

Linear algebra II (Math 129b), Fall 2004
Duncan Hall 318, MWF 10:30am–11:20am (Sec. 01, code 42895)

Instructor: Dr. Tim Hsu (pronounced “shoe”).

Office and phone: MacQuarrie 419, (408)924-5071.

Office hours: MWF 11:30–12:30, MW 1:30–2:30, or by appointment. For a current schedule, see: <http://www.math.sjsu.edu/~hsu/courses/generic/sched.pdf>

E-mail: hsu@math.sjsu.edu. I can be reached by e-mail at most times of the day, and will often answer within a few hours.

Course web page: <http://www.math.sjsu.edu/~hsu/courses/129b/>

Text: *Linear Algebra: Gateway to Mathematics*, Robert Messer.

Grading: Your semester grade consists of:

Homework:	20%
Exam 1:	14%
Exams 2–3:	18% each
Final exam:	30%

Goals of the course. This course has two main goals: to teach you the underlying theory of linear algebra, and to introduce you to **proofs** and **mathematical abstraction**. Much of your classwork, homework, and exam work will therefore consist of reading, writing, and understanding proofs in linear algebra. However, don't worry if you have little or no experience with proof and abstraction; you are not assumed to have any experience with proof, and we'll spend significant amounts of class time talking about methods and concepts of proof.

Prerequisites. You are assumed to have taken Math 129a (Linear algebra I) or equivalent. Specifically, you should know how to add vectors in \mathbb{R}^n ; multiply, row-reduce, and invert matrices; and solve systems of linear equations. You also should have seen ideas like span, linear independence, and dimension, although we will cover those subjects again from scratch.

First homework. To remind you of what you should know, there will be a review homework (PS00) due **Fri Aug 27**. **Failing to turn this homework in on time may prevent you from adding this class.** If you have substantial problems with this homework, you will need to spend a lot of extra time reviewing at the beginning of the class, as we will spend little or no time reviewing computational topics.

Class is a cell/beeper-free zone. Please turn off all cellphones and beepers before you get to class.

Homework. Homework will be due roughly once a week, with an outline of problem set 01 due **Mon Aug 30**, and the final version due **Fri Sep 03**. For more details on homework content and the process of doing homework (including revisions), see the handout on homework.

Specific homework assignments will be determined as the term progresses. For a complete list of all homework assigned to date, and downloadable versions of almost all handouts from class, you can always check the course web page.

Problem sessions. In addition to my regular office hours, starting on **Fri Sep 03** (next week), I will also hold problem sessions for this class every **Fri, 1:30–2:30pm**, in a room to be announced. These sessions are completely optional, and you should be fine without them, but the time is available for those who can make it.

Exams. We will discuss this topic in more detail before the first exam, but briefly, the material on exams will mostly resemble the material from the homework. All exams are closed-book.

Calculators. You will *not* be allowed to use calculators for *any* in-class exams. The numerical work on exams will be simple enough that a calculator shouldn't be necessary, and even if you make numerical mistakes, you won't lose a lot of points on them.

Exam dates. The dates of our three in-class exams and final exam are found on the syllabus below. In particular, the final exam will be held on **Wed Dec 15**, from **9:45am–noon**. Please make sure that you are still on campus at that time (e.g., don't buy a plane ticket that leaves town on Dec 14).

How to add this course. If you are not registered for this course, and you would like to add it, you must first put a full effort into completing all of the work in the course. Second, if you are a graduating senior, you need to produce documentation to verify that.

I'll make a waiting list, which you can get on by filling out the information form for the course. I'll give out add codes starting **Wed Sep 15**, mainly based on completeness of homework, and as long as there is room, I will continue to give out add codes until add date (**Tue Sep 21**). Note, however, that graduating seniors have the highest priority, and that Open University students have the lowest priority.

How to drop this course. Until **Tue Sep 14**, you can drop by Touch-SJSU or <https://my.sjsu.edu>. Nothing will appear on your transcript. However, please tell me if you drop, so someone else can add the course.

To drop after Tue Sep 14, you must go to the student services center and submit a Course Drop form to the Director of Academic Services. Dropping under these circumstances is only allowed for "serious and compelling reasons" (course catalog). A low grade is not a serious and compelling reason.

Syllabus

Date	Reading	Date	Reading
Wed Aug 25 Fri Aug 27	1.1–1.2, 1.5 1.2–1.3, 1.5	Mon Oct 18 Wed Oct 20 Fri Oct 22	Exam 2 6.3 6.3
Mon Aug 30 Wed Sep 01 Fri Sep 03	1.6–1.7 1.7–1.8 1.8	Mon Oct 25 Wed Oct 27 Fri Oct 29	6.4 6.5 Review Ch. 6
Mon Sep 06 Wed Sep 08 Fri Sep 10	Labor day 3.1–3.2 3.2–3.3	Mon Nov 01 Wed Nov 03 Fri Nov 05	8.1 8.1 8.2
Mon Sep 13 Wed Sep 15 Fri Sep 17	3.3 Review Exam 1	Mon Nov 08 Wed Nov 10 Fri Nov 12	8.3 8.3 Review
Mon Sep 20 Wed Sep 22 Fri Sep 24	3.4 3.5 3.5	Mon Nov 15 Wed Nov 17 Fri Nov 19	Exam 3 4.1 4.2
Mon Sep 27 Wed Sep 29 Fri Oct 01	3.6 3.6, 6.1 6.1	Mon Nov 22 Wed Nov 24 Fri Nov 26	4.3 4.4 Thanksgiving
Mon Oct 04 Wed Oct 06 Fri Oct 08	6.2 6.2 6.6	Mon Nov 29 Wed Dec 01 Fri Dec 03	Review Ch. 4 8.4 8.4
Mon Oct 11 Wed Oct 13 Fri Oct 15	6.7 6.8 Review	Mon Dec 06 Wed Dec 08 Wed Dec 15	SVD SVD Final exam, 9:45am–noon