Math 217-005: Linear Algebra
MTWF 12 - 1pm 2229 SEB

Instructor:
Jonah Blasiak
jblasiak@umich.edu
East Hall 3831

Office Hours:
Tuesday 1 - 2:30pm
Wednesday 1 - 2:30pm

Webpage:
see CTools

Required text:
Linear Algebra and its Applications
(4th edition)
by David C. Lay

Prerequisites:
Math 215, 255, or 285.

Course topics and goals:

   This course is designed to give potential math majors, and those interested in the theory behind the mathematics, a rigorous introduction to linear algebra. The topics we will cover are, roughly, systems of linear equations; matrix algebra; vectors, vector spaces, and their subspaces; geometry of $\mathbb{R}^n$; linear dependence, bases, and dimension; linear transformations; eigenvalues and eigenvectors; diagonalization; inner products.

   We will not only study the above concepts and their applications, but also the methods by which one proves the foundational results in linear algebra. Consequently, this course has two major goals: to learn linear algebra and to learn how to write a rigorous mathematical proof. Students should leave this course prepared to both use linear algebra and to succeed in further theoretical courses in mathematics. This is a difficult course, and those interested only in the computational side of linear algebra should consider Math 214 or 417.

Grading: Your course work will be weighted out of 200 points, broken down as:

Written homework:	45 pts	Midterm 1:	35 pts
Web homework:	10 pts	Midterm 2:	35 pts
Quizzes:	25 pts	Final exam:	50 pts

Homework:

Homework assignments, consisting of both web exercises and written problems, will generally be assigned (on the CTools course page) each Wednesday. The web-work is usually due 11:59pm the next Tuesday, and the written home work is due the next Wednesday, unless explicitly stated otherwise. The link to the web exercises for Math 217 can be found at

$$http: // instruct.math.lsa.umich.edu/$$

You can reach the written home works on CTools.

Written assignments are due at the beginning of class. No late homework will be accepted. Late homework includes assignments handed in during or at the end of the class period on the due date.

You are encouraged to work together on homework assignments, but **you must write up your solutions independently**. Your solutions should be written clearly and legibly, showing all of your work. Failure to abide by this policy will result in a zero on the assignment.

Quizzes:

There will be regular quizzes. Quizzes will be short, in-class assignments to test comprehension of recent material. A quiz could involve a computation or exercise, a short proof, or both.

Exams:

You will have two midterm exams and one 2-hour final.

First Midterm:	Tuesday, February 19, 6-8pm
Second Midterm:	Wednesday, April 3, 6-8pm
Final Exam:	Friday, April 26, 10:30am-12:30pm

Make-up exams will be available only to students who have a serious emergency, a strongly compelling personal reason, or grave academic conflict. Grave academic conflict is defined as having two examinations scheduled so that you cannot physically attend both, or having four or more examinations scheduled on the same day. All conflicts will be verified through the undergraduate office.

Students with special exam-taking requirements should contact me, with appropriate documentation from the University, by Friday, January 18th.

No calculators, note cards, books, or other outside materials are allowed on any exam or the final.