Math 2210Q-012, Fall 2019
Applied Linear Algebra

General Information

Table of links:

Lectures	Instructor	Text & Prerequisites	Goals	Course Content
Important Dates	Grades	Homework	Exams, Quizzes & Piazza	Calculators
Help	Academic Integrity	Religious Observances	Student Athletes	Accessibility Issues and the CSD

Lectures

- Lecture: TuTh 11:00-12:15 p.m. in MONT 419

Instructor

- **Instructor:** David Gross
- **Office:** MONT 224 (inside the admin suite at MONT 217)
- **E-mail:** David dot Gross at uconn dot edu
- **Office phone:** (860) 486-1292
- **Office hours:** Mondays, 10:30-11:30, Tuesdays, 2:00-3:00, and Thursdays, 9:30-10:30, and by appointment via Nexus: https://nexus.uconn.edu and follow the directions or go directly to my schedule of appointments.
- **HuskyCT:** We will be using HuskyCT (the URL is https://huskyct.uconn.edu), as a delivery system for this class.

Text & Prerequisites

The textbook is Linear Algebra and Its Applications, 5th edition, by D. Lay, S. Lay and J. McDonald, Pearson Publishing.

The 5th edition is not so different from the 4th. If you buy the 4th edition, make sure you zerox the homework sections from a friend's book so you are all working on the same homework questions as everyone else. You can find the 4th edition at many places online for as low as $27.00 used. If you want to buy it at the bookstore, you can click here.

The Prerequisite for this course is Calculus II, either Math 1132Q or Math 1152Q.

Note: This course is a prerequisite for Math 3210, 3510 and 3710 and is a (highly) recommended preparation course for Math 3230.

Goals

The goal for the semester is to learn, understand and be able to work with the vocabulary, algorithmic manipulations, main ideas and concepts of linear algebra, including systems of linear equations, matrices, vector spaces (concrete and abstract) and their bases, linear transformations and change of bases matrices, eigenvectors and eigenvalues, orthogonalization, various matrix factorizations, and the applications of these ideas. This does not only mean that you should be able to work through a bunch of questions similar to ones seen in the homework, but that you should have the ability to articulate the ideas presented in the course in a clear and coherent manner as well. You should be able to apply the theory in new and imaginative ways. This course will have concrete and abstract components. Being able to explain why something is true will constitute a significant part of the course.

Course Content

We will cover the following material from *Linear Algebra and Its Applications, 5th edition* by D. Lay, S. Lay and J. McDonald, Pearson Publishing.

Chapter	Chapter Title	Sections
1	Linear Equations in Linear Algebra	1.1 - 1.9, except 1.6
2	Matrix Algebra	2.1 - 2.5, except 2.4
3	Determinants	3.1 - 3.3
4	Vector Spaces	4.1 - 4.7
5	Eigenvalues and Eigenvectors	5.1 - 5.4
6	Orthogonality	6.1 - 6.4
7	Symmetric Matrices	7.1 and 7.4

Important Dates

The dates of the midterm exams are TENTATIVE !

Mon., Aug. 26	**Classes begin**
Mon., Sept. 2	**Labor Day, classes cancelled**
Mon., Sept. 9	**Add/Drop via the Student Admin. System closes, last day to place a course in Pass/Fail**
Tues., Sept. 10	**Add/Withdraw can be done by filling out a schedule revision form**
Mon., Sept. 16	**X/I Conversion deadline**
Thurs., Oct. 3	**Exam 1**
Mon., Oct. 21	**Spring Registration begins via the Student Admin. System**
Mon., Oct. 28	**Withdrawal deadline**
Thurs., Nov. 7	**Exam 2**
Thurs., Nov. 15	**Deadline to reschedule final exams with the Dean of Student's office**
Sun., Nov. 24	**Thanksgiving recess starts**
Sat., Nov. 30	**Thanksgiving recess ends**
Fri., Dec. 6	**Last Day of classes**
Sat. & Sun., Dec. 6 - 7, and Thurs., Dec. 12	**Reading Days**
Mon., Dec. 9 - Wed., Dec. 11; Fri., Dec. 13 - Sun., Dec. 15	**Final Exams**

Grades

The course grade will be determined as follows:

- Homework: 5%
- Quizzes: 10%
- Two midterms: 25% each
- Final exam: 35%

Homework

The Homework Assignments for the semester are posted in HuskyCT.

As I am sure you already know, mathematics is not a spectator's sport — you need to work it if you're going to learn it! Homework will be assigned daily. It is expected to be completed by the next class and that you are prepared to ask questions the following class on issues that you haven't been able to resolve on your own or through the Piazza discussion board, the Q-Center or office hours. It is also expected that you prepare for class by looking over before class the material in the book that will be discussed in class that day. The homework will be collected sporatically throughout the semester. I will always let you know in class when the homework will be collected.

