. Identify indeterminate forms resulting from limits.
2. Eliminate indeterminate forms using algebraic techniques.
3. Evaluate limits at infinity algebraically and graphically.
4. Define and identify asymptotes for a given function.

Week 4 "Lecture 9: Derivatives"
Dates: Sept 10 - Sept 11
Required Assignments: Lecture Quiz 9, Canvas HW 9
Time Estimate: 3 Hours
1. Define the definition and alternative definition of the derivative.
2. Use the derivative to calculate the slope of the tangent line and velocity of a particle in position.
3. Use both the definition of the derivative and the alternate definition of the derivative to find the derivative of a function at a point.
4. Calculate the equation of a tangent line.
5. Use derivatives to calculate instantaneous rates of change.
6. Use linear approximations to approximate the value of a function.
7. Approximate the value of a function at a given x-value using the tangent line.

Week 4 "Lecture 10: Derivative as a Function"

Dates: Sept 12 - Sept 14
Required Assignments: Lecture Quiz 10, Canvas HW 10
Time Estimate: 2 Hours
1. Distinguish different notations for the derivative.
2. Define what it means for a function to be differentiable.
3. Classify situations when a function is not differentiable.

Week 5 "Unit 1 Review and Exam"
Dates: Sept 15
Required Assignments: None. Study practice exams.
Time Estimate: 5+ Hours

Unit 2

Week 5 "Lecture 11: Derivative of Power Functions"
Dates: Sept 17 - Sept 18
Required Assignments: Lecture Quiz 11, Canvas HW 11
Time Estimate: 2 Hours
1. Develop basic differentiation rules, including the derivatives of constant functions, power functions, exponential functions, and sums and differences of these functions.
2. Find the derivative of polynomial functions.
3. Find the derivative of power functions such as x^2 and x^3.
4. Find the derivative of exponential functions.

Week 5 "Lecture 12: Product and Quotient Rules"
Dates: Sept 19 - Sept 21
Required Assignments: Lecture Quiz 12, Canvas HW 12
Time Estimate: 2 Hours
1. Perform the product and quotient rule to find the derivative of relevant functions.
2. Use the Product Rule to evaluate the derivative of a product of two functions.
3. Use the Quotient Rule to evaluate the derivative of a quotient of two functions.

Week 6 "Lecture 13: Rates of Change"
Dates: Sept 22 - Sept 23
Required Assignments: Lecture Quiz 13, Canvas HW 13
Time Estimate: 2 Hours
1. Describe further applications of the derivative as the rate of change.
2. Explain why the derivative of a function can be interpreted as the instantaneous rate of change of the function.
3. Calculate the instantaneous rate of change of a function.
4. Calculate the velocity and acceleration of an object if given the position function.
5. Determine when an object is at rest and moving up/down or left/right if given the position function.
6. Determine the total vertical or horizontal distance an object travels over a time interval if given the position function.
7. Calculate the marginal cost of producing a good when given the cost function.
8. Find a general formula for calculating the nth derivative of a function.

Week 6 "Lecture 14: Derivatives of Trig. Functions"
Dates: Sept 24 - Sept 25
Required Assignments: Lecture Quiz 14, Canvas HW 14
Time Estimate: 2 Hours
1. Develop derivative rules for the six trigonometric functions: $\sin(x)$, $\cos(x)$, $\tan(x)$, $\sec(x)$, $\csc(x)$, and $\cot(x)$.
2. Find the derivative of the six trigonometric functions.
3. Find the derivative of sums, differences, products, and quotients of functions involving the six trigonometric functions.

Week 6 "Lecture 15: Chain Rule"
Dates: Sept 26 - Sept 30
Required Assignments: Lecture Quiz 15, Canvas HW 15
Time Estimate: 4 Hours
1. Interpret composite functions in the context of the Chain Rule.
2. Define the Chain Rule for differentiation.
3. Combine the Power Rule and Chain Rule.
4. Apply this rule to find the slope of the tangent line.
5. State the Chain Rule using both functional notation and Leibniz notation.
6. Use the Chain Rule to evaluate the derivative of a composition of functions.
7. Use the Chain Rule more than once to evaluate the derivatives of compositions of functions.

Week 7 "Lecture 16: Implicit Differentiation"
Dates: Oct 1 - Oct 5
Required Assignments: Lecture Quiz 16, Canvas HW 16
Time Estimate: 4 Hours
1. Define implicit function.
2. Outline the process for finding the derivatives of an implicit function.
3. Determine the slope of implicit functions using the derivative.

