

MAC2311 - ANALYTIC GEOMETRY AND CALCULUS 1

Fall 2022

Instructor:	David Burrell	Time:	Lecture: 11:45–12:35 MWF Discussion: Check One.uf
Email:	DavidBurrell@ufl.edu	Place:	Lecture: LIT225 MWF Discussion: Check One.uf

Course Pages:

1. [Canvas Course Page](#)
2. [Instructor Webpage](#)

Prerequisites: Appropriate score on the ALEKS placement assessment, or MAC1147 (or its equivalent, both MAC1140 and MAC1114) with a C or better.

Objectives: This course will introduce students to the following concepts:

- Limits
- Derivatives
- Integration

Upon completion, students will be able to understand the theory as well as applications and be prepared for MAC2312.

Course Description: MAC2311 is the first in the three semester sequence MAC2311, MAC2312, and MAC2313 covering basic calculus. Topics will include:

- Functions
- Inverse Functions
- Limits
- Continuity
- Differentiation of Algebraic and Trigonometric Functions
- Applications of Derivatives
- Integration
- The Fundamental Theorem of Calculus
- Applications of Definite Integrals

MAC2311 begins with a short review of precalculus topics. **You should already be competent in working this material.** We **strongly recommend** that students who are having difficulty with the precalculus review material consider first taking MAC1147, a four credit precalculus course reviewing essential precalculus skills.

A minimum grade of C (not C-) in MAC2311 satisfies the four credits of general education requirement and also satisfies the pure math portion of the state Writing/Math requirement.

Tentative Course Outline:

Prerequisites	Week 1
Limits	Week 2
Continuity & Indeterminate Forms	Week 3
Derivatives	Week 4
Rules of Differentiation & Rates of Change	Week 5
Derivatives of Trigonometric Functions & Chain Rule	Week 6
Implicit Differentiation	Week 7
Derivatives of additional Function types & Related Rates	Week 8
Related Rates, Linear Approximation & Extrema	Week 9
Mean Value Theorem, Monotonicity & Concavity	Week 10
L'Hopital's Rule & Curve Sketching	Week 11
Applied Optimization & Antiderivatives	Week 12
Riemann Sums & Definite Integrals	Week 13
Definite Integrals	Week 14
Fundamental Theorem of Calculus, Net Change & Substitution Method for Integrals	Week 15
Substitution Method for Integrals	Week 16

Main References:

- OpenStax, *OpenStax Calculus Volume 1* <https://openstax.org/books/calculus-volume-1/pages/1-introduction>

E-Learning Canvas: E-learning canvas, a UF course management system, is located at <https://ufl.instructure.com/>. All course information 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.**

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: This class will take a different form than you may be used to. You will be responsible for watching pre-recorded lectures online at the course site **before** coming to class. We will spend most of our class time working on problems and exploring the concepts of calculus in small groups. There is a lot of research showing that students learn and retain information better in this environment. Come to class ready to participate. Once again, you **need** to watch the videos and do the lecture quizzes online before you come to class. If you do so, then you will ask better questions and you will perform better in the course.

Lecture Quizzes: After watching the lecture videos online, you will take a short quiz on the material covered in the video. **These quizzes must be completed before the in-class lecture covering the material.** Only three attempts are allowed per lecture quiz. The online lecture quizzes are worth 5% of your final grade, and the two lowest lecture quiz grades will be dropped at the end of the semester.

Class Participation: Attendance of lecture and discussion section is highly recommended. Atudents who come to class and participate are more likely to do well in the course. Participation will be a part of your grade and how it is calculated will be explained in class. It will be a total of 8% of your grade.

Discussion Section: Discussion sections meet once a week on Thursday. These meetings give you a valuable opportunity for open discussion of the lecture material and assigned problems in a smaller class setting. **Attendance in discussion is required as it is where assessment of your skills 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.

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

Discussion Quizzes: There will be weekly quizzes during your discussion, based on the homework. Quizzes make up a total of 10% of your grade. The quizzes will be administered by your TA and any questions about the grades should be directed to them.

Online Homework: In this course we will be using the online platform Xronos which is free of charge and will be explained during class. Online homework assignments will be assigned daily and must be completed by the specified due date. There will be a total of three dropped homework grades at the end of the semester.

Important Dates:

Exam 1	Sept 22nd
Exam 2	Oct 19th
Exam 3	Nov 16th
Final	Dec 12th

Make-up Policy: All make-up work must be arranged with your instructor.

- **Exam Conflicts - UF during term Assembly Exam Policy:** "Exams may be held Monday - Friday from 8:20-10:10PM for the fall and spring 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. If two exams are scheduled at the same time, assembly exams take priority over time-of-class exams. When two assembly exams conflict, the higher course number takes priority. Instructors giving make-up exams will make the necessary adjustments." If MAC2311 is the lower course number, students must inform their instructor in person 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 your instructor at least **one week prior** to the event. You must present documentation of a UF sponsored event. If illness or other extenuating circumstances cause you to miss an exam, contact your instructor (no later than 24 hours after the exam) by email. Then, as soon as possible after you return to campus, bring the appropriate documentation to your instructor. You will be allowed to sign up to take a make-up exam at the end of the semester.
- **Make-up HW:** There are no make-ups
- **Make-up Class Participation Points:** There are no 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/incompletes.html>. If you meet the criteria, you must see your instructor 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 Policy:

Homework	7%
Lecture Quizzes	5%
Discussion Quizzes	10%
Participation	8%
Exam 1	15%
Exam 2	15%
Exam 3	15%
Final Exam	25%

Grading Scale			
Grade	Minimum Percent Required	Grade	Minimum Percent Required
A	90%	A-	87%
B+	84%	B	80%
B-	77%	C+	74%
C	70%	C-	67%
D+	64%	D	60%
D-	57%	E	Below 57%

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/>

Academic Honesty: All students are bound by the following statements as set forth in the universities honor code.

- We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honest and integrity.
- On my honor, I have neither given nor received unauthorized aid in doing this assignment.

More details can be found at:

<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.

Students Requiring Accommodations: Students requiring classroom and exam accommodation must first register with the [DRC](#). This should be done at the earliest possible time.

Calculators: Calculators are **not** permitted on exams and discussion assignments.

Electronic Devices: Electronic devices of any type (Phones, tablets, etc.) are **not** permitted on exams and discussion assignments. Usage (defined as having out/ in your hand) will result in a grade of zero and possible disciplinary action.

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/>.