

Applied Linear Algebra

Math 344 (Section 003), Spring 2024

Meeting Times: T TH, 2:50PM - 4:05PM

Classroom: Leconte College, Room 103

Instructor: Professor Yi Sun

Office: Leconte College, Room 317

Office Hours: T TH, 11:40AM - 1:10PM, or by appointment

Email: yisun@math.sc.edu

Course Website: <http://people.math.sc.edu/yisun/classes/24S-344/index.htm>

Prerequisite: Math 142 with a grade of C or better.

Textbook: Introduction to Linear Algebra (5th edition, 2016), by Gilbert Strang, Wellesley Cambridge Press.

Learning Outcomes: We shall cover the majority of the material presented in Chapters 1-6 of the textbook. Students are expected to master fundamental concepts in linear algebra, including vectors, subspaces, determinants, eigenvalues and eigenvectors of matrices, etc. Additionally, students should be able to apply these concepts and the numerical implementation they have learned to solve problems in context.

Note: there is an optional laboratory course (MATH 344L).

Grading: Quizzes: (20%), 2 Midterms (20% each), Final Exam (40%)

Grading Scales:

[90,100] A	[86, 89] B+	[80, 85] B	[76, 79] C+
[70, 75] C	[66, 69] D+	[60, 65] D	[0, 59] F

Homework: Homework assignments will be posted on the course website and should be completed by the day of the quiz. These assignments are for your practice and will not be collected. However, your performance on periodic quizzes will be used to evaluate your study of the material covered in the homework. The quiz problems will either be the same as, or very similar to, those from the homework. Exam questions will also be related to the homework problems. I strongly encourage you to work all homework problems.

Quizzes: There will be **ten** quizzes given approximately after completing two subsections. Each quiz will contain 2-3 problems that are related to the material covered in class. The quizzes will be conducted in class and will last for 15 minutes. Your cumulative quiz grade will be determined by your performance on these ten quizzes. Please note that no notes or books will be permitted during the quizzes and exams.

Exams: There will be two midterm exams and one comprehensive final exam:

Exam#1: Feb. 13 (Tue.) or Feb. 15 (Thu.).

Exam#2: Mar. 26 (Tue.) or Mar. 28 (Thu.).

Final Exam: April 25 (Thu.)

Makeup policy: Makeup exams and quizzes will only be allowed with **documentation of a university approved excuse**. For instance, if you are unable to attend an exam or quiz due to illness, I expect to receive an email notifying me of your absence, along with a doctor's note upon your return. If you are aware in advance that you will be unable to take an exam or quiz on the scheduled date, please inform me at least one week beforehand so that alternative arrangements can be made.

Attendance: It is expected that you attend all classes. Attendance will be regularly monitored. Arriving late and/or leaving early will be considered as an absence. At the end of the semester, students with more than four unexcused absences may have their grades lowered.

Students are expected to adhere to the university guidelines, which can be found at <http://academicbulletins.sc.edu/undergraduate/policies-regulations/undergraduate-academic-regulations>

How to write solutions: When solving problems for homework, quizzes, and exams, you must provide complete solutions that include all steps described in detail. Use sentences to explain your reasoning, rather than simply presenting the formulas. Do not skip steps in your solutions, even if they may seem obvious to you. If you have any questions regarding the grading of a quiz or exam, please submit them in writing along with the graded quiz or exam.

Reading: It is highly recommended that you read the textbook **before** attending the lecture. This preparation has several benefits, including becoming familiar with the terminology and concepts that will be discussed (allowing you to differentiate between important points and secondary details), being able to ask questions about parts of the presentation that you find unclear, and having an opportunity to review the skills and techniques necessary to apply the new concepts.

Academic Integrity Statement: Cheating and plagiarism will not be tolerated. While you are encouraged to discuss homework problems with others, it is expected that you complete quizzes and exams independently.

Students are expected to adhere to the university guidelines, which can be found at <http://www.sc.edu/academicintegrity>