Emory University
MATH 210 – Sections 1 & 2
Advanced Calculus for Data Sciences
Spring 2022

Instructor: Andrew J. Kobin
Office: Math & Science Center E425
Email: ajkobin@emory.edu

Class location: Math & Science Center N306
Class meeting time: MW 10AM - 10:50AM
Office Hours: TBD

Teaching Assistants & Sections:

Name	Email	Section #
Alexis Newton	alexis.newton@emory.edu	1
Max Auerbach	maxwell.auerbach@emory.edu	2

The following are some course guidelines. They should serve as an outline of my expectations for you as a student, and of what you can expect from me as an instructor.

Prerequisites: Math 111 or equivalent

Course Description: This course is a short treatment of Math 112 (Calculus II) and Math 211 (Advanced Calculus). Topics include: advanced integration techniques, Taylor series, multivariable differentiation and optimization, as well as applications to statistics and data science.

Textbook: Advanced Calculus for Data Science, a set of notes created for the course by Mike Carr. These are available on Canvas. Two optional supplements are James Stewart's *Calculus: Early Transcendentals*, 8th ed., and Stewart's *Multivariable Calculus*, 8th ed.

<div align="center">

Assessments

</div>

Classwork: During Monday and Wednesday meetings, you will be completing classwork assignment collaboratively, with a small group of fellow students. I will collect one packet from each group approximately once per week, to be graded. Many Monday quizzes (see below) will incorporate problems and concepts from classwork assignments the previous week. If you miss a class meeting when a classwork is collected, you may submit the classwork online within 48 hours to still receive a grade. No classworks will be accepted later than that.

Labs: In your Friday section, you will work collaboratively with classmates to complete lab assignments. The assignments are written and will be submitted in Python, using Google's Colaboratory platform. You will need a Google account to participate in these assignments. When classes are in-person, you will also need to bring a computer or tablet to your Friday section.

Homework: You will be asked to submit written homework solutions approximately every two weeks. This will be my primary tool for evaluating your ability to write a complete solution to a mathematical problem. Keep in mind that on quizzes and exams, your entire solution will be evaluated, not just the answer.

Quizzes: Each Monday except for midterm weeks, you will take a short (10-15 minute) quiz on the material from the previous week. Quizzes are closed notes and closed book. No makeup quizzes will be granted, but your two lowest quiz scores will automatically be dropped.

Discussion Forum: It's likely that you will have questions as you review your notes and complete homework assignments. Those that occur to you will likely also occur to other students. You should raise these questions at the course Discussion Forum, accessed through Canvas. Your activity on the forum can lead to up to fifteen extra credit points towards your Quizzes grade.

Reflections: Each week, you will identify what course material needs to be revisited through weekly submissions of course-related reflections. Responses are submitted through Canvas after class each Wednesday and before your lab section meets on Friday. For each thoughtful reflection statement you submit, you will earn two extra credit points towards your Quizzes grade.

Midterms Exams: There will be two midterm exams given during your Friday lab section, on **February 18** and **March 25**. You will be given the full class period (50 minutes) to take each midterm. Any conflicts with the midterm dates must be reported to me at least one week before the midterm date. No makeup exams will be given.

Final Exam: The final exam will be given during finals week on **Wednesday, May 4, from 8 to 10:30AM**. The final exam is comprehensive. Conflicts with the final exam time slot must be reported through the Office for Undergraduate Education (OUE).

Course Grade: The course grade will be determined as follows:

Classwork & Labs:	10 points
Homework:	10 points
Quizzes:	10 points
Midterm 1:	20 points
Midterm 2:	20 points
Final Exam:	30 points
	100 points possible

The number of points you earn will be mapped to a letter grade as follows:

A+: [98, 100]	A: [93, 98)	A-: [90, 93)	B+: [87, 90)	B: [83, 87)	B-: [80. 83)
C+: [77, 80)	C: [73, 77)	C-: [70, 73)	D+: [67, 70)	D: [63, 67)	D-: [60, 63)

In borderline cases, your letter grade may be higher—the one assigned to the interval immediately above the one your point total lies in. *A+ is not an official grade at Emory, but you'll have my eternal admiration.*

Policies

Attendance and Classroom Etiquette: My philosophy is that a college student is primarily responsible for her/his own academic success. Accordingly, regular attendance and participation will be expected but not recorded. That being said, consistent absence will be a detriment to your ability to keep up with the coursework. Please come to class on time, minimize distractions, and stay for the entire class period. Because of the special circumstances surrounding the COVID-19 situation, it is especially important that you focus on your learning experience as well as that of your classmates. Your TA may have additional policies, which you should follow as if they were in this coursewide syllabus.

Remote learning: All Emory classes will meet online until January 31. The following are a set of additional guidelines for Math 210 during this period and for any future remote learning periods:

- Monday and Wednesday lectures will meet over Zoom - see Canvas for the recurring Zoom link.

- Friday sections will meet over Zoom - see Canvas for the recurring Zoom link provided by your TA. Additional policies will be explained by your TA during the first Friday meeting.

- Please log in on time, minimize distractions and stay for the entire class period.

COVID-19 policies: In accordance with the University's COVID-19 policies, masks must be worn at all times while indoors. Any changes to the University's policies during the semester will be followed as they are implemented.

Learning needs: As an Emory instructor, I am committed to creating a learning environment that meets the needs of the University's diverse student body. If you anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with me. If you have a disability, or think you may have a disability, you may also contact the Department of Accessibility Services (DAS), to request an official accommodation. You can find more information about DAS, including how to apply online, through their website at https://accessibility.emory.edu/. If you have any questions about eligibility for DAS accommodation, please don't hesitate to ask me!

Honor code: The Honor Code will be strictly observed in this class. Please remember to pledge each quiz and exam.

How to succeed in Math 210

Here are my suggestions for succeeding in this course:

- Fully engage yourself in classroom discussions and in Friday lab sections, asking and answering questions when appropriate.

- Seek understanding rather than relying on memorized formulas.

- Collaborate! The flipped classroom format is especially conducive to creating a welcoming environment for all of us to share problem-solving ideas. In addition, I encourage students to work together outside the classroom.

- Get involved in the Discussion Forum on Canvas. You can earn extra credit for posting new questions and answering classmates' questions.

- Take advantage of office hours and/or tutoring through EPASS.

- It is nearly impossible to become proficient in mathematics without working problems yourself. Devoting sufficient time and attention to homework and other practice problems is crucial to success in this course.

Important Dates:

Classes start	Tuesday, January 11th
Discussion sections start	Friday, January 14th
Last day to add/drop a course	Tuesday, January 18th
In-person classes resume	Monday, January 31st
Midterm 1	Friday, February 18th
Last day to withdraw from a course	Friday, March 4th
Midterm 2	Friday, March 25th
Last day of classes	Monday, April 25th