

Linear Algebra - Math 110 - Fall 2005 - MWF 1-2pm in 2050 VLSB

Professor: Jim Demmel, 737 Soda Hall, 643-5386, demmel@cs.berkeley.edu

Office Hours (tentative): M 9-10am (starting Sep 12), T 1-2pm starting Sep 6), W 9-10am (Aug 31 only), W 10-11am (starting Sep 7)

Class Homepage: <http://www.cs.berkeley.edu/~demmel/ma110>, for announcements, lecture notes, etc.

TAs: Chu-Wee Lim, limchuwe@math

Zak Mesyan, zak@math

Farmer Schlutzenberg, farmer@math

David Zywina, zywina@math

The TAs will announce their section numbers and office hours during section. We will also post them on the webpage.

Enrollment: Barbara Peavy (967 Evans, 642-2479, peavy@math) is in charge of admitting students on the waiting list. Address all questions to her.

Text: *Linear Algebra* 4th edition, by Stephen Friedberg, Arnold Insel, and Lawrence Spence is available in local bookstores. A list of errata is available on the class web page, including homework questions.

Prerequisites: Math 54, or a course with equivalent linear algebra content.

Syllabus: The course catalog says:

Matrices, vector spaces, linear transformations, inner products, determinants. Eigenvectors. QR factorization. Quadratic forms and Rayleigh's principle. Jordan Canonical Form, applications. Linear functionals.

This is a good approximation of the material in chapters 1-6 of the textbook, much of which we plan to cover.

Final Exam: The final is Friday, Dec 16, 5-8pm, and will cover material from the entire semester. A makeup final will *only* be given for (1) unexpected circumstances beyond your control, documented by a signed note from a physician or equivalent, (2) conflict with another scheduled exam, or (3) a religious holiday. You are required to bring a student photo ID and blue-covered exam book to the exams.

Midterms: The first midterm will be Friday, October 7, in class, and cover Chapter 1 and as much of Chapter 2 as we cover by then (details later). The second midterm will be Monday, November 14, and cover everything since the first midterm. There will be no makeup midterms; instead your other exams grades will be used as described below under Grading. You are required to bring a student photo ID and blue-covered exam book to the exams.

Quizzes: The weekly quizzes, given during Thursday section, will be short and intended to make sure you keep up with the reading. There will be no makeup quizzes; instead, the lowest 3 grades will be dropped.

Homework: Homework is due at the beginning of the (Thursday) section for which it is assigned. A few problems on each weekly homework assignment will be chosen at random to be graded by the readers. You are encouraged to work in groups in homework, but you must each turn in your own work. No late homework will be accepted, since answers will be available on the web page the day after they are due. The lowest 3 homework grades will be dropped. The material in this class can only be learned by doing lots of problems, so the homework is very important.

A tourist stops someone on the street in New York City and asks how to get to Carnegie Hall. The response is "Practice! Practice! Practice!"

Grading: Grading will be 40% final, 20% each for two in-class midterms, 10% weekly quizzes during section, and 10% weekly homework. Each midterm grade will be taken to be the maximum of the actual midterm grade and the final grade. This means that a missing midterm grade will be replaced by the final grade. In other words, the grade will be calculated by the formula

$$Grade = .4 * Final + .2 * \max(Midterm1, Final) + .2 * \max(Midterm2, Final) + .1 * Quizzes + .1 * Homework$$

where all scores are between 0 and 100.