Week 8 "Lecture 17: More Derivative Rules"
Dates: Oct 6 - Oct 7
Required Assignments: Lecture Quiz 17, Canvas HW 17
Time Estimate: 3 Hours
1. Redefine the inverse of a function from the first week of this course.
2. Apply a theorem involving the derivative of an inverse function.
3. Define the derivatives of inverse trigonometric functions.
4. Define the derivatives of $\ln(x)$ and $\log(x)$.
5. Combine the chain rule with these new rules.
6. Review basic logarithmic rules from algebra.
7. Use logarithms to simplify the process of calculating derivatives.
8. Find derivatives of functions involving natural logarithms and logarithms with positive base a.
9. Use the properties of logarithms to simplify functions before differentiating.
10. Use logarithmic differentiation to find the derivatives of functions that can be simplified using logarithms.
11. Find derivatives of functions of the form $f(x)^{g(x)}$.

Week 8 "Lecture 18: Related Rates"
Dates: Oct 8 - Oct 9
Required Assignments: Lecture Quiz 18, Canvas HW 18
Time Estimate: 4 Hours
1. Define related rates.
2. Outline the process of solving a related rate problem.

Week 8 "Unit 2 Review and Exam"
Dates: Oct 10
Required Assignments: None. Study practice exams.
Time Estimate: 5+ Hours.

Unit 3

Week 9 "Lecture 19: Linear Approx. and Differentials"
Dates: Oct 13 - Oct 14
Required Assignments: Lecture Quiz 19, Canvas HW 19
Time Estimate: 3 Hours
1. Define the linearization of a function $f(x)$.
2. Use the equation of the tangent line to estimate the value of a more complicated function.
3. Define the differential.
4. Use the differential to approximate the actual change in function value.
5. Find the linear approximation of a function at a point.
6. Use a linear approximation to approximate a function at a point.
7. Calculate differentials.
8. Use differentials to estimate absolute and relative error.
9. Calculate the maximum error in using a differential to approximate Δy.

Week 9 "Lecture 20: Extreme Values/ Critical Points"
Dates: Oct 15 - Oct 16
Required Assignments: Lecture Quiz 20, Canvas HW 20
Time Estimate: 3 Hours
1. Define the absolute extrema of a function.
2. Define the Extreme Value Theorem.
3. Define the relative (local) extrema for a function.
4. Define critical numbers.
5. Define Fermat's Theorem.
6. Use critical numbers to locate the extreme values of a function.
7. Find the absolute extrema of a continuous function on a closed interval.

Week 10 "Lecture 21: Mean Value Theorem"
Dates: Oct 20 - Oct 21
Required Assignments: Lecture Quiz 21, Canvas HW 21
Time Estimate: 2 Hours
1. Define the Mean Value Theorem and Rolle's Theorem.
2. Apply MVT and Rolle's Theorem to specific examples.

3. Find the value(s) guaranteed by Rolle's Theorem and the Mean Value Theorem.

Week 10 "Lecture 22: First Derivative Test"
Dates: Oct 22 - Oct 23
Required Assignments: Lecture Quiz 22, Canvas HW 22
Time Estimate: 2 Hours
1. Relate the first derivative of $f(x)$ to the graph behavior of $f(x)$.
2. Locate intervals where $f(x)$ is increasing or decreasing.
3. Use the first derivative to locate relative extrema.
4. Determine the intervals on which a function is increasing or decreasing.
5. Determine whether a critical point leads to a local maximum, local minimum, or neither.

Week 10 "Lecture 23: Concavity, Second Derivative Test"
Dates: Oct 24 - Oct 26
Required Assignments: Lecture Quiz 23, Canvas HW 23
Time Estimate: 2 Hours
1. Define concave up and concave down for a function $f(x)$.
2. Identify how the second derivative relates to the concavity of $f(x)$.
3. Apply the test for concavity using the second derivative.
4. Define inflection point.
5. Find inflection points of a given function.
6. Define the second derivative test.
7. State the Concavity Test and the Second Derivative Test.
8. Determine the intervals on which a function is concave upward or concave downward.
9. Use the Second Derivative Test to determine if a critical point is a local maximum or a local minimum.
10. Sketch the graph of a function by using the first and second derivatives.

Week 11 "Lecture 24: L'Hopital's Rule"
Dates: Oct 27 - Oct 30
Required Assignments: Lecture Quiz 24, Canvas HW 24
Time Estimate: 3 Hours
1. Define L'Hôpital's Rule.
2. Classify the seven indeterminate forms.
3. Practice many examples involving indeterminate limits and applying L'Hôpital's Rule.
4. Identify when a limit is an indeterminate form.
5. Use L'Hôpital's Rule to evaluate indeterminate forms of type $\frac{0}{0}$ and $\frac{\infty}{\infty}$.
6. Rewrite indeterminate forms of type 0^0, $\infty - \infty$, ... so that L'Hôpital's Rule can be applied.

