Instructor: T. Hagstrom
Office Hours: MWF 11:30-12:30, Thursday 14:30-15:30; Other times by appointment.
Office: 208B Clements
Phone: 768-4338
Email: thagstrom@smu.edu
Homepage: faculty.smu.edu/thagstrom/
Text: Lay, *Linear Algebra and its Applications*.

Grading

- Best 6 of 7 in-class quizzes (taken from homework problems) - 150 points.
- 5 Matlab assignments - 150 points.
- Midterm exam - September 30 in class - 100 points.
- Final exam - Monday, 12/14, 11:30-2:30 - 200 points.

To get the most out of class, students should read the text before the lectures. Also, take advantage of my office hours if you have any questions or doubts. A tentative class schedule is attached which lists the sections covered each week, dates for the lab sessions, due dates for the Matlab assignments, and the quiz dates.

There will be 5 computer labs. These will be held during class time in **Clements Hall G15**.
Goals: The purpose of the course is two-fold: first, to understand the basic mathematical structure of linear algebra and the formulation of problems using linear algebra and, second, to solve problems using MATLAB. Specific outcomes include:

i. Students will be able to understand and relate fundamental concepts in linear algebra, such as spanning, linear independence, linear transformations, subspaces, eigenvectors and eigenvalues, and orthogonality and orthogonal projections.

ii. Students will be able to do basic computations in linear algebra, such as solving linear systems, performing algebraic operations with vectors and matrices, finding an inverse of a matrix, finding a basis for a subspace, calculating determinants, finding eigenvectors and eigenvalues, diagonalizing matrices, and performing the Gram-Schmidt process.

iii. Students will be able to use MATLAB for basic computations in linear algebra and apply linear algebra and MATLAB in various linear models, computer graphics, discrete dynamical systems, and differential equations.

Policies

Homework Assignments: Homework assignments will be posted on blackboard and on my homepage. They will not be collected, but the quizzes will consist of homework problems and the exams problems will be inspired by homework problems.

Quizzes and Exams: No calculators will be allowed on quizzes or exams. No notes or books will be allowed on quizzes or the midterm, but the textbook and notes will be allowed on the comprehensive final.

Matlab Assignments: Learning to use Matlab is essential if you want to solve applied problems. We will have 5 lab sessions devoted to learning Matlab and I will show more examples in class. Collaboration with other students is encouraged, but each student is responsible for writing their own assignment and their own Matlab scripts and functions. Copied assignments will not be credited.

Disability Accommodations: Students needing academic accommodations for a disability must first contact Ms. Rebecca Marin, Coordinator, Services for Students with Disabilities (214-768-4557) to verify the disability and establish eligibility for accommodations. They should then schedule an appointment with the professor to make appropriate arrangements.

Religious Observance: Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence.

Excused Absences for University Extracurricular Activities: Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work.

Academic Dishonesty: Students are expected to abide by the Honor Code.
Tentative Course Calendar

8/26-8/28 Sections 1.1-1.2.

8/31-9/4 Sections 1.3-1.5. Quiz 1 on 9/4.


9/14-9/18 Sections 2.2-2.3. Lab 1 on 9/14. Quiz 3 on 9/18.

9/21-9/25 Sections 1.8-1.9, 2.8-2.9. Matlab Assignment 1 due on 9/25.


10/5-10/9 Sections 4.2-4.3. Lab 2 on 10/9.

10/14-10/16 Sections 4.4-4.6. Quiz 4 on 10/16.


10/26-10/30 Sections 5.2-5.3, 5.5. Quiz 5 on 10/30.

11/2-11/6 Sections 5.6-5.7, Lab 4 on 11/6. Matlab Assignment 3 due on 11/2.


11/23 Section 6.4.

11/30-12/4 Sections 6.5-6.6. Matlab Assignment 5 due on 12/2. Quiz 7 on 12/4.

12/7-12/9 Review.

12/14 - FINAL EXAMINATION, 11:30-2:30.