

Syllabus for MATH 108a
Introduction to Linear Algebra
Fall 2014
MWF 9-9:50a, Phelps Hall 3505

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Text: *Linear Algebra Done Right*, Sheldon Axler, 2nd Edition,

Course Objectives: The primary goal of this course is an abstract treatment of linear algebra and vector spaces. The secondary goal of this course is to improve your ability to understand abstract mathematics, craft logically correct proofs, and write mathematics that can be understood by others.

Grading: The grade distribution for this course is as follows:

Homework	30%
Quizzes	10%
Midterm	25%
Final Exam	35%

Exams: There will be a midterm exam and a final. These exams will be taken during class. The final exam will be cumulative. The exam schedule is as follows:

- Midterm: Wednesday, November 12.
- Final: Wednesday, December 17, 8-11a.

I place value on improving your performance and grasp of the material throughout the course of the quarter. For this reason your score on the cumulative final exam may be used to replace 50% of your midterm exam score. This will be done automatically if it benefits your grade. Please note that the midterm score cannot be used to replace the final. Additionally, all students must take the final exam.

Homework: There will be weekly homework assignments for this course. The assignments will be posted on the GauchoSpace page for our course approximately a week before the due date. If you are enrolled in the course and having difficulty accessing the GauchoSpace page please contact me so that we can resolve the issue and you don't end up missing any homework assignments.

Homework will be submitted at the beginning of class on the day that it is due (typically on Wednesdays). **Late homework will not be accepted.** If you know that you will miss class on a day that homework is due you should either make arrangements with me to submit the homework early or make arrangements for a classmate to submit your homework on your behalf. I understand that emergencies unpredictably happen from time to time, and as a result I will drop your lowest homework score.

The homework problems are designed to reinforce and deepen your understanding of the material presented in lecture. Learning abstract mathematics is not a passive endeavor and so you should expect to spend a significant amount of time grappling with the homework problems. It is my experience that struggling with and working through these types of problems is where much student learning happens. You should attempt to write a clear and concise solution to each and every homework problem. You should initially attempt to solve the problems on your own. If you are unable to complete a problem on your own you should discuss it with your classmates or with me during office hours.

One of the most important aspects of your written homework is clarity of expression. This encompasses not only the mathematical ideas of your proofs, but also of the layout on the actual page. If your homework solutions require more than a single sheet of paper (which they often will) you will be required to staple all pages together. **Homework that is not stapled will not be accepted** and you should not count on a stapler being available in class.

We will have a TA who will grade the homework assignments, however the grader will not have time to grade each problem. As a result, we will select a few problems from each homework set to grade in detail. You will receive more detailed feedback on these problems (which you should look at and take to heart) and a majority of your grade will come from your work on these problems. The remainder of the problems will be graded on a complete/not complete scale and so it is important to attempt each problem.

Quizzes: We will have weekly quizzes (typically on Fridays). These quizzes will take place in the first 5-10 minutes of class. As a result it is important that you arrive to class on time. If you arrive late you will not be allotted extra time to take the quiz. Again, I understand that unexpected things happen and so I will also drop your lowest quiz score.

The quizzes will consist of 1-2 short questions. They will typically focus on recent definitions, recent theorems, and consequences thereof. If you are comfortable with the recent course material then you will find these quizzes to be quite simple. If you are struggling with the quizzes you should make a point to study the definitions and theorems more carefully. I will be happy to help you with this, particularly during office hours.

Expectations: I expect that everyone will maintain a classroom conducive to learning. I like an informal atmosphere, but it must be orderly. Thus, everyone is expected to behave with basic politeness, civility, and respect for others. In particular, talking in class is OK if it's part of a class discussion or with me. Private communications are not permitted, especially during quizzes and tests. I also expect that when you are in class that the mathematics at hand will receive your undivided attention. Indicators that your attention is divided include, but are not limited to:

- Texting,
- Using social media (Facebook/Twitter/etc.), or
- Playing games on your cell phone.

Attendance: While there is not an explicit attendance policy for this course, you are expected to attend each class. If you miss class you are still responsible for the material and class announcements from your time of absence. I do not post notes from the lectures and so you should contact a classmate to secure notes from missed lectures. Furthermore, homework is submitted and quizzes are administered in class and so regularly missing class will likely lower your course grade.

Academic Dishonesty: Cheating and other forms of academic dishonesty will not be tolerated in this course. A summary of the university's policies on academic misconduct can be found here <http://judicialaffairs.sa.ucsb.edu/CMSMedia/Documents/academicintegflyer.pdf>. To summarize, violations of these policies will result in a rather messy affair for you and me, so just don't do it.

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