

Class Meetings: Monday, Wednesday, Friday 9:05-9:55 AM, in ECCR 110

Instructor: Eric Stade (email: stade@colorado.edu)

Office Hours: Mondays 10:10-11:10 AM, Wednesdays 2-3 PM, Thursdays 2-3 PM, in MATH 305.

Prerequisites: Either MATH 2001 or MATH 2002, plus one of the following: MATH 2130, MATH 3130, MATH 2135, or MATH 3135 (all with minimum grade C-)

Course Canvas page: <https://canvas.colorado.edu/courses/90462>

Required Text: *Analysis with an Introduction to Proof*, Fifth edition, by Stephen R. Lay

This text is accessible online through our Canvas page. (Click on the “Course Materials” link on the left side of our Canvas home page.) If you prefer a hard copy, these are available at the CU Bookstore, on Amazon, etc.

Additional required notes: *Stuff about Proofs and Other Phenomena* (a.k.a. “S-POP”), available on our Canvas page, or at <https://math.colorado.edu/~stade/AnalysisI/proofs-3001.pdf>.

Additional (optional) reading: *Book of Proof* by Richard Hammack, available on our Canvas page, or for free at <https://www.people.vcu.edu/~rhammack/BookOfProof/>

Mathematics Academic Resource Center, also known as “The MARC.” You may seek assistance with your math questions at the Mathematics Academic Resource Center, in Math 175. Hours and other details may be found at <https://math.colorado.edu/marc/>.

About the course. The main goals of this course are twofold. The first goal is to further develop, enhance, and expand your mathematical reasoning capabilities and proof-writing skills. The second is to explore a variety of familiar Calculus notions—functions, limits, differentiation, sequences, series, integration, and so on—from the perspective of rigorous, formal mathematics. Our work towards either of these goals will always be done with an eye towards promoting the other.

We will work through roughly the first seven chapters of the course text *Analysis with an Introduction to Proof*, as well as parts of Chapters 8 and 9 as time permits.

Requirements and grades. Your grade in this course will be computed on the basis of:

(a) Exams (50% of your final grade).

You will have an **in-class** midterm on Friday, March 3, and a **take-home** midterm due Friday, March 17. You will also have an **in-class** final exam on Tuesday, May 9, 1:30-4 PM.

Among the three exam scores, the lowest score will be dropped. The remaining two exam scores will each count for 25% of your course grade, for a total of 50%.

(b) Homework (25% of your final grade). Written assignments will be due **by the start of class on Fridays**. (No homework will be due on the first Friday of classes, or on either of the “midterm” Fridays—March 3 and March 17.)

All assignments will be posted on our Canvas page. Late homeworks will not be accepted, with the following exceptions: **Assignments 1 and 2 may each be handed in anytime before the start of class on Friday, February 10.**

Any (otherwise) late or unsubmitted homework assignment will receive a grade of zero. Your lowest **four** homework scores will be dropped.

(c) Online and group activities (15% of your final grade). From time to time, there will be in-class activities that you will complete with your classmates, in small groups. Occasionally, there will also be short online activities that you can complete individually. This work cannot be made up. However, you may miss up to **three** of these activities without penalty.

(d) Canvas discussions (7% of your final grade). On our Canvas page, there is a “Topics in Analysis” discussion that you will be asked to participate in weekly. If you make meaningful posts to this discussion at least once a week, you will get the full seven points for the semester.

There will be additional discussion threads set up for posting, or responding to, questions about class, homework, etc.

You can score an additional “extra credit” point or two for the semester for being a particularly active participant in Canvas discussions.

Postings to “Topics in Analysis” for a given week are due by 10 PM on the Sunday at the end of that week.

(e) Participation and attendance (3% of your final grade). Please come to class, on time, and be attentive and engaged. I will take attendance on occasional, random days, and will take note of repeated absence or lateness. If you’re frequently absent or late, your grade in this category will suffer. Points will also be deducted if you are physically, but not mentally, present, e.g. spending the class period on social media and whatnot.

You will get the full three points for regular attendance and participation over the course of the semester.

Please see the “Guidelines for written assignments” header under “**ADDITIONAL IMPORTANT COURSE INFORMATION**” on our Canvas home page, for important instructions on completing written assignments of any kind, including homework and the take-home exams.

Other important information. Please see the “Important policy information” header under “**ADDITIONAL IMPORTANT COURSE INFORMATION**” on our Canvas home page, for information regarding classroom behavior, requirements for COVID-19, preferred student names and pronouns, disabilities, religious holidays, discrimination and harassment, and the CU Honor Code.