

Math 10850: Honors Calculus I, Fall 2020

Instructor: Prof. Andrew Putman

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Webpage: <http://www.nd.edu/~andyp/teaching/2020FallMath1050/>

Class Hours: MWF 11:40-12:30

Classroom: Online via Zoom

Tutorials: Thursdays (see below)

Office Hours: tba based on survey, also by appointment

Topics: This course is the first in a year-long sequence giving a rigorous treatment of one-variable calculus, starting from the first principles of logic. There will be almost no overlap with traditional calculus courses. Instead, the main focus will be teaching you to construct and write mathematical proofs. My goal is to initiate you into the practice of mathematics.

Text: I will mostly follow the fourth edition of *Calculus* by Spivak. This book is a classic and has served as the introduction to mathematics for many generations of mathematicians. To quote from a review by Fernando Gouvêa, “Students find it very hard, as one might expect. But they also understand that they are getting the real thing, that they are being treated as intellectual adults.”

Tutorials: There will be a mandatory tutorial with the TA each Thursday. There are two sections of this, and you should sign up for one of them. This will give you an opportunity to ask questions you didn’t get to ask during the lecture, as well as to discuss the homework. Most weeks there will be a short quiz.

Getting help: There are three main ways for you to get help:

1. The weekly tutorials.
2. The office hours.
3. Finally, the **math bunker** in the basement of Hayes–Healey in the space that used to be occupied by the math library. This is staffed Sunday–Thursday 7pm–9pm by older honors math majors. This is a great way to get your questions answered, meet your fellow students, and become part of the greater Notre Dame undergraduate math community.

Homework: Homework will be due every Friday by 5pm, and will be posted to the course webpage. You should put it in my mailbox on the second floor of Hurley Hall next to the math department’s main office. It will be returned during the tutorial. It will be graded both for correctness and on the quality of the mathematical writing. I encourage you to type it up. I also **strongly** encourage you to form study groups and work on the homework as a team!

Exams: There will be two midterm exams and one final exam. The midterms will be held on Sept 18th and Oct 23rd during the class period. Though the class period is only 50 minutes, I would like for the midterms to last one full hour. Please let me know by the end

of the second week if this will be a hardship for you due to your class schedule, and I will find a makeup time that works for those for whom this won't work.

Grading:

20% Homework (lowest dropped)

15% Quizzes (lowest dropped)

20% Midterm 1

20% Midterm 2

25% Final

Health and Safety Protocols: In this class, as elsewhere on campus, students must comply with all University health and safety protocols, including:

- Face masks that completely cover the nose and mouth will be worn by all students and instructors;
- Physical distancing will be maintained in all instructional spaces;
- Students will sit in assigned seats throughout the semester, which will be documented by faculty for purposes of any needed contact tracing; and
- Protocols for staged entry to and exit from classrooms and instructional spaces will be followed.

We are part of a community of learning in which compassionate care for one another is part of our spiritual and social charter. Consequently, compliance with these protocols is an expectation for everyone enrolled in this course. If a student refuses to comply with the University's health and safety protocols, the student must leave the classroom and will earn an unexcused absence for the class period and any associated assignments/assessments for the day. Persistent deviation from expected health and safety guidelines may be considered a violation of the University's "Standards of Conduct," as articulated in *du Lac: A Guide for Student Life*, and will be referred accordingly.

Health Checks and Attendance: Every morning, members of the Notre Dame Community will be asked to complete a daily health check and submit their information via the Return to Campus Advisor application. The health check application will indicate one of the following:

- (a) Student is cleared for class and should attend class in person; or
- (b) Student is advised to stay home to monitor symptoms and should participate in class virtually and complete all assignments and assessments; or
- (c) Student must consult a healthcare provider and should contact University Health Services (UHS) for an assessment. In the meantime, the student should participate in class virtually and complete all assignments and assessments. Depending on the medical assessment, UHS will follow the University's standard protocol for obtaining an excused absence for medical reasons.