

Math 2250: Calculus I for Science and Engineering

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Fall 2021

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Office Hours: TBA

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Web: <https://dzackgarza.com/courses/2021/Fall/2250/>

Meetings: MWF 9:10–10:00, Tu 2:20–3:35

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Class Meeting Times and Locations:

- MWF 9:10 – 10:00 AM (Boyd 204)
- Tu 2:20 – 3:35 PM (Geography/Geology 155)

Intro and Basic Logistics

Welcome to the Fall 2021 section of Math 2250, *Calculus I*.

 **Please read this document carefully..**

There is a great deal of uncertainty due to COVID, and both course and university policies are subject to change throughout the semester.

This syllabus is a general plan for the course; deviations may be necessary as the semester progresses. Any changes will be announced to the class via email or ELC.

Respect and Inclusion

In this course, you will be treated with respect, and I welcome and celebrate individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability — and other visible and nonvisible differences.

As a member of this class, you are expected to contribute to a respectful, welcoming, inclusive and safe space for other class members. Please treat them as the friends and colleagues that they are!

About Me and Contact

- My pronouns: He/Him/His
- Email/Contact Etiquette:
 - In emails, please take advantage of this opportunity to practice professional etiquette! If you have not emailed in a professional context before, I personally find the advice here quite complete (and a fun read):
[How to Email Your Professors](#)
 - I am a graduate student instructor, so I do not have the title of “Dr.”. I am perfectly content to be addressed as “Zack” or “Professor Garza” (or whatever you feel most comfortable with).

Website

- The website for this section can be found at
<https://dzackgarza.com/courses/2021/Fall/2250/>.
You can also find a course calendar here.
- The math department maintains a special web page for this course on their official website.
<https://www.math.uga.edu/2250>

Office Hours

- My personal office hours: **TBD**
- Meetings can also be arranged by appointment.
 - Can be held via Zoom or in-person.

- Email to arrange specific times, at least 48 hours in advance.
- Include several potential days/times when you are available.

Course Details and Format

- We will discuss the limit, the derivative, and the antiderivative, both conceptually and computationally. Throughout the semester, we will use calculus concepts to model and solve various problems in science and engineering, with particular emphasis on graphs, optimization problems, and basic integration problems
- This course will run in a **flipped** format.
 - This means that you will be able to watch recorded lectures for this class on your own time, which includes a worksheet. These include the more fundamental topics, so we can focus on more nuanced concepts in class.
 - * You will watch videos before class, attempt assigned practice problems, and spend class time working problems.
- We will be using Zulip as an online forum to communicate with each other about homework questions outside of class sessions. You can create an account here:

<https://uga2250fall2021.zulipchat.com/>

Learning Outcomes

At the end of the semester, a successful student will be able to:

1. Calculate and interpret basic trends, rate, and accumulation using the limit, the derivative, and the integral, respectively.
2. Use a function's graph to:
 - a. Identify increasing/decreasing behavior and critical numbers of the first or second derivative of the function
 - b. Identify extrema
 - c. Determine limits
 - d. Identify points of continuity/discontinuity
 - e. Identify asymptotes
 - f. Identify points where function is/is not differentiable
3. Use information (a formula or table and/or first or second derivative, etc.) about a function to predict:
 - a. Behavior of the function and/or its first or second derivative
 - b. Extrema
 - c. Limits
 - d. Points of continuity/discontinuity
 - e. Asymptotes
 - f. Identify points where function is/is not differentiable
4. Apply calculus to solve an application problem by selecting an appropriate model, identifying an appropriate calculus technique, using the calculus technique on the model to solve the problem, and interpreting the solution in context.

5. Effectively communicate mathematics, in writing and orally, with their peers and with the course instructor.

Textbook

- The textbook is **OpenStax Calculus Volume 1** <https://openstax.org/details/books/calculus-volume-1>. The book is available free online; you do not need a physical copy of the textbook.
- You may use a TI-30XS Multiview for assignments completed in this class. No other calculators will be allowed on exams and quizzes.
 - Examples of calculators that are not allowed: TI-34, basic four-function, Casio (any model), TI-30X IIS, TI-36X Pro. If you are not sure if your calculator is allowed, I will look at it for you.

Homework

Much like musical or athletic skill, Mathematics is best learned by practice: both working problems and discussing/communicating them with others.

Pre-class Assignments

- Each day that you present a complete pre-class workbook assignment at the beginning of class, you will receive full credit for that day's pre-class assignment.

This means filling in everything in the relevant Guided Exercises, and making a reasonable attempt at each of the Practice On Your Own (POYO) Problems.

Gradescope

All worksheets are submitted through [gradescope.com](https://www.gradescope.com)

- The entry code is **X3KJEJ**.
- For each submission, you should complete and submit the worksheets as images or PDF files.
- Options for completing worksheets:
 - Annotate a PDF on your tablet/phone.
 - Print, fill out by hand, and scan or take a picture.

Quizzes and Exams

- Our tests are scheduled to occur in our physical classroom during our scheduled class meeting time. Any student who is unable to test in our classroom is required to notify the instructor immediately
- The final exam is **cumulative**, and will be held at the following date/time:
Tuesday, December 14, 2021, from 7 p.m. to 10 p.m.

Grading

Final scores will be calculated using the following distribution:

40%	4 Midterm Exams (equally weighted)
25%	Final Exam
15%	Quizzes
15%	Pre-Class Assignments
5%	In-Class Problems and Participation

Final letter grades are assigned as follows:

A	A-	B+	B	B-	C+	C	C-	D
92%	89%	87%	82%	79%	77%	72%	69%	60%

- Regrade requests or questions about grading are perfectly welcome. Try to submit them to me **within one week** of work being returned.

Policies

Course Communications

- You are responsible for all announcements made during class meetings, regardless of whether or not you are physically/virtually in attendance.
- Announcements will also be posted on the website, ELC, or sent via email.
 - Try to stay in contact with other students in the class to ensure you do not miss critical information.

Missed Assignments and Make Ups

Work can only be submitted after its due date in exceptional circumstances – please reach out ASAP if you know in advance that you will miss something.

Academic Accommodations

If you anticipate any issues related to the format or requirements of this course, please contact me. We can discuss ways to ensure your full participation in the course.

If formal, disability-related accommodations are necessary, it is vital that you register with the Disability Resource Center (Voice: 706-542-8719 or TTY: 706-542-8778), and notify me of your eligibility for accommodations. We can work together to figure out how to best address your needs.

Academic Integrity

- As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code.
- All academic work must meet the standards described in "A Culture of Honesty" found at: <https://ovpi.uga.edu/academic-honesty/academic-honesty-policy>.
- *Ignorantia juris non excusat*: "Ignorance of the law does not excuse." **Lack of knowledge of the academic honesty policy does not excuse any violations.**

- Questions related to course assignments and the academic honesty policy should be directed to the instructor.

FERPA Notice

- The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights; see the registrar's explanation at <https://reg.uga.edu/general-information/ferpa/>.
- FERPA allows disclosure of directory information (name, address, telephone, email, date of birth, place of birth, major, activities, degrees, awards, prior schools), unless restrictions are requested in a written letter to the registrar.

Student Care

Being at the university can be stressful, and we have high expectations for all of our students. We also understand that you may face difficulties beyond what happens in the classroom and may be overwhelmed by a number of different things. If you are struggling and feel that you are falling behind please reach out to me.

- Please keep in touch with the Office of Student Affairs, sco@uga.edu, they have many options and resources available.
- If you know of any student facing difficulties and requires help, please contact the Office of Student Care and Outreach:

https://uga-advocate.symplicity.com/care_report/index.php/pid837919?