Math 185: Honors Calculus I
Fall 2018, University of Michigan

Instructor: Deniz Bilman, bilman@umich.edu, http://www-personal.umich.edu/~bilman
Office Hours: M 5–6 PM, W 9–10 AM and 5–6 PM, @ 1830 East Hall

Course Assistant: Alex Wang, alxwang@umich.edu
Assistant Office Hours: M 4–5 PM, W 6–7 PM @ The Math Atrium in East Hall (2nd Floor)
Recitation Hour: W 4–5 PM @ 4088 East Hall

Course Meeting Times
Math 185 Section 1 meets MWF 1:00–2:20 PM in 1339 MH
Math 185 Section 2 meets MWF 2:30–3:50 PM in G168 AH

Textbooks
Required text: Calculus, 4th edition
by Michael Spivak

Recommended Text: Calculus and Linear Algebra, Vol. 1
by W. Kaplan and D. Lewis (available online1)

Course Goals and Topics
The goal of this course is to develop the concepts of calculus using a rigorous and theoretical approach. In particular, with its emphasis on how to use appropriate mathematical language, this course lays a solid foundation for future math courses, and is suitable for students intending to pursue a major in mathematics, science, or engineering who desire a more complete understanding of the underpinnings of calculus.
Topics covered include the real number system, functions and graphs, limits, continuity, derivatives, and integrals, along with a bit of linear algebra. This corresponds roughly to Chapters 1–14 of Spivak, and Chapter 1 of Kaplan and Lewis.

Alternative Courses
Math 115 covers similar topics but with less abstraction and less emphasis on theory and proofs. Math 295 covers the material of this course and much more at a more rapid pace and with an even stronger emphasis on abstraction, theory, and proofs.

Grading
Course work will be weighted according to the following percentages:

| homework assignments: 15% | midterm 1: 25% | midterm 2: 25% | final exam: 35% |

Homework
Homework will be assigned every week on Friday. Each assignment is due the following Friday in class at the beginning of class. No late homework will be accepted. Late homework includes assignments handed in during or at the end of the class period on the due date. Each homework set will be graded out of 10 points, with 4 points for completeness and 6 points for correctness. Only certain problems will be graded for correctness, and you will not necessarily know which ones these are before submitting your homework.

Students are expected to write homework solutions independently. You are allowed (and in fact, encouraged) to work together on homework assignments, but you must write up your solutions independently. Your solutions may be typed or written by hand, but they should be clear and legible and show all of your work. Please staple your homework before turning it in.

1Simply search for the title and authors using Google, or go to http://quod.lib.umich.edu/s/spobooks/5597602.0001.001--calculus-and-linear-algebra-vol-1-vectors-in-the-plane.
EXAMS

There will be two in-class midterm exams and one final exam. Midterm exams will last 80 minutes and the final exam will last 2 hours.

First Midterm: Monday, October 8, in class  
Second Midterm: Wednesday, November 14, in class  
Final Exam: Friday, December 14, 10:30am-12:30pm

The exam dates are firm. Travel plans will not be considered a sufficient excuse to take an examination on a different date. Alternate exams will be available only to students who have a serious emergency or grave academic conflict. Grave academic conflict is defined as having two examinations scheduled so that you cannot physically attend both, or having four or more examinations scheduled on the same day. Conflicts will be verified through the undergraduate office.

Students with conflicts or special exam-taking requirements should contact me, with appropriate documentation if applicable, by Friday, September 21.
No calculators, note cards, books, or other outside materials are allowed on the exams.

WEBSITE

There is a Canvas site for the course (separate sites for Section 1\(^2\) and Section 2\(^3\)) that every registered student should have access to. Please verify by Friday, September 7 that you are able to access this site. Announcements and course materials, including handouts, homework assignments, and workshops, will be posted to this site.

\(^2\)https://umich.instructure.com/courses/241469  
\(^3\)https://umich.instructure.com/courses/242563

Ann Arbor, August 2018