Course: Math 129A Linear Algebra, Sec. 3 (Code 43901): MWF 9:30 MH 224
Math 129A Linear Algebra, Sec.3 (Code 43902): MWF 10:30 MH 235

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Office Hours in MacQuarrie 221 Computer Lab: Monday and Wednesday 11:30-1:00
Office Hours in Duncan 339: Wednesday 1:15-2:30 and by appointment

Required text: Elementary Linear Algebra, Spence, Insel and Friedberg, Prentice Hall, 2000. We'll cover most of Chapters 1-6.

About the subject: Linear Algebra is much different from Calculus. Most of your time in Calculus was spent doing algebra problems, but Linear Algebra is more like a literature course. There is still a lot of computation, and it helps to interpret concepts geometrically, but there are abstract ideas you must understand and new language which you have to memorize.

Linear Algebra is very useful in statistics, business, social science, economics, psychology, engineering, physics, chemistry, meteorology, geology, as well as many areas of math. I find this a lovely subject, and hope you will see some beauty too. It is not very hard if you study it properly and don't get behind.

How to study: Spend 2-3 hours before each class. First read the text and work out all the details. Then solve exercises assigned. Keep solutions in a binder and bring when you have questions. Ask questions right away -- by email, or in class, or office hours.

Computer Access: Get an account on the Math Dept. system, or buy Student MATLAB for your computer (instructions on the back).

Homework: Each Monday morning,* turn in a hand-written list of the new terms defined the previous week, together with their definitions. Write these exactly as defined in our text. Typed lists will not be counted!

I will assign about half the problems in each section, but only a few of these will be turned in. I will also assign computer projects from time to time. These are on my website. They are written with MATLAB commands, but for many of these projects and the computer problems in the text, you can use a calculator or other software which has matrix functions (for example, Maple or Mathematica).

Policy on late work: No late homework and no makeup tests except: If you know ahead of time that you must be absent for a test, tell me before and we'll arrange for you to take the test at a different time. Turn HW in early. If you miss a test or HW for an unexpected and serious reason, tell me and I'll grade you on the basis of fewer items.

Grading: 3 tests 50% A = 90-100 First test: Friday, Sept. 12
Definitions 5% B = 80-90 Final exams
Other HW 15% C = 70-79 9:30 class: Mon., Dec 15, 7:15 am
Final Exam 30% D = 60-69 10:30 class: Wed., Dec 17, 9:45 am

Do study with other students. Discuss the ideas of this course and methods for homework. It's amazing how much you can learn from trying to say things so other people can understand them.

However: Your work on tests and quizzes must be entirely your own. The penalty for cheating will be an F on that test, possibly an F in the course. Also, a letter describing the incident will be sent to the Academic Vice President and put into your department and university files. Repeated offenses lead to dismissal from the Univ.

* First definitions are due Wednesday, Sept. 3, 2003, because Sept. 1 is a holiday.
If you wish to be on the waiting list for adding this class:

(a) Say that on your Information Card.
(b) By Friday, Aug. 29, bring a copy of your transcript (unofficial copy is ok), or a copy of your Graduation Checklist (sent to you by Admissions and Records if you’ve applied to graduate). I will use this information to prioritize those who wish to add. Graduating seniors for whom this course is required will get first priority.
(c) There may be space to add a few people during the first three weeks. However, anyone who attends every class and does well on all the assignments and the first test will get an add code on Sept. 15. (Last day to add a class is Sept. 19.)

To drop a class: Through Sept. 12: Easy. Drop by Touchtone. BUT, please let me know if you drop!
After Sept. 12: Hard, and you will get a W on your transcript. To apply, go to the Student Affairs Office in the Administration Building, at 7th St. and San Fernando. Only people in that office can approve a drop (not anyone in Math), and only for a serious and compelling reason beyond your control, such as a family emergency, change in job hours, etc.

Policy on Incompletes: These are almost impossible to get. Please read the SJSU catalog.

Exercises for Chapter 1. Do all of these for yourself. I may ask you to turn in a few of them, as we cover the material.

Section
1.1 1-21 and 31-47 (odd); 48 [M]. Also see handout, “3-D Geometry Assignment due Aug. 29”
1.2 1-13; 23-33 (odd); 34, 44-46, 54 [M], 55 [M]; then 15-21 (odd), 35-37 (all), 39, 42, 47-53 (all)
1.3 1-33 (odd); 34-41 (all); 44, 49, 50
1.4 1-33 (odd), 36, 37, 43-69 (all)
1.5 Computer project
1.6 1-41 (odd); 38-43; 48, 49. XC: 44, 50
1.7 1-35 (odd); 36, 39, 40; 43-49 (odd); 53-56 (all); XC: 50

ABOUT MATLAB

MATLAB is a friendly software environment for matrix calculations, and is widely used by engineers and other scientists. It is available in the Math Department Computer Lab, MH 221. To use this lab, you must have an account on the Math Dept. computer system. I recommend that each of you get a Math Dept. account, even if you plan to use MATLAB at home. Your own equipment could fail at a crucial time, or there could be times when you're on campus and want to do some additional calculation or printing. An account on the CS Dept. system will not work – the CS Dept. does not supply MATLAB.

TWO WAYS TO GET A MATH DEPARTMENT COMPUTER ACCOUNT:

Go to the Math Department Office, MH 308.

Either 1. Ask for an add code for Math 110L. This is a one unit lab course that never meets as a class. Also ask where and when to pick up your computer account number. Using Touchtone, enroll in this course. (For most students this will not cost anything so this is the preferred way.)

Or 2. Ask for the form to apply for a Math Dept. computer account, and pay a $25 fee.

TWO OTHER WAYS TO GET ACCESS TO MATLAB:

3. Buy Student MATLAB at the SJSU or Stanford bookstore for about $100. This comes on a CD-Rom with good Manual. You might find used copies from other students; Version 4 or above will be fine for Math 129A.

4. Students enrolled in some Engineering or Physics courses can use MATLAB in computer labs in those departments. Ask the lab directors if they have MATLAB and if it’s ok for you to do Math homework there. If you plan to do this, let me know so I can supply additional functions and data that accompany my Computer Projects.

If you use MATLAB OUTSIDE THE MATH DEPT., see my web page for how to get special M-files for this course.