Calculus with Analytic Geometry I
MAC 2311 Flipped Lecture
4 Credit Hours
Fall 2023

Instructor:	Rhea Shroff
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Office Hours:	TBD

Main Lectures:

MWF Period 4 (10:40 AM - 11:30 AM) LIT 201

Discussion Section	Time	Location	TA
6013	T Period 2 (8.30 am - 9.20 am)	LIT 221	Kundu
3653	T Period 8 (3.00 pm - 3.50 pm)	LIT 233	Cho

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

MAC 2311 is the first semester in the three-semester sequence MAC 2311, MAC 2312, MAC 2313 covering basic calculus. The course consists of analytic geometry; limits; continuity; differentiation of algebraic, trigonometric, exponential and logarithmic functions; applications of the derivative; inverse trigonometric functions; differentials; introduction to integration; and the fundamental theorem of calculus. (M) Credit will be given for, at most, one of MAC 2233, MAC 2311 and MAC 3472. MAC2311 credit will also provide credit for MAC2233, but not the other way around.

General Education Objectives and Learning Outcomes

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.

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. 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, 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 one week after a score has been posted to contact your TA if you believe there has been a recording error. There is no grade dispute at the end of the semester.**

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.

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 (online)

For online sections of this course, pre-recorded lecture videos will be posted, one corresponding to each of our 32 lecture topics this semester. The lecture videos are assigned as we moved throughout the semester and it is your responsiblity to watch the lecture videos and attempt the lecture quizzes by the due dates. Since the course is online, it is imperative that you designate weekly times that you will devote to this course.

Lecture Quizzes

After each lecture video, you will take a short canvas quiz on the material covered that particular day. The three lowest lecture quiz grades will be dropped at the end of the semester.

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 within one week of receiving the score.**

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

Tests

Mid-term exam dates are as follows:

Wednesday, September 20, 8:20PM - 10:00PM

Tuesday, October 17, 8:20PM - 10:00PM

Tuesday, November 14, 8:20PM - 10:00PM

Makeup: TBD, 6:15 PM - 7:55 PM (tentative)

Final: Monday, December 11th, 12:30 PM - 2:30 PM

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 Monday, December 11th. 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 Homework

USE FIREFOX 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 of any technical difficulties that may arise.
Online Xronos assignments will be assigned in groups based on the exam period. 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.

All assignments will have posted due dates and these due dates will not be extended under any circumstance.

Personal computer issues, will NOT be a reason to offer any type of extension.

Class Participation

Students are expected to stay on track with the release of each lecture video. In a typical week, a student is expected the watch and take notes on three lecture videos and complete the corresponding online lecture quizzes and Xronos Homeworks.

Make-up Policy

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 (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.

• **Make-up Xronos HW**: There are no make-ups. 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.

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.

Grading

Xronos Homework: 15%

Lecture Quizzes: 15%

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

Final Exam: 25%

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

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 those 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:

catalog.ufl.edu/ugrad/regulations/info/grades.aspx

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

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.

Free Help 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 9:30 to 4:00. 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 SE Broward 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.

  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**.

- Office of Academic Support offers free one-on-one and small group tutoring sessions to an UF students. See http://oas.aa.ufl.edu/tutoring.aspx for details.

- 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 has some informative information on developing math confidence. Go to
  http://www.counseling.ufl.edu/cwc/DevelopingMath-Confidence.aspx
  for information on math confidence and information on joining the Academic Confidence Group.

Calculators Calculators are **NOT** permitted on exams and discussion assignments. Please avoid using a calculator on homework as it will not help you prepare for the exams.

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 distruptive 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), www.dso.ufl.edu/drc/. 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

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.

- 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.uf 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 www.dso.ufl.edu/sccr/.

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 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 Fall 2023 Academic Dates and Deadlines

Classes Begin	Wednesday, August 23
Drop/Add	Wednesday, August 23 - Tuesday, August 29 (11:59 PM)
Withdrawal deadline (full refund)	Tuesday, August 29 (11:59 PM)
Withdrawal deadline (25% refund)	Friday, September 15
Drop deadline (no refund)	Monday, November 20
Classes end	Wednesday, December 6

Holidays (no classes)

Labor Day	Monday, September 4
Homecoming	Friday, October 6
Observation of Veteran's Day	Friday, November 10
Thanksgiving Break	Wednesday, November 22 - Saturday, November 25

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

Week	Monday	Tuesday	Wednesday	Thursday	Friday
9	October 16 Review for Exam 2	October 17 **Exam 2 (L12-L18)** Discussion: Review only	October 18 L19 - Linear Approximations and Differentials	October 19	October 20 L20 - Extreme Values, Fermat's Theorem, Critical Points
Due		No Quiz		Quiz 7: L18-L19	
10	October 23 L21 - MVT and Rolle's Theorem	October 24	October 25 L22 - First Derivative Test	October 26	October 27 L23 - Concavity and Second Derivative Test
Due		Quiz 8: L19-L20		Quiz 8: L19 - L20	
11	October 30 L24 - L'Hopital's Rule pt. 1	October 31	November 1 L24 - L'Hopital's Rule pt. 2	November 2	November 3 L25 - Curve Sketching
Due		Quiz 9: L21 - L23		Quiz 9: L21 - L23	
12	November 6 L26 - Applied Optimization pt. 1	November 7	November 8 L26 - Applied Optimization pt. 2	November 9	November 10 Holiday
Due		Quiz 10: L24-L25		Quiz 10: L24 - L25	
13	November 13 Review for Exam 3	November 14 **Exam 3 (L19-26)**	November 15 L27 - Antiderivatives	November 16 Discussion: Review Only	November 17 L28 - Areas and Riemann Sums
Due		No Quiz		No Quiz	
14	November 20 L29 - The Definite integral pt. 1	November 21	November 22 Thanksgiving Break	November 23 Thanksgiving Break	November 24 Thanksgiving Break
Due		Quiz 11: L27-L28		No Quiz	
15	November 27 L29 - The Definite integral pt. 2	November 28	November 29 L30 - The Fundamental Theorem of Calculus	November 30	December 1 L31 - Net Change
Due		Quiz 12: L28 - L29		Quiz 11: L28 - L29	
16	December 4 L32 - The Substitution Method for Integrals	December 5	December 6 Review for Final Exam	December 7 Reading Day - No Classes	December 8 Reading Day - No Classes
Due		No Quiz			

Monday, December 11 - Final Exam (12:30 PM - 2:30 PM) (Cumulative L1-L32)