Math 2210Q Section 10 Spring 2023
Reed Solomon

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Office Hours: Monday 12:15-1:15, Tuesday 12:15-1:15 and Wednesday 2:20-3:20.

Grading: You will be graded on MyLab Math online homework (10%), written homework (10%), three midterm exams (20% each) and a final exam (20%).

Textbook: The textbook for this course is *Linear Algebra and Its Applications* by David C. Lay, 6th edition. This course moves quickly, so it is important that you read the textbook. You will likely need to grapple with the ideas in this course before they really sink in. Just listening passively to the lectures will not be enough to master this material.

Homework: There are two types of homework for this course. The online homework is through Pearson's MyLab Math, which you connect to through HuskyCT once you have acquired access. There will be an online homework assignment for each section of the book, typically due two class periods after we finish the relevant section. You can redo each problem as many times as you like. In general, I do not accept late homework or extend online homework deadlines. However, you can turn in online problems after the due date for a 15% penalty. I will also drop your lowest three online homework scores at the end of the semester.

The written homework will be collected weekly in class, typically on Friday. You should work through your mathematical thoughts on scratch paper and rewrite the work in a clean and concise way when you hand it in. You will be graded both on the correctness of your solution and on your mathematical writing. I do not accept late written homework (even with a penalty) but I will drop your lowest written homework score at the end of the semester.

Midterm Exams: The midterm exams are in class. The first midterm exam is on **Friday February 10**, the second midterm exam is on **Friday March 3**, and the third midterm exam is on **Monday April 3**. When we get close to the time of each exam, I will clarify what material is covered on each exam.

Final Exam: The final exam will be cumulative. It is scheduled by the Office of the Registrar.

Calculators: You can use calculators on the homework but not on the exams.

Office Hours and Additional Help: This course moves quickly and it is important that you don't get behind. I strongly recommend visiting me in office hours if you find yourself having difficulties with the material. It is much easier for us to discuss a section of the textbook than to try to discuss an entire chapter.

Video Lectures: The lectures for this course are in person and I strongly encourage you to attend class. However, if some of the concepts go by quickly and you'd like to see them presented again, I encourage you to check out Professor Tom Roby's online videos on youtube. Search "Tom Roby UConn" on youtube to find the videos. Tom has a playlist for each chapter of the textbook.

Center for Students with Disabilities: UConn is committed to protecting the rights of individuals with disabilities and assuring the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know as soon as possible so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Room 204, 860-486-2020 or csd.uconn.edu.

Academic Integrity and University Policies: Please see UConn Community Standards (community.uconn.edu) for information regarding the Student Code abd provost.uconn.edu/faculty-and-staff-resources/syllabi-references/ for links to other syllabus related university policies.

Date	Section	Topic
Wed 1/18	1.1	Systems of linear equations
Fri 1/20	1.2	Row reductions and echelon forms
Mon 1/23	1.3	Vector equations
Wed 1/25	1.4	The matrix equation $Ax = b$
Fri 1/27	1.5	Solution sets of a linear equation
Mon 1/30	1.7	Linear independence
Wed 2/1	1.8	Introduction to linear transformations
Fri 2/3	1.9	The matrix of a linear transformation
Mon 2/6	2.1	Matrix operations
Wed 2/8		Catch up and review
Fri 2/10		Midterm Exam 1
Mon 2/13	2.2	Th inverse of a matrix
Wed 2/15	2.3	Characterizations of invertible matrices
Fri 2/17	3.1	Introduction to determinants
Mon 2/20	3.2	Properties of determinants
Wed 2/22	3.3	Cramer's rule, volume, and linear transformations
Fri 2/24	4.1	Vector spaces and subspaces
Mon 2/27	4.2	Null spaces, column spaces, and linear transformations
Wed 3/1		Catch up and review
Fri 3/3		Midterm Exam 2
Mon 3/6	4.3	Linear independent sets and bases
Wed 3/8	4.4	Coordinate systems
Fri 3/10	4.5	Dimension of a vector space
		Spring Break
Mon 3/20	4.6	Change of basis
Wed 3/22	5.1	Eigenvectors and eigenvalues
Fri 3/24	5.2	The characteristic equation
Mon 3/27	5.3	Diagonalization
Wed 3/29	5.4	Eigenvectors and linear transformations
Fri 3/31		Catch up and review
Mon 4/3		Midterm Exam 3
Wed 4/5	6.1	Inner product, length and orthogonality
Fri 4/7	6.2	Orthogonal sets
Mon 4/10	6.3	Orthogonal projections
Wed 4/12	6.4	Gram-Schmidt process
Fri 4/14		Catch up
Mon 4/17	7.1	Diagonalization of symmetric matrices
Wed 4/19	7.2	Quadratic forms
Fri 4/21	7.3	Constrained optiization
Mon 4/24	7.4	Singular value decomposition
Wed 4/26		Catch up
Fri 4/28		Review