I fully expect you to get stuck on certain questions, hopefully not all questions, but perhaps. That does not mean that you give up on working on the homework. It means you double down on studying, I encourage you to use the Piazza discussion board for the class for help, working with a classmate or a friend in other sections of this course, going to the Q-Center. I also use Nexus for appointment outside of my office hours. Please use them - I'm here to help! I know that everyone's arc of learning will be different.

Exams, Quizzes & Piazza Discussion Board

There will be two midterms and a comprehensive final exam in this class. The midterms are ***tentatively*** scheduled to be given in class on Thursdays, October 3 and November 7; the date for the final exam is are not yet known; the registrar will send out notification near the beginning of October.

There will be short 5-10 min. quizzes at the beginning of class sporadically throughout the semester, about every week or so - (more or less) 6 quizzes total.

Make-Up Policy: No make-ups for quizzes or midterms exams will be given. If you miss an exam and can show proof of some officially acceptable reason, e.g.: a verifiably documented medial excuse or a conflicting official university sanctioned activity that cannot be rescheduled, then I will redistribute the weight of that exam elsewhere.

Please avoid making travel arrangements that would not allow you to take the final at the scheduled time. All rescheduled final exams must be approved by the Dean of Students Office and they do not easily allow rescheduling. Please note that they do NOT consider vacations, previously purchased tickets or reservations, graduations, social events, misreading the assigned final exam schedule, and oversleeping as viable excuses for missing a final exam either. If you think that your situation warrants permission to reschedule, please contact the Dean of Students Office to meet with a staff member as soon as possible. They have set November 16, 2018 as the last date they will consider rescheduling finals for all issue known before Nov. 16.

Piazza Discussion Board: The discussion board will be through Piazza, accessed through HuskyCT. There will be a Participation grade which will be based on this – to do well on this, go to the Piazza discussion board a couple of times a week: answer a question, ask a question, offer hints to questions, offer insights to things you've discovered or realized, in general, just participate in the online discussions of the class.

Calculator Policy

Only numeric and/or graphing calculators that do not have a C.A.S., i.e, cannot do symbolic manipulations, are allowed for quizzes and exams. If you want to use a calculator, I recommend any version of the TI-83 or TI-84.

Help

If you're having trouble understanding the course material or you want to find out more about a topic, come find me! I have office hours. That and anything else you want to talk with me about is what they are for! If however, they don't fit your schedule, make an appointment with me via nexus by going directly to my nexus appointments. If those don't fit, we can figure some other times that are mutually convenient.

You can also visit the Q Center, @uconnqcenter, which supports this course. They have free drop-in tutoring as well as a list of private tutors. Their hours are very student friendly, 7 days a week into the late evening (except for Saturday). Not all the math tutors are comfortable tutoring for Math 2210Q though, so you should check the Q Center's website to find out when tutors are available for this particular course.

To help you "up" your game (academically), no matter how you're currently doing, the Academic Achievement Center will be able to help. They can tailor a program for you individually based on where you are now.

Academic Integrity

I expect you to be familiar with and abide by UConn's academic integrity policy at all times. If you work on the homework with your classmates, you must write your own solutions individually. There should be no help given or received on midterms or the final exam. Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, examinations and assessments - whether online or in class); presenting, as one's own, the ideas, words or calculations of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; using unauthorized aids in preparing work for evaluation (e.g. unauthorized formula sheets, unauthorized calculators, unauthorized programs or formulas loaded into your calculator, etc.); and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved. A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in Appendix A of the Student Code. Sanctions shall include, but are not limited to, a letter sent to the Office of Community Standards of the University; a grade of 0 on the assignment, quiz or exam; a grade of F for the course.

Religious Observances

Some students may wish to take part in religious observances during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the second week of the term to discuss appropriate accommodations.

Student Athletes

If you are a student athlete, let me know soon. Speak with your CPIA counselor and talk with him or her about any dates that conflict with your participation in this course. I should know of these conflicts within the first two weeks of the course. Alternate arrangements for away game conflicts with midterms might be possible.

Accessibility Issues

If you have a learning disability, the Center for Students with Disabilities (CSD), Center for Students with Disabilities (room 204 of the Wilbur Cross Building) should have contacted me with notification of your needed accommodations. As electronic communication does not always work as desired, please let me know of any issues you have and I can contact the CSD on your behalf.

In addition, if you have accessibility issues, I encourage you to discuss possible accommodations with me and consult the CSD, as this office can help determine appropriate accommodations for you.