MATH 2210Q - Applied Linear Algebra - Fall 2019

Syllabus

- **Instructor:** Sean Li MONT 334, sean.li@uconn.edu.
- **Office hours:** T 3:15-4:15, Th 1-2.
- **Course grades:** Quizzes, 25%; 3 In-class Exams, 25% each. An overall weighted grade of 90% guarantees some kind of A, 80% guarantees some kind of B, and 70% guarantees some kind of C. However, there will very likely be a curve so these threshholds will probably be lower.
- **Topics to be covered:** Linear systems of equations and row operations; linear independence, subspace, and spanning sets; inner products, orthogonality, determinants and inverses; Gram-Schmidt procedure, hermitian matrices, spectral theorem; least squares approximation and data fitting; eigenvalues and eigenvectors, diagonalization; singular value decomposition and Jordan normal form; vector spaces, linear transforms; applications.
- **Prerequisites:** The official prerequisites are MATH 1132, 1152, or 2142. Recommended Preparation: a grade of C- or better in MATH 1132. Not open for credit to students who have passed MATH 3210. In particular, you should be comfortable with trigonometric identities, derivatives and integrals of functions, the chain rule, the product rule, the quotient rule, and solving related rate problems.
- **Textbook:** David C. Lay, *Linear Algebra and Its Applications*, 5th edition. Fourth edition should also be fine.

  Additional resources: Gilbert Strang's material on MIT OpenCourseWare

  `https://ocw.mit.edu/courses/mathematics/18-06-linear-algebra-spring-2010/`

  are good (including video lectures!) although they may cover slightly different material.
- **Homework:** Homeworks will be assigned but not collected. These homeworks are to provide practice and purely for your benefit. You are *strongly* encouraged to work collectively in groups. Solutions will be provided some time *after* the following quiz.
- **Exams:** Three in-class exams (tentative dates: 9/26, 10/31, 12/5) and NO final exam. Please let me know if you anticipate any conflict with any of the midterm dates by the end of the 2nd week of classes. Otherwise, the dates will become official.
- **Quizzes will be given on Thursday,** except during the 1st week and the three midterm exam weeks. They will start at 2pm sharp, last 10-15 minutes, and cover the material from the previous week. **No make-up quizzes will be given** under any circumstance. **Your two lowest quiz scores will be dropped.**
- **Special accommodations:** If you are a student-athlete or a student with disabilities, please provide me with a letter from the appropriate office (the Counseling Program for Intercollegiate Athletes (CPIA), or the Center for Students with Disabilities (CSD)) concerning your special needs (*e.g.* when taking exams), so that I can make appropriate accommodations.
- **Academic integrity:** Integrity is a crucial part of the academic experience. You must observe the Universitys Academic Integrity Policy as found in the Student Handbook. Cheating can result in one or more of the following: a score of zero on the assignment; a grade of F in the course; expulsion from the university and/or any subsidiary programs.