University of Connecticut Department of Mathematics

MATH 2210Q–021 Applied Linear Algebra
This Version: March 21, 2026

Session:	Summer Session 2 (7/13/2026 – 8/14/2026)
Instruction Mode:	**Online Asynchronous**
	Lecture recordings will be posted on HuskyCT.
Course Website:	HuskyCT `https://lms.uconn.edu/`
Instructor:	Bin Zou
E-mail:	bin.zou@uconn.edu
Office Hours:	virtual, MW 9:30 – 10:30 am (tentative) or by appointment
Webex Room:	`https://uconn-cmr.webex.com/meet/biz17006`

1 General Course Information

Course Objective

This course is an introduction to the techniques of linear algebra with elementary applications. The objective is to learn, understand, and be able to work with the vocabulary, algorithmic manipulations, main ideas and concepts of linear algebra, including systems of linear equations, matrices, vector spaces (concrete and abstract) and their bases, linear transformations and change of bases matrices, eigenvectors and eigenvalues, orthogonalization, various matrix factorizations, and the applications of these ideas. Since this course is a bridge to more advanced courses where taking an abstract view of things becomes more important, students are expected to learn how to distinguish true statements from false ones, and to give simple explanations and counterexamples.

Course Prerequisites

The Prerequisite for this course is Calculus II, either Math 1132Q or Math 1152Q.
Note: This course is a prerequisite for Math 3210, 3510 and 3710 and is a (highly) recommended preparation course for Math 3230.

Required Textbook

Linear Algebra and Its Applications, 6th ed., by D. Lay, S. Lay and J. McDonald, Pearson. Please purchase **MyLab Access** because all homework will be assigned via MyLab.

Course Website

Lecture recordings, along with all extra course materials, will be posted on the course website hosted at HuskyCT `https://lms.uconn.edu/`. Please check for update on a regular basis.

Course Topics

Below is a **minimal** list of topics to be covered in this course:

Chapter	Title	Sections
1	Linear Equations in Linear Algebra	1.1-1.5, 1.7-1.9
2	Matrix Algebra	2.1-2.3
3	Determinants	3.1-3.3
4	Vector Spaces	4.1-4.7
5	Eigenvalues and Eigenvectors	5.1-5.4
6	Orthogonality and Least Squares	6.1-6.4

If time allows, we will also venture into some more advanced topics from the textbook, such as diagonalizing real symmetric matrices, quadratic forms, and singular value decomposition.

2 Grade Evaluation

The grading components of this course are given as follows:

Component	Homework	Midterm 1	Midterm 2
Weight	40%	30%	30%

The schedule for letter grades will be decided once I have scores on all components. In general, 60% is guaranteed a Pass (D-) and over 90% is at least an A-.

- All homework assignments of this course will be administrated using Pearson's MyLab Math. Detailed instructions will be posted on HuskyCT before the start of the semester.

  There will be one to two homework assignment(s) for each required chapter (Ch.1 to Ch.6), with a total around 6-10. The worst performance will be dropped out in calculating grades. You will be given at least **24 hours** to complete each homework.

- Exams: This course has **two** midterm exams, also using MyLab Math. Password will be given right before each exam. Both midterm exams are proctored synchronously through Lockdown Browser (to be determined). You are required to turn your camera on while taking the exam. The exact dates of these exams will be announced on HuskyCT at least one week ahead.

  All exams are closed-book and closed-notes. No electronic devices are allowed, except for a calculator (see below for policy).

  There is **NO** final exam for this course.

Make-Up Policy

There is **no** make-up for any missing homework. If you are able to provide proof of officially acceptable reasons (e.g. a verifiable medical excuse), I will redistribute the weight of that

missing homework to other homework.

A make-up exam will only be granted under very convincing proof, and it may be dramatically different from the regular exam (though covering exactly the same topics). Please communicate with me ASAP if you have conflicts with an exam.

Calculator Policy

Only numeric and/or graphing calculators that do not have a C.A.S., i.e, cannot do symbolic manipulations, are allowed for quizzes and exams. If you want to use a calculator, I recommend any version of the TI-83 or TI-84.

Academic Integrity

I expect all of you to be familiar with and abide by UConn's academic integrity policy at all times; see HERE for details. If you discuss homework questions with your classmates, you must work out your own solutions individually and independently. There should be no help given or received on exams. Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, examinations and assessments - whether online or in class); presenting, as one's own, the ideas, words or calculations of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; using unauthorized aids in preparing work for evaluation; and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved. A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in Appendix A of the Student Code. Sanctions shall include, but are not limited to, a letter sent to the Office of Community Standards of the University; a grade of 0 on the assignment, quiz or exam; a grade of F for the course.

3 Other

Course Feedback

Your feedback on the course is always welcome and appreciated, and will be awarded as part of the course participation. If you have any comments or suggestions that may help improve the lecture quality and learning outcome, please do not hesitate to contact me.

Accessibility

In compliance with University of Connecticut policy and equal access laws, I am available to discuss appropriate accommodations that you may require as a student with a disability. Please consult the Center for Students with Disabilities, see `http://csd.uconn.edu/`.