Math 203 Linear Algebra

T,TH 5:55pm – 7:10pm – Synchronous using Zoom (link found in math 203 course in Blackboard)

Instructor: Sam Fairchild
Office: Virtual
Office Hours: Mon/Wed 6:30pm – 8:00pm and by appt.
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Purpose: This introductory course presents the main concepts and terminology of linear algebra. We will learn about systems of linear equations, linear transformations, vector spaces, and orthogonalization. Linear algebra plays an essential role in mathematics and other fields of study such as computer science, engineering, and economics.

Prerequisites: A grade of C or better in Math 114 - Analytic Geometry and Calculus II

Resources: Computing matrix multiplication and finding eigenvalues: Matlab - use this link to register with your school email https://www.mathworks.com/academia/tah-portal/george-mason-university-31483444.html

[Linear Algebra Toolkit (odu.edu)](#) – Use to help with row echelon form useful for Chapter 1.

[Linear Algebra | Khan Academy](#) – sometimes a different perspective helps.

https://www.3blue1brown.com/essence-of-linear-algebra-page (great for giving intuition)

Grading: Your grade for the course will be calculated using: HW assignments (5%), In class assignments (5%), weekly quizzes (10%), two mid-term exams (25% each), and a cumulative final exam (30%). The weighted average of the scores determines your grade in the class according to the scale:
  A: 90-100   B: 80-89.9   C: 70-79.9   D: 65-69.9   F: below 65
+ or - may be attached to the grades that occur in the lower or upper 2 points of each category.

Homework: Monday assigned homework will be due Thursday before class starts and Thursday's assigned HW will be due Monday before class starts. Generally, full credit for HW requires you to provide a written explanation of your answer, and or provide the steps that allowed you to reach your conclusion. In class work will be done collaboratively but submitted individually.

Quizzes: In addition to HW, I will provide weekly learning assessments. The intention is for you to use these learning assessments as a gauge of your understanding of the material. I will drop your two lowest quiz grades and provide opportunities for you to earn extra credit to enhance your quiz grade.

Final Exam: The Final Exam is cumulative, so if you did not perform well on a mid-term exam, but do well on the Final, I will replace your lowest midterm grade with the grade your received on the final (grades as a percentage)

Course Content: The course will cover the following sections from the text:

Linear Equations in Linear Algebra 1.1 - 1.5, 1.7-1.9
Matrix Algebra 2.1 - 2.3, 2.5
Determinants 3.1 - 3.3
Vector Spaces 4.1 - 4.5
Eigenvalues and Eigenvectors 5.1 - 5.4
Orthogonality 6.1 - 6.4

Announcements: Check your GMU email and Blackboard regularly, to see if there are new announcements.

Blackboard: The Math 203 Blackboard contains the syllabus, videos, HW assignments, lecture notes and HW solutions. announcements and other important course information.

Computers: We will be using Matlab to help with matrix calculations. If you don't have an account, follow the link and register **using your GMU email**. It is recommended to use Matlab 2020b online, instead of downloading the software onto your hard drive. https://www.mathworks.com/academia/tah-portal/george-mason-university-31483444.html

Honor Code: The University Honor Code is to be followed at all times. Sharing information of any kind about exams or graded homework assignments is not allowed. Any violations will be submitted to the University Honor Committee. See the University Honor Code at https://oai.gmu.edu/mason-honor-code/

Getting Help: If you feel like you are behind, or not understanding the material, do not delay getting help. You can: Contact me via email, attend office hours or make a private appointment with me. Outside of the class there is The Math Tutoring Center, Johnson Center, Room 344: http://math.gmu.edu/tutor-center.php You can make arrangements to get help there too.

Spring 2021 Calendar and Withdraw dates See the GMU website for important withdrawal dates/ deadlines: https://registrar.gmu.edu/calendars/spring-2021/

Learning Differences & Special Needs: If you have a learning or physical difference that may affect your academic work, please contact the Office of Disability Services (ODS) at 703- 993-2474, http://ods.gmu.edu . **All** academic accommodations must be arranged through the ODS. Efforts have been made to make this course accessible for students with learning and physical differences. If you find you have additional needs beyond those that have been provided, again, **please contact ODS** to develop a plan. Once a plan is worked out, I can be sure that the course is meeting your needs.

Counseling and Psychological Services: If you are finding this semester overwhelming, Counseling Services are available for GMU students. http://caps.gmu.edu 703-993-2380.

University Policies: The University Catalog, http://catalog.gmu.edu, is the central resource for university policies affecting students, faculty and staff conduct in university academic affairs. Other policies are available at http://universitypolicy.gmu.edu/. All members of the university community are responsible for knowing and following established policies.

Spring 2021 Tentative Schedule for Math 203

		Reading
Week 1	Tue. Jan 26	Syllabus
Week 1	Thur. Jan 28	1.1,1.2
Week 2	Tue Feb 2	1.2,1.3
Week 2	Thur. Feb 4	1.3,1.4
Week 3	Tue Feb 9	1.4,1.5
Week 3	Thur Feb 11	1.7
Week 4	Tue Feb 16	1.8
Week 4	Thur Feb 18	1.9
Week 5	Tue Feb 23	2.1,2.2
Week 5	Thur Feb 25	2.3
Week 6	Tue Mar 2	2.5
Week 6	Thur Mar 4	**Exam 1**
Week 7	Tue Mar 9	3.1,3.2
Week 7	Thur Mar 11	3.3
Week 8	Tue Mar 16	4.1
Week 8	Thur Mar 18	4.2
Week 9	Tue Mar 23	4.3
Week 9	Thur Mar 25	4.4
Week 10	Tue Mar 30	4.5
Week 10	Thur Apr 1	4.6
Week 11	Tue Apr 6	**Exam 2**
Week 11	Thur Apr 8	5.1
Week 12	Tue Apr 13	5.2
Week 12	Thur Apr 15	5.3
Week 13	Tue Apr 20	5.4
Week 13	Thur Apr 22	6.1
Week 14	Tue Apr 27	6.2
Week 14	Thur Apr 29	6.3
Week 15	Tue May 4	Finals week no class
Week 15	**Thur May 6**	**Final Exam 4:30pm - 7:15pm**