MATH 203   Fall 2020

LINEAR ALGEBRA

ONLINE LECTURES

Instructor: Sarah Khankan, Ph.D.

Email: skhankan@gmu.edu
Office Hours: M W Th 11am-12pm or by appointment.
Follow the link for online office hours on Blackboard.

Credit Hours: 3

Text(s): Linear Algebra and Its Applications, by David C. Lay, *6th Edition*, Pearson

Prerequisites: Math 114 - Analytic Geometry and Calculus II

Broad purpose of the course: Systems of linear equations, linear independence, linear transformations, inverse of a matrix, determinants, vector spaces, eigenvalues, eigenvectors, and orthogonalization.

Disability statement: If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703.993.2474. All academic accommodations must be arranged through that office.

Tutoring Center: The Math Tutoring Center will be offering online tutoring services to students currently enrolled in undergraduate Math courses at GMU.

To access the Math Tutoring Center online you need to login to Blackboard, click on the Organizations tab, locate the Math Tutoring Center Organization and self-enroll in this organization.

Students should post their questions in Piazza in the folder corresponding to their course. Please state your questions clearly, consider uploading a pdf file that contains your questions. Tutors will be answering your questions as soon as possible, expect to receive an answer by the following business day, although there might be delays. If you received answers for your questions and need further clarifications, you can join an active Blackboard Collaborate session.

The Blackboard Collaborate sessions will be running during the weekdays.

Online Exams:

- Exam 1: 09/28/2020 at 8:30 am

- Exam 2: 11/02/2020 at 8:30 am

- Final Exam: 12/09/2020 at 8:30 am

Grade Distribution:

Quizzes	20%
Exam 1	25%
Exam 2	25%
Final Exam	30%

Homework: Homework will be assigned for each chapter. Completing the homework assignment is the minimum of work you should be doing outside of class. Homework will not be collected, but completing it is essential to passing the course. **Reading the sections of the text related to the problems will always be part of the homework assignment**. I will start the lecture assuming you read the corresponding sections before class.

Weekly Online Quizzes: 10-15 minutes online on MyMathLab. Available every Monday from 10am to 10:30am, unless announced otherwise on Blackboard.

MyMathLab Course ID: khankan86893
Instructions: Make an account on MyMathLab using the access code you obtain when you purchase the book, then enroll in the class page using the Course ID above. Make sure you use your full name as it appears on your Mason ID.

Course Policies:

- Lectures will be recorded and posted on Blackboard twice weekly as a series of videos. Students are expected to watch the videos the same day they are made available and prepare any questions for the office hours.

- A PDF document of each lecture will also be posted on Blackboard.

- No makeup exams/quizzes will be given.

- Students are responsible for all missed work, regardless of the reason for absence. All class related notes will be posted on Blackboard.

Tentative Course Outline:
The weekly coverage might change as it depends on the progress of the class.

Week	Content	Sections covered
1 (week of 08/24)	• Systems of Linear Equations • Row Reduction and Echelon Form	1.1, 1.2
2 (week of 08/31)	• Vector Equations • The Matrix Equation Ax=b • Solutions Sets of Linear Systems	1.3, 1.4, 1.5
3 (week of 09/07)	• Labor Day • Linear Independence	1.7
4 (week of 09/14)	• Introduction to Linear Transformations • The Matrix of a Linear Transformation	1.8, 1.9
5 (week of 09/21)	• Matrix Operations • The Inverse of a Matrix	2.1, 2.2
6 (week of 09/28)	• EXAM 1 on 09/28 at 8:30 am • Characterizations of Invertible Matrices	2.3
7 week of 10/05)	• Introduction to Determinants • Properties of Determinants • Vector Spaces and Subspaces	3.1, 3.2, 4.1
8 (week of 10/12)	• Null Spaces, Column Spaces, and Linear Transformations • Linearly Independent Sets; Bases	4.2, 4.3
9 (week of 10/19)	• Coordinate Systems • The Dimension of a Vector Space	4.4, 4.5
10 (week of 10/26)	• Change of Basis	4.6
11 (week of 11/02)	• EXAM 2 on 11/02/2020 at 8:30 am • Eigenvectors and Eigenvalues	5.1
12 (week 11/09)	• The Characteristic Equation • Diagonalization	5.2, 5.3
13 (week 11/16)	• Inner Product, Lenth, and Orthogonality	6.1
14 (week of 11/23)	• Orthogonal Sets • Thanksgiving break	6.2
15 (week of 11/30)	• Orthogonal Projections	6.3