

Welcome to Math H54!

Instructor: Yu-Wei Fan

Office Hours: Tuesdays 2:30-4pm and Wednesdays 12-1:30pm at 735 Evans (subject to change)

You are encouraged to drop by!!

Lecture: Tuesdays and Thursdays 9:30-11 at 3 Evans

Discussion Section: Mondays, Wednesdays, and Fridays 11-12 at 740 Evans

Graduate Student Instructor: Kubrat Danailov. **Office Hours:** TBA

Course Website: <https://ywfan-math.github.io/h54f19.html>

I will frequently update the course website with class information and new materials (e.g. new homework assignment, change of office hours, etc.). You are responsible for making sure you are up to date with it.

Textbook: Lay, Nagle, Saff, and Snider, *Linear Algebra and Differential Equations* (UC Berkeley custom edition). Part of homework will be assigned by the exercise numbers in the textbook, so it is important to get the correct edition!

Topics: Linear algebra: Basic linear algebra; matrix arithmetic and determinants; vector spaces and inner product spaces; eigenvalues and eigenvectors; linear transformations.

Differential equations: Homogeneous ordinary differential equations; first-order differential equations with constant coefficients; Fourier series and partial differential equations.

Honors Course: This course is aimed at students with a strong ability and interest in mathematics. I will follow the curriculum for Math 54 but will try to provide greater rigor (real proofs), greater insight, and more interesting exercises. I don't expect the grading scale to be either higher or lower than for regular Math 54, but you will have to do more thinking to get a good grade; I hope that you will enjoy this. If you start H54 but find in a few weeks that it is not the course for you, it should be possible to transfer to regular Math 54 and not be at a disadvantage. For more information on honors courses in the math department, see the department's web page on honors courses.

Homework: Homework will be assigned weekly. Assignments will be posted no later than midnight on Tuesday and will be due at the beginning of the discussion section on the following Wednesday. You have to staple your work if it is more than a page.

As a rule late homework will not be accepted under any circumstances. If you have a medical circumstance that prevents you from turning in homework, you will need a doctor's note to receive an extension. Furthermore, a note that merely says "Student visited today" is not very helpful; it's better to have a note that says something like "Student may be unable to complete assignments for the next N days." This will help me decide what length of extension is appropriate.

You are encouraged to work together on the assignments. In your solutions, you should acknowledge the students with whom you worked, and you should write your solutions on your own. For any solution you submit, you should understand it well enough that you can explain it to someone else and answer questions about it. If you find yourself writing down things that you can't explain, you should go back and think more about the problem. Otherwise you're doing yourself a disservice, and you might suffer more when it comes time to take the midterms/exam.

Quizzes: Quizzes will be given on most Fridays in discussion section. There will be no makeup quizzes, but the lowest quiz score will be dropped. One purpose of the quizzes is to help make sure that you keep up with the material. Later parts of the course depend heavily on the earlier parts, so it can be hard to catch up if you fall behind.

Exams: We will have two in-class midterms and a final exam. No books, notes, or any electronic devices (including but not limited to calculators and phones) are allowed during the tests.

First Midterm: October 3, in class

Second Midterm: November 7, in class

Final: December 17, 3-6pm

There will be no makeup exams. However, you can miss one midterm without too much damage, as explained in the grading policy below. On the other hand, missing both midterms or missing the final will seriously harm your grade. **Please check the dates now to make sure that you have no unavoidable conflicts!** (Check the final exam schedule at: <https://registrar.berkeley.edu/scheduling/academic-scheduling/final-exam-guide-schedules>)

Grading: Homework 10%, Quizzes 10%, Two Midterms 20% each, Final exam 40%

The lower score of the two midterms will be replaced by the score of the final if this increases your total score. The lowest homework grade and the lowest quiz score will be dropped.

Honour Code: All students are expected to act honourably and not cheat. Any evidence of cheating or other violations will be reported to the Office of Student Conduct and Student Community Standards, and if found responsible for academic misconduct may receive sanctions ranging up to suspension or dismissal from the university. Cheating includes, but is not limited to: using an unapproved calculator, books, or any form of notes on tests; copying directly from any source, including friends, classmates, tutors, or a solutions manual; allowing another person to copy your work; taking a test in someone else's name, or having someone else take a test in your name; or asking for a regrade of a paper that has been altered from its original form.

Attendance: You are expected to come prepared and actively participate in every lecture and discussion section. In the event of an absence, you are responsible for all missed material, assignments, and any announcements made in class.

Regrading: If an error in grading has been made, you must submit a regrade request to me, along with the homework or midterm, within one week of the date it was returned in class. You may not change or add to your work.

Students in need of Special Accommodations: UC Berkeley complies with the regulations of the Americans with Disabilities Act of 1990 and offers accommodations to students with disabilities. If you are in need of classroom or testing accommodations, please make an appointment with the DSP office to discuss the appropriate procedures. More information is available on their website: <http://dsp.berkeley.edu>. Please also make an appointment with me to discuss your accommodation, if necessary, no later than one week into the semester.

Incomplete grades, according to university policy, can be given only if *unanticipated events beyond your control* (e.g. a medical emergency) make it impossible for you to complete the course, and if you are otherwise passing (with a C or above).