

Course Syllabus

MATH 344, Applied Linear Algebra, Fall 2023

Meeting Information:

- Classroom Location: Humanities, Room 301.
- Days and Times: *TTH 1:15PM–2:30PM*

Information

Xiaofeng Yang

Email: xfyang@math.sc.edu

Phone: 803-777-3776

Office Location: Leconte 357

Office Hours: MWF 12:00pm-1:00pm (online Zoom) or by appointment, Zoom

Meeting ID and Password: see course webpage

Textbook:

Introduction to Linear Algebra. 4th edition, by Gilbert Strang, ISBN: 978-0-9802327-1-4

Course webpage

type “www.math.sc.edu/~xfyang”, click on Teaching.

Prerequisites:

MATH 241.

Estimated Schedule (Subject to Change)

- chapter 1 Introduction to Vectors: 2 lectures
- Chapter 2 Solving Linear Equations: 5-6 lectures
- Chapter 3 Vector Spaces and Subspaces: 5-6 lectures
- Chapter 4 Orthogonality: 4-5 lectures
- Chapter 5 Determinants: 3-4 lectures
- Chapter 6 Eigenvalues and Eigenvectors: 6-7 lectures

Homework and Quizzes

Homework will be assigned weekly (usually Thursday or Friday), on the course webpage, **but will not be collected**. But you are supposed to do them all. REMEMBER: the more problems you do, the better you understand the material.

Note: There might be (might not be) one **quiz** per week in **Thursday**'s class, and no quiz during the exam weeks. If there are quiz, then the quiz will include 1-3 short questions in one quiz and around 15-20 minutes (subject to change with the difficulty), and two lowest quiz grades will be dropped from the final grade calculation.

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Students are encouraged to work together on homework sets. It is expected that each student in this class conduct himself/herself within the guidelines of the Honor System. All academic work should be done with the level of honesty and integrity that this University demands. Letter grades will be assigned based on the following numerical 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. (The dates are to be determined.)

Exams

There will be **two** midterm exams and a comprehensive final exam. The exams are “closed book” with no books, no notes, no graphing calculators, no labtop comptuer or equivalent technology, etc. You may use the scientific calculator. Picture I.D. is required and must be presented upon request. *There are no early exams or make up exams.* A late exam is only possible for a written legitimate documented reason like doctor’s excuse and Chair or Dean’s approval in advance. Note that student athletes, participating in a USC athletic event and with appropriate documentation, are exempt from this rule. **Important: The final exam is mandatory, no pre-exam and no makeup for any reasons.** You must take your exams with the lecture for which you are registered.

Attendance and Academic Honesty

Attendance at every class meeting is important and expected. By statistics, students may miss up to 10% of the class meetings (around 4 times) can have their grades lowered. Anyone caught cheating or turning in work that is not their own will be dealt with according to University policies.

Grades

* if there is quiz, then the percentage will be

Quiz (20%)

Exam 1 (20%)

Exam 2 (20%)

Final (40%)

* if there are not quiz, then the percentage will be

Exam 1 (25%)

Exam 2 (25%)

Final (50%)

Learning Outcome

Students will master concepts and solve problems based upon matrix algebra, Gauss elimination, iterative methods, overdetermined systems and least squares, eigenvalues and eigenvectors, and numerical implementation.