

Math 377, Section 01: Introduction to Linear Algebra And Matrices Spring 2010 Syllabus

1 Course Information

- Location and Time: MWF 11:00-11:50am, 218 Lee Drain Building
- Professor: Dr. Martin Malandro
- Department: Mathematics and Statistics
- Office: 409 Lee Drain Building
- E-mail (preferred method of contact): malandro@shsu.edu
- Phone number: (936) 294-1580
- Office Hours: Mon and Wed 12pm-1pm, Tues 2-3:30pm, and by appointment
- Required Materials:
 - Textbook: David C. Lay, Linear Algebra and its Applications, 3rd edition update
 - Calculator: TI-83 or better recommended.

Course Description: Topics include: solving systems of linear equations, fundamental matrix theory (invertibility theorems, determinants), eigenvectors, and properties of linear transformations. Remaining topics are chosen from: Properties of general vector spaces, inner product spaces, and/or diagonalization of symmetric matrices. Prerequisite: MTH 143. Credit 3.

Course Objectives/Learning Outcomes: A successful student will attain mastery of the following topics. Other topics will also be covered.

- Solving systems of linear equations with matrices
- Invertible matrices
- The equivalence between matrices and linear transformations
- Vectors: linear independence and span
- Determinants: calculation and applications
- Change of basis
- Eigenvalues and eigenvectors
- Inner products and applications

2 Grading Policy

Your grade in the course will be based on the weights in the following table:

Homework	20%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Final Exam	20%

Grading Scale:

A	90% or more points earned
B	80-89% of points earned
C	70-79% of points earned
D	60-69% of points earned
F	Fewer than 60% of points earned

Homework: I will assign homework on a regular basis. I expect you to take pride in the quality and the presentation of your work—in particular, you will neatly write or type each problem statement followed by your solution on one side of the page, using paper without ragged edges (i.e., don't use paper torn out of a spiral notebook). I encourage you to use a separate page for each problem because it makes things neater, but if the problems are short then you may combine them onto one page as long as everything is in order. Staple or paperclip your assignments together in order, and include your name on each page.

If your homework is messy or you otherwise fail to follow directions, I won't grade it.

Homework make-up policy: I won't accept late homework. You can always turn in your homework early—just bring it to my office and slide it under my office door if I'm not there. I recognize that emergencies sometimes arise during the semester, so in calculating your homework average I will drop your (1) lowest homework score.

Exams: Many exam problems will be similar to homework problems or examples worked in class. The final exam will be cumulative.

If you arrive late to an exam, you may still take the exam in the remaining time as long as nobody has finished the exam yet.

Exam make-up policy: If you miss an exam, you will be expected to show appropriate cause in writing. If you must miss an exam, I expect you to contact me beforehand. If that is impossible, then you must contact me no later than 24 hours after the exam. If you miss an exam and have not contacted me by this time, you forfeit your right to a make-up.

Academic Honesty Policy:

- **Homework:** You may work together when solving homework problems and you may consult whatever sources you deem necessary while doing so, but no copying is allowed. Your write-ups must be done by yourself, in your own words, and without outside assistance. SHSU policy defines plagiarism as “the appropriation and the unacknowledged incorporation of another's work or idea into one's own work offered for credit.” Plagiarism includes copying another person's *expression* of a solution, which is why I require that you write up your solutions by yourself. If you work with other students or use information from any outside sources (including Internet sources) while solving a problem, you must acknowledge it with a short note at the end of the problem. Furthermore, in many collaborative efforts, one person will put forth a critical idea that allows a solution to proceed—you should acknowledge that person as well. Here are some example acceptable acknowledgments:
 - “Jason and I collaborated on this problem.”
 - “Amy, Bob, Jason, and I collaborated on this problem. The idea to use the determinant to verify our solution was Bob's.”
 - “Jason and I collaborated on this problem. The main idea in our solution came from the discussion on pages 310–311 in Strang's Linear Algebra book.”
 - “The idea to use the Gram-Schmidt process in my solution came from the third post in this thread on physicsforums: <http://www.physicsforums.com/showthread.php?t=3672>”

Collaboration or lack thereof will have *no effect whatsoever* on your homework grades. I don't mind if you collaborate on every homework problem (although you will probably learn more if you do some entirely on your own). Just write up your solutions by yourself, give credit where credit is due, and you'll be fine.

- Exams: Exams are individual endeavors, where no help is to be given or received. Cheating on an exam includes, but is not limited to, sharing answers or using any form of cheat sheet (note: notes programmed into a calculator count as a cheat sheet).

If you cheat on an exam or plagiarize, I will forbid you from attending further class meetings and assign you a grade of F in the class.

Extra Credit Policy: There may be occasional opportunities for extra credit over the course of the semester. All extra credit opportunities will be announced in class. Under no circumstances will individual extra credit opportunities be available.

Grade Dispute Policy: All grade issues need to be brought to my attention within one week of having your grade returned/posted.

Final Exam Schedule: Wed May 12, 11am-1pm

3 Classroom Policies

Attendance Policy: I expect you to attend every class. If you miss a class, then I expect you to get notes from a classmate. I expect you to arrive to class on time.

Classroom Rules of Conduct: Students must refrain from behavior in class that disrupts the learning process. Students are prohibited from using tobacco products in class, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times or about inappropriate things, wearing inappropriate clothing, using cellphones, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Math-related questions and math-related discussion in the classroom are encouraged. However, chatter is disruptive to the learning process and will not be tolerated under any circumstances. Furthermore, any variation of the question “do we need to know this for the test?” is banned.

4 Tentative Schedule

Chapter 1	Jan 13-Feb 11
Exam 1	Feb 12
Chapter 2	Feb 15-Mar 9
Exam 2	Mar 10
Chapters 3 and 4	Mar 12-Apr 13
Exam 3	Apr 14
Sections 5.1-5.4, Chapter 6, further applications	Apr 16-May 5
Final Exam	Wed May 12, 11am-1pm

The date/time of the final exam is set by official SHSU policy. All other dates in this list are tentative and subject to change.

5 Additional Information

All information on this syllabus is subject to change. All changes will be announced in class. Further university policies regarding academic dishonesty, student absences on religious holy days, disabilities, and visitors in the classroom which apply to this course may be found at <http://www.shsu.edu/syllabus/>. If there is a conflict between information on this syllabus and official university policy, university policy takes precedence.