



COURSE SYLLABUS, MATH 790, LINEAR ALGEBRA II, FALL 2025

INSTRUCTOR INFORMATION

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<u>Office</u>	527 Snow Hall
<u>Office Hours</u>	Consult the course website.

COURSE BASICS

<u>Time and location</u>	MW 02:00 - 03:15 AM, Wescoe 4071.
<u>Description</u>	A theoretical course on the fundamental concepts of linear algebra. Topics to be covered include: vector spaces, bases, dimension, subspaces, dual spaces; inner product spaces; linear operators on finite dimensional inner product spaces, including self-adjoint and normal operators; spectral theorems over the real and complex numbers; various canonical forms; singular values theorem.
<u>Prerequisites</u>	MATH 590 or its equivalent.
<u>Format</u>	This is a lecture-only, in-person course.
<u>Credits</u>	This is a 3-credit course. According to KU policy , and the federal description of a credit hour, students are expected to spend at least 6 hours a week on this course outside of class.

ELECTRONIC COMMUNICATION

- (1) All electronic communications must occur through official KU email accounts.
- (2) In particular, Canvas messages should not be used to communicate electronically.
- (3) Consult our course website, and your peers, before asking procedural questions.
- (4) Students are expected to communicate semi-formally in all email correspondence.
- (5) The subject line of every message should be precise, and must start with the string "[math-790]". For example, "Subject:[math-790] Question on linear transformations".
- (6) Understand that it is hard to discuss math via email. If you have a math question, you must clearly describe your thought process, and where you are running into trouble.
- (7) Due to the large volume of emails that I receive, I may not always be able to respond immediately, or even at all. In such situations, I ask that students be resourceful.
- (8) I am unlikely to respond to messages outside of standard working hours.
- (9) I am unlikely to respond to ‘‘last-minute’’ messages.

RESOURCES AND MATERIALS

<u>Course website</u>	https://hernandez.ku.edu/790.html
<u>Course Digest</u>	The Course Digest will be posted on our course website. Students are expected to read it before and after every lecture, and complete the tasks described therein in a timely manner.
<u>Textbook</u>	<i>Abstract Linear Algebra</i> (Curtis) <i>Advanced Linear Algebra</i> (Cooperstein)
<u>Canvas</u>	Canvas will be used only to record grades. Instead of Canvas, students should monitor the course website and KU email.

ATTENDANCE AND PARTICIPATION

Students are expected to attend, and actively participate in, all lectures. For information on excused absences, see the [KU Excused Absences Policy](#). Student responsibilities in this context are described in subsection 2.2.4 of that policy.

REQUIREMENTS

<u>Homework</u>	Exercises will be assigned after every lecture. These problems are meant to help students develop their problem solving skills, and to test their understanding. However, these problems will not be collected, nor count towards a final grade. Students are encouraged to discuss these problems in office hours.
<u>Quizzes</u>	In-class quizzes will be given regularly, and will cover topics from lecture and homework. These should be regarded as pop quizzes.
<u>Projects</u>	Students will work in groups for more writing intensive projects that will be carefully graded.
<u>Exams</u>	<u>Midterm 1</u> Wednesday, October 01 (tentative)
	<u>Midterm 2</u> Wednesday, November 05 (tentative)
	<u>Final Exam</u> Thursday, December 12, 01:30 PM - 04:00 PM
<u>Missed lectures</u>	Students who miss lecture are responsible for seeking notes from a classmate. We follow the KU Excused Absences Policy for missed quizzes and exams.
<u>Late work</u>	Outside of situations covered by the KU Excused Absences Policy , late work is not accepted.
<u>Extra credit</u>	We offer no extra credit.

LEARNING OUTCOMES

We will cover the material contained in Chapters I to V of Curtis' textbook. Students will learn about abstract fields and vector spaces, linear maps, bases, direct sums, quotient of vector spaces, eigenvectors and eigenvalues, dual vector spaces, the connection between linear transformations and matrices, determinants and exterior algebras, the basics of polynomial algebra over a field, the Cayley-Hamilton Theorem, the Jordan canonical form, inner product spaces and bilinear forms, normed vector spaces, the orthogonal and unitary groups, spectral theorems over the real and complex numbers, and normed algebras.

EVALUATION CRITERIA AND GRADING SCALE

Homework	Quizzes and Projects	Midterm 1	Midterm 2	Final Exam
00 %	20 %	25 %	25 %	30 %

A course evaluation will be available to students at the end of the semester.

ACADEMIC INTEGRITY AND PROFESSIONAL CONDUCT

We follow the [KU Academic Misconduct Policy](#). In this context, students are held to the highest standard, and any failure to meet this standard will trigger severe consequences.

CLASSROOM BEHAVIORAL EXPECTATIONS

- (1) The use of phones, computers, or any other device that may cause a distraction, is forbidden during lecture. Text messaging and internet browsing will not be tolerated.
- (2) Food and drink in disposable containers are forbidden from lecture.

COMMERCIAL NOTE-TAKING

Commercial note-taking is not permitted in this course. Course materials, including notes, may not be sold to any person or entity. Any student engaged in, or contributing to, the commercial exchange of notes or course materials will be subject to discipline, including academic misconduct charges, in accordance with [KU policy](#). Note: note-taking provided by a student volunteer for a student with a disability, as a reasonable accommodation under the ADA, is not the same as commercial note-taking and is not covered under this policy.

ADDITIONAL RESOURCES AND POLICY INFORMATION

Student Resources

- [University Academic Support Centers!](#)
- [Counseling and Educational Support Services](#)
- [The KU Writing Center](#)
- [Religious Observances](#)

University Policies

- [Academic Misconduct](#)
- [Change of Grade](#)
- [Diversity and Inclusion](#)
- [Mandatory Reporting \(Title IX/Civil Rights\)](#)
- [Nondiscrimination, Equal Opportunity, and Affirmative Action](#)
- [Sexual Harassment](#)
- [Student Rights and Responsibilities](#)
- [Racial and Ethnic Harassment Policy](#)
- [Commitment to Integrity and Ethical Conduct](#)
- [KBOR Statement on Free Expression](#)
- [Weapons, Including Firearms!](#)

The [KU Student Affairs Student Resources website](#) provides links to KU Policies and Resources pertaining to academic misconduct, grading policies, harassment and discrimination, diversity and inclusion, mandatory reporting, equal opportunity and affirmative action, and student rights and responsibilities. Please visit the site to familiarize yourself with these policies and resources. Contact your instructor, or Student Affairs directly, if you have questions or concerns about any of these policies and resources.

CHANGES TO THIS SYLLABUS

The course policies described herein are subject to change. Any such changes will be made at the discretion of the instructor, and informed by the best interests of the students. These will be announced during class, and also electronically, via email.