Introduction to Linear Algebra

Last Updated: Fri, 01/02/2026

Course prefix: MATH

Course number: 1553

Section: HP

CRN (you may add up to five):
30558

Instructor First Name: Christopher

Instructor Last Name: Jankowski

Semester: Spring

Academic year: 2026

Course description:

An introduction to linear alegbra including eigenvalues and eigenvectors, applications to linear systems, least squares. Credit not awarded for both MATH 1553 and MATH 1522, MATH 1502, MATH 1504, MATH 1512, MATH 1554 or MATH 1564.

Course learning outcomes:

Linear Algebra is very conceptual compared to most courses that students have previously taken. By the end of this course, it is expected that students will be able to do the following.

A. Solve systems of linear questions.
B. Solve eigenvalue problems.
C. Analyze mathematical statements and expressions (for example, to assess whether a particular statement is accurate, or to describe solutions of systems in terms of existence and uniqueness).
D. Write logical progressions of precise mathematical statements to justify and communicate your reasoning.
E. Apply linear algebra concepts to model, solve, and analyze real-world situations.

Required course materials:

Students are not required to purchase materials for this course. Our textbook is the free online textbook Interactive Linear Algebra, by Margalit and Rabinoff, which can be found at: https://textbooks.math.gatech.edu/ila/

Grading policy:

The components of the class are weighted as follows:
5% Studio participation (two lowest scores dropped)
10% Homework (two lowest scores dropped)
15% Quizzes (lowest score dropped)
15% Midterm 1
15% Midterm 2
15% Midterm 3
25% Final exam

If you score higher on your final exam than on one of the midterms, then your final exam will count for 32.5% of your grade and your lowest midterm will count for 7.5% of your grade. However, any student found guilty of academic dishonesty of any kind in Math 1553 is ineligible for this policy.

CIOS Incentive: If at least 85% of all Math 1553 students complete CIOS evaluations by Tuesday April 28 at 1:00 PM (Atlanta time), we will drop the 2 lowest quiz grades rather than just the lowest quiz grade.

Attendance policy:

Lecture attendance: Students are expected to come to lecture. In the event of an absence, you are responsible for all missed materials, assignments, and any additional announcements or schedule changes given in class. Class disruptions of any kind will not be tolerated. Please show courtesy to your fellow classmates and instructor.

Studio attendance: Starting in the second studio of the semester (Friday, January 23), we will take in-person attendance at each studio. Each participation score will be a grade of 0 or 1 (out of 1). The 3 lowest participation scores will be dropped. Students are expected to arrive on time to the studio for which they are registered, actively participate, and stay for the full duration. Any student who arrives more than five minutes late for studio or leaves before the TA ends studio may be given a 0. A TA may decide to stream or record their studios, but any student who wishes to receive credit for studio participation must attend that studio in person. Our quizzes are also given in studio, so it is a crucial component of the course.

Academic honesty/integrity statement:

Students are expected to maintain the highest standards of academic integrity. All work submitted must be original and properly cited. Plagiarism, cheating, or any form of academic dishonesty will result in immediate consequences as outlined in the university's academic integrity policy.

Core IMPACTS statement(s) (if applicable):

This is a Core IMPACTS course that is part of the STEM area.

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help master course content, and support students' broad academic and career goals.

This course should direct students toward a broad Orienting Question:
How do I ask scientific questions or use data, mathematics, or technology to understand the universe?

Completion of this course should enable students to meet the Learning Outcome:
Students will use the scientific method and laboratory procedures or mathematical and computational methods to analyze data, solve problems, and explain natural phenomena.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:
1. Inquiry and Analysis
2. Problem-Solving
3. Teamwork