

Linear Algebra – Math 320 – Fall 2005

MWF 2:30-3:25 – Serra 310

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Office Hours: M 3:30-4:30, T 1:30-4:30, F 1:30-2:30

Supplies

Text: *Introduction to Linear Algebra*, Third Edition, by Strang

Grading Scale

You can earn points in this class as follows:

Daily Quizzes	.....	5%
Mock Book Write-Up	.....	5%
Homework Presentations	.....	15%
Homework Portfolio	.....	15%
Exam I, Fri Oct 21	.....	30%
Exam II, Mon Dec 19	.....	30%

Participation

You'll be expected to attend and be reasonably awake during class, ask questions when you are confused, make constructive comments to student homework presenters, and participate in any in-class assignments.

Definition Quizzes

In order to be able to successfully write proofs it is essential that you know the definitions and the statements of the main theorems cold. In order to encourage this, we will have a frequent, unannounced, one question quizzes on recent definitions.

Mock Book Write-Up

Students find some topics in this course difficult to understand. Since explaining things in your own words is the best way to crystallize understanding, each group of 2 or 3 students will write one section of a textbook on a topic to be announced (along with the due dates) in class.

Homework

Homework will assigned in almost every class period, and will be graded in two ways. First, every Wednesday will be devoted to student homework presentations – you will be randomly chosen to write up and defend your solution to a homework problem in class (This may change if we get too far behind). Secondly, at the end of the term, you will turn in a Homework Portfolio, consisting of high quality (probably re-written) solutions of all homework problems assigned during the semester. Obviously, you should be working on this throughout the term, and not waiting until the last minute! We will discuss the particulars of these two forms of homework submission in class. Important: You are encouraged to work with other students while solving these homework problems, but *all homework solutions must be written up entirely on your own.*

Exams

There will be 2 exams in the course, one Fri Oct 21 and the other Mon Dec 19 from 2-4. These exams will be closed notes, closed friends, open brain, and under the honor system unless I tell you otherwise.

Cheating

Any student caught cheating will be sterilized so that their genes cannot be passed on to future generations. Additionally, they will be referred to the Honor Council. Note that writing up another person's solution, even if copied out of a textbook or written with the help of a tutor, counts as plagiarism and will be treated as such.

Homework Presentation Rules and Guidelines

Each Wednesday you will have an opportunity to write your solution to a homework problem on the board, and to discuss yours and other students solutions to the homework problems. This will certainly be frightening for most of you the first few times you go up to the board, but it will get easier with time. I will strive to provide a safe and comfortable atmosphere in the class to try to make this less stressful for you. Let's all try for a cooperative and productive learning environment for every student.

Presentation Time Line

1. By Tuesday at 10pm: You should send me an email telling me which homework problems you would like to see solutions to the next day. The subject of the email should be "Linear Algebra" so that I can easily distinguish your emails from those of my other students.
2. On Wednesday at the beginning of class: I will randomly choose 4 or 5 of you to write solutions to some of the homework problems on the board. You will all write at once, and you will have 10 minutes to do so (so you must be prepared!).
3. When everyone is done writing their solutions, we will go through them one at a time. The easier problems may not take much time to check, but the more difficult ones, and especially the proofs, may require more discussion.
4. While we are going through the solutions, it will be **your job** to critique the correctness of the solution and the quality of the write-up. This will be very valuable to you in helping you to develop your critical thinking skills! I may or may not make some of my own comments and suggestions at the end of the class discussion for each problem.
5. When we are finished discussing all problems on the board, a new batch of students will go to the board with a new set of homework problems. We will continue this until the end of the class period.

Homework Presentation Rules

1. The most important rule is that you must be absolutely respectful of other students and their solutions! Everyone is here to learn, and everyone will make mistakes (especially your instructor). It is natural to be confused when you are learning math. Please do make constructive comments and ask questions about presented homework problems – that's how everyone learns, and with your comments, the presenter will be able to produce a much better write-up for his or her portfolio. But you must keep these comments kind, gentle, and respectful.
2. We will not take time on Wednesdays for you to copy the other students' solutions directly from the board into your notes! Remember that turning in another students' words as if they were your own constitutes plagiarism, and will be treated as cheating. If you write another students' words in your notes, by the time you write the solutions up for your portfolio, you might forget that those words were not your own, and then commit an honor code violation.

As a corollary, if one of the problems on the board finds an example of something, you should not copy that student's example, but instead come up with your own example.

3. You may at times be asked to write up a solution to a homework problem that you were unable to solve at home. For this reason, each student will be given three plastic frogs. If you find yourself in this situation, you can ask someone in the class to trade their problem with you, and if they agree, you must give them one of your plastic frogs. At the end of the term, as a bonus to students who have agreed to write up the more difficult solutions, you may turn in the plastic frogs you have collected for extra credit points.

Note – I am good at counting. If I get back more frogs than I handed out, I will know that someone has been dishonest. Resist that urge to go to the toy store to stock up on frogs!!!