Week 11 "Lecture 25: Curve Sketching"
Dates: Oct 29 - Nov 2
Required Assignments: Lecture Quiz 25, Canvas HW 25
Time Estimate: 4 Hours
1. Identify important features of graphs such as: domain, intercepts, symmetry, and asymptotes.
2. Reflect on how $f'(x)$ and $f''(x)$ affect the shape of the graph.
3. Synthesize all we have learned so far to sketch a picture of the graph of $f(x)$.

Week 12 "Lecture 26: Applied Optimization"
Dates: Nov 3 - Nov 6
Required Assignments: Lecture Quiz 26, Canvas HW 26
Time Estimate: 4 Hours
1. Outline the process of solving an optimization problem.
2. Define objective and constraint function.
3. Utilize the first and second derivative to optimize a given objective function.
4. Explore a multitude of applications involving optimization.
5. Revisit the first derivative test and place it in context to absolute extreme values.

Week 12 "Unit 3 Review and Exam"
Dates:Nov 5
Required Assignments: None. Study practice exams.
Time Estimate: 5+ Hours

Unit 4

Week 12 "Lecture 27: Antiderivatives"
Dates: Nov 7 - Nov 10
Required Assignments: Lecture Quiz 27, Canvas HW 27
Time Estimate: 2 Hours
1. Define antiderivative.
2. Define general antiderivative.
3. Practice finding general antiderivatives.
4. Review many past differentiation formulas.
5. Solve initial value problems.
6. Find antiderivatives of functions by reversing differentiation rules.
7. Find a unique antiderivative if given an initial condition.
8. Find a position function if given either a velocity or acceleration function.

Week 13 "Lecture 28: Areas, Riemann Sums"
Dates: Nov 10 - Nov 13
Required Assignments: Lecture Quiz 28, Canvas HW 28
Time Estimate: 3 Hours
1. Execute finding the area under any curve.
2. Define the left, midpoint, and right Riemann sums for estimating area under the curve.
3. Practice examples of estimating the area under the curve.
4. Implement summation notation as an aid in Riemann Sum calculations.
5. Develop applications of Riemann sums to different scenarios.
6. Represent the area under a curve as the limit of a Riemann sum.
7. Recognize the relationship between an antiderivative of the speed of an object and the area under the curve of the speed function.

Week 13 "Lecture 29: The Definite Integral"
Dates: Nov 14 - Nov 18

Required Assignments: Lecture Quiz 29, Canvas HW 29
Time Estimate: 3 Hours
1. Define the definite integral.
2. Use the notation involved with integrals.
3. Express a summation as a definite integral and vice versa.
4. Define the notation of a signed area.
5. Evaluate the definite integral by interpreting as the signed area under the curve.
6. Evaluate integrals using summation notation.
7. Organize various properties of definite integrals.
8. Use the definition of the definite integral to evaluate the area under a curve.
9. State the properties of the definite integral and use them to evaluate and find bounds for definite integrals.

Week 14 "Lecture 30: The Fundamental Theorem of Calculus"
Dates: Nov 19 - Nov 20
Required Assignments: Lecture Quiz 30, Canvas HW 30
Time Estimate: 2 Hours
1. Define parts 1 and 2 of the fundamental theorem of calculus.
2. Combine the chain rule with part 1 of the fundamental theorem of calculus.
3. Practice integration.
4. Solve for the exact area under a curve with $f(x) > 0$ for the entire interval.
5. Relate the fundamental theorem of calculus with antiderivative discussion in L27.
6. Apply properties of the integral.
7. Calculate various integrals using antiderivatives.

Week 14 "Lecture 31: Net Change Theorem"
Dates: Nov 21
Required Assignments: Lecture Quiz 31, Canvas HW 31
Time Estimate: 2 Hours
1. Define the Net Change Theorem.
2. Relate the Net Change Theorem to the fundamental theorem of Calculus.
3. Explore applications of the Net Change Theorem.
4. Contrast total distance traveled and displacement.
5. Use the integral to calculate displacement and total distance traveled.
6. Understand the difference between a definite integral and an indefinite integral.
7. Calculate the net change of a function given its rate of change.

Week 15 "Thanksgiving Break"
Dates: Nov 24 - Nov 30
Required Assignments: Spend time with family and friends.
Time Estimate: 0 Hours and 0 Minutes

Week 16 "Lecture 32: Integration: Substitution Method"
Dates: Dec 1 - Dec 2
Required Assignments: Lecture Quiz 32, Canvas HW 32
Time Estimate: 3 Hours
1. Define the substitution method for integrals.

2. Practice using the substitution method for integration.
3. Determine whether a function is even, odd, or neither.
4. Use the symmetry of a function (even or odd) to evaluate definite integrals.

