

Math 54 section 101 syllabus
Summer Sessions 2010, UC Berkeley

Class hours: MTWTF 8:10–10AM in room 2 Evans Hall
Instructor: Semyon Dyatlov <dyatlov@berkeley.edu>
Course webpage: <http://math.berkeley.edu/~dyatlov/54summer10>
Grading: 15% Homework
15% Quizzes
20% Midterm 1: Friday, July 9, 8:10–10AM in 2 Evans
20% Midterm 2: Friday, July 30, 8:10–10 AM in 2 Evans
30% Final exam: Friday, August 13, 8:10–10 AM in 2 Evans

Math 54 is an introduction to linear algebra and differential equations. The material covered in this course is extremely important both because it is applied in a variety of disciplines (actually, it is quite hard to come up with an area where it *cannot* be used) and because it develops concepts that form the basis of many areas of modern mathematics. Therefore, we will spend time both on computing things and on understanding and explaining why our computations make sense and what the meaning behind them is.

Since we are to cover a variety of topics in as little as eight weeks, the pace of the course will be very demanding. To make time an ally, I suggest that each of you do the following:

- Read the textbook **before** the material is covered in class. The course has many complicated ideas, and they take a lot of time to sink in. Even if you feel like you know everything written in the textbook, you might discover some gaps in your understanding while doing homeworks or solving problems in section. These are not to be ashamed of — everybody has them and identifying what exactly you do not understand means that you are halfway to success. Also, I might not be able to spend enough time on some topics, in which case you will be required to read them in the textbook yourselves. I encourage you to ask me any questions you have about the material.
- Come to class **every day**. With such a rapid pace of the course, missing even one section or homework assignment will require considerable effort to catch up. This is complicated by the fact that the topics later in the course are often based on the preceding material. If you think that you are falling behind, please come and talk to me.
- Do all the homework assignments. These get rather heavy at times, and this is intentional — sometimes there is just no substitute for repetitive drills. If you do not know how to solve a problem, you can always come to office hours and I will be happy to explain. There is also a solution manual to the first textbook (Lay) on the CD attached to the back cover.
- Do not relax if you feel that the course is easy during the first two weeks. The material gets increasingly hard towards the end.

We meet for two hours five days a week. Please note that we are on Berkeley time, which means that classes start at 8:10, not at 8. (I will be there at 8 to answer any questions you might have.) Contrary to what is written in the online schedule, both hours are in room 2 Evans. Even though the first hour is labeled as lecture and the second one as a discussion section, in practice we will have a two-hour mixture of lecture and discussion every day. You can only attend the lecture and discussion section for which you are registered.

The **textbooks** for this course are Lay, *Linear Algebra and Its Applications* and Nagle, Saff, and Snider, *Fundamentals of Differential Equations and Boundary Value Problems*. Both books have custom Berkeley editions sold in campus bookstores, and having these custom editions is strongly encouraged. You are asked to bring the textbook to class meetings, as some of the problems we solve in class will be from there.

Your **letter grade** will be assigned based on the sum of raw scores of homework, quizzes, two midterms, and the final exam. The grading policy for this course will be based on a curve; however, I reserve the right

do determine where the middle point of the curve is, based on the actual performance in the course. As a guideline, the grade distribution for Math 54 in the recent years was 25% A, 35% B, 25% C, and 15% D/F. Grades of I (Incomplete) are permitted only in exceptional circumstances such as serious illness, and are subject to university regulations, which require that one have kept up with the coursework until such circumstances had arisen, and maintained a passing grade on the work completed. To make up an incomplete, one typically takes the final exam for another Math 54 course, taught by a different instructor, in the following semester.

Exams are given on Fridays of the third, sixth, and last week of class during the regular class hours in the regular classroom. The duration of each exam is 110 minutes. No written materials are permitted and electronic devices must be turned off during exams or quizzes, unless indicated otherwise. There will be no make-up exams. If you miss one midterm, then the final exam will count for 50% of the grade instead. If you miss the final exam or both midterms, then you will fail the course.

Homework is due every Monday and Thursday in the beginning of the class. There is no homework due the first week of classes. The homework due on Monday, July 5 (an administrative holiday) will be collected on Tuesday, July 6 instead. Several problems will be chosen semi-randomly from each assignment and each will be graded out of 1 or 2 points. Lowest 3 homework scores will be dropped; however, late homework will not be accepted. Collaboration while solving homeworks is welcome, but you have to write your own solutions. The list of homework assignments, as well as hints and answers for certain problems, will be posted on the course website.

Quizzes are held on Tuesdays and Fridays and take the last 10-20 minutes of the class. There are no quizzes during the first week of class. On the exam weeks, quizzes will be held on Tuesdays and Thursdays. Quizzes will typically cover the material from the homework due the previous day. Each quiz will be graded out of 10 points. Lowest 2 quiz scores will be dropped; however, there will be no make-up quizzes. Past quizzes with solutions will be posted on the course website.

The **office hours** for this week are M 10–11, W 1:30–2:30, and Th 3:30–4:30. My office is 858 Evans. We might occasionally have optional class meetings to cover something we did not have time for in class, or to hold review sessions.