Week 16 Final Exam Review Dates: Dec 3
Required Assignments: None. Study practice exams.
Time Estimate: 10+ Hours

Important Fall 2025 Academic Dates and Deadlines

Classes Begin	Monday, January 12
Drop/Add	January 12 - January 16
Withdrawal deadline (full refund)	Friday, January 16
Withdrawal deadline (25% refund)	Febuary 6
Drop deadline (no refund)	April 10
Classes end	Wednesday, April 22

Holidays (no classes)

Martin Luther King Jr. Day	January 19
Spring Break	March 14 - 21

Note: While some aspects of this course are permanent (grading scheme, attendance policy, course objectives, etc.) other details in the syllabus may change. Decisions made to benefit student learning, such as pushing back deadlines or eliminating certain topics/readings may impact the information on this syllabus. All important changes will be communicated clearly through Canvas.

Course Schedule

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	January 12 L1 - L2 (Precalc Review)	January 13 Meet your TA	January 14 L2 - L3 (Precalc Review)	January 15 Meet your TA	January 16 L3 - L4 (Precalc Review)
2	January 19 Holiday - No Class	January 20 Quiz 1: L1 - L4	January 21 L5 - Limits Introduction	January 22 Quiz 1: L1 - L4	January 23 L6 - Limits Continued
3	January 26 L7 - Continuity	January 27 Quiz 2: L5 - L6	January 28 L8 - Indeterminate Forms	January 29 Quiz 2: L5 - L6	January 30 L9 - The Derivative
4	February 2 L10 - The Derivative as a function	February 3 Quiz 3: Attendance Quiz	February 4 Exam 1 Review **EXAM 1 L1 - L10 8:20PM - 10:00PM**	February 5 Quiz 3: Attendance Quiz	February 6 L11 - Power and Exponential rules
5	February 9 L12 - Product and Quotient Rule	February 10 Quiz 4: L11 - L12	February 11 L13 - Rates of Change	February 12 Quiz 4: L11 - L12	February 13 L14 - Derivatives of Trigonometric Functions
6	February 16 L15 - Chain Rule Part 1	February 17 Quiz 5: L13 - L14	February 18 L15 - Chain Rule Part 2	February 19 Quiz 5: L13 - L14	February 20 L16 - Implicit Differentiation Part 1
7	February 23 L16 - Implicit Differentiation Part 2	February 24 Quiz 6: L15 - L16	February 25 L17 - Logarithmic Differentuation	February 26 Quiz 6: L15 - L16	February 27 L18 - Related Rates
8	March 2 L19 - Linear Approximations and Differentials	March 3 Quiz 7: Attendance Quiz	March 4 Exam 2 Review **EXAM 2 L1 - L18 8:20PM - 10:00PM**	March 5 Quiz 7: Attendance Quiz	March 6 L20 - Extreme Values, Fermat's Theorem, Critical Points
		(L15 repeated in quiz)		(L15 repeated in quiz)	

Week	Monday	Tuesday	Wednesday	Thursday	Friday
9	March 9 L21 - Rolle's Theorem and Mean Value Theorem	March 10 Quiz 8: L19 - L20	March 11 L22 - First Derivative Test	March 12 Quiz 8: L19 - L20	March 13 L23 - Concavity and Second Derivative Test
10	March 16 Spring Break	March 17 Spring Break	March 18 Spring Break	March 19 Spring Break	March 20 Spring Break
11	March 23 L24 - L'Hopital's Rule Part 1	March 24 Quiz 9: L21 - L23	March 25 L24 - L'Hopital's Rule Part 2 and L25 - Curve Sketching Part 1	March 26 Quiz 9: L21 - L23	March 27 L25 - Curve Sketching 2 and L26 - Applied Optimization Part 1
12	March 30 L26 - Applied Optimization Part 2	March 31 Quiz 10: Attendance Quiz	April 1 Exam 3 Review	April 2 Quiz 10: Attendance Quiz **EXAM 3 L19 - L26 8:20PM - 10:00PM**	April 3 L27 - Antiderivatives
13	April 6 L28 - Areas and Riemann Sums Part 1	April 7 Quiz 11: L27	April 8 L28 Pt 2 and L29 - The Definite Integral Part 1	April 9 Quiz 11: L27	April 10 L29 - The Definite Integral Part 2
14	April 13 L30 - The Fundamental Theorem of Calculus	April 14 Quiz 12: L27 - L29	April 15 L31 - Net Change	April 16 Quiz 12: L27 - L29	April 17 L32 - The Substitution Method for Integrals
15	April 20 L32 Pt 2	April 21 Optional Review No Quiz	April 22 Final Exam Review	April 23 Reading day (No class) No Quiz	April 24 Reading day (No class)
16	April 27 UF Finals week	April 28 UF Finals week	April 29 UF Finals week	April 30 UF Finals week	May 1 UF Finals week
Final Exam - Saturday, April 25 (7:30 AM - 9:30 AM) (Cumulative L1-L32)					