Instructor: Sarah Frei   **Office Hours**:
Office: 426 Herman Brown Hall (HBH)   **Tues 8-9am CDT**,
Email: sarah.frei@rice.edu   **Wed 4-5pm CDT,**
Course website: See the Canvas page   or by appointment

Class Meetings:[1] 2:45 - 3:40pm, MWF, online. You will find the Zoom link for class on Canvas. The class will run synchronously, and every class meeting will be recorded and posted to Canvas for students unable to attend in real-time. However, in-class participation will be expected, so students who cannot attend during the scheduled class-time will need to satisfy this participation requirement in a different way (see **Grading** below).

All office hours, both mine and the TAs, will be virtual. The Zoom link can be found on Canvas.

Teaching Assistants: There are in-class TAs to help with groupwork: Nini Nguyen, Mark Helman, Andrew Lee, and Peter Zhu. There are graduate TAs who will hold office hours, and whom you can contact with homework questions: Austen James (austen.james@rice.edu) and Ken Zheng (ken.zheng@rice.edu).
Ken's office hour: Tues 3-4pm CDT.
Austen's office hour: Thurs 2-3pm CDT.

Textbook: *Linear Algebra and its Applications*, Lay (& Lay & McDonald), 5th edition[2]. Purchasing it is not completely necessary, but about 30% of the written homework will be assigned from it. We will cover (approximately) Chapters 1-7.

Course Overview: Many ideas in mathematics, engineering, and the social and natural sciences are most efficiently and elegantly expressed with the language of linear algebra. The main goal of this course is to give you a basic fluency in working with the vocabulary, tools, and fundamental ideas of linear algebra. Main topics include: solutions to linear equations, linear transformations and matrices, inner products, eigenvalues and eigenvectors, and the spectral theorem for real symmetric matrices. We will strive to balance the abstraction that makes linear algebra so powerful with concrete examples and applications.

Exams: There will be two midterm exams and a final exam. Each midterm will be administered (remotely) during one of two time slots, and you will be asked to sign up for an exam slot during the first few weeks of the semester. All exams will be submitted on Gradescope.
Midterm 1 will be given **Tues Sept 29, 7:30-9:30pm** or **Wed Sept 30 6-8am**.
Midterm 2 will be given **Tues Oct 27, 7:30-9:30pm** or **Wed Oct 28 6-8am**.
The date for the final exam is set by the Registrar's office and is not available at this time. It is the policy of the Mathematics Department that no final may be given early to accommodate student travel plans. If you make travel plans that later turn out to conflict with the scheduled exam, then it is your responsibility to either reschedule your travel plans or take a zero on the final.
If an exam conflicts with a holiday you observe, please let me know ASAP.

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[1]Please note that this syllabus is subject to change at any time!
[2]I don't think there is much difference between the 3rd, 4th, and 5th editions, though

Homework: You will have two types of homework. Online homework will be posted on `http://webwork.math.rice.edu/webwork2/Math355Fall20Frei/`. Use your Rice NetID as your login, with your Student ID (S followed by 8 digits) as your initial password (which you can change after logging in). These will usually be due on Fridays.

Written homework will be due weekly, usually by the beginning of class on Wednesdays. This homework will be submitted through Gradescope. You will receive an email invitation to register. No late homework will be accepted, barring a serious emergency. However, the lowest-scoring homework assignment of each type will be dropped.

Day-to-day Requirements: Many class days, especially in the beginning of the semester, students will be expected to have completed an online learning sequence in preparation for the in-class activities by noon. Since this sequence is necessary for the class activities, late submissions will not be accepted. However, the lowest-scoring sequence will be dropped. These sequences are graded, but mostly for completeness.

This online material is on `edge.edx.org`. Students will receive an email invitation to register. Make your username your preferred first name followed by last name or last initial. If you do not get an invitation, email Sarah immediately.

Grading: Each midterm will count for 20% of your final grade (making up 40% total), and the final exam will count for 30% of your grade. Homework will count for 20% of your grade, and the online learning sequences will count for 5%. The remaining 5% will be based on your participation in, and preparation for, class, including (but not limited to) posting on the discussion forum and performance on quizzes.

It is understood that for students taking the course in a time-zone where they cannot attend during the scheduled class-time, the participation portion of the grade will need to be completed in a different way **(TBD)**.

Collaboration Policies: In this course, all students will be held to the standards of the Rice Honor Code, a code that you pledged to honor when you matriculated at this institution. If you are unfamiliar with the details of this code and how it is administered, you should consult the Honor System Handbook at `http://honor.rice.edu/honor-system-handbook/`.

For the online sequences, you should work alone, and outside assistance should be limited to asking questions about parts of videos that you did not understand.

For homework, you should work individually on the problems at first. Collaboration and discussion with others is encouraged, but only after you have given the problems a good amount of independent thought. Similarly, I am more than happy to talk with you about the homework, but only provided that you've worked on it some before coming to me.

If you have worked with others on the online homework, you must make sure that you can re-create all of the necessary work to arrive at an answer on your own, before you submit the answer. On the written homework, please note the names of any collaborators on each problem. Furthermore, the final write-up of the problems should be done by yourself. You should show the steps you took in order to arrive at your answer, and you should understand what you are writing well enough that you need not refer to any writing or notes produced during your collaboration. Under no circumstances are you to seek help from books or internet sites (other than the official course book and site) without express permission, nor are you to consult (directly or indirectly) material from past versions of Math 355.

There will come a time during the semester when computational tools such as Mathematica/Matlab or Wolfram Alpha will be useful. Until then, however, you should not use software (including web applications, or calculator functions that go beyond normal arithmetic) unless otherwise specified. You should show the steps you took in order to arrive at your answer, and explain your reasoning and justification in complete sentences. If you used a technological aid to do one of the steps, you should note that as part of your write-up (e.g., "I used Mathematica to row reduce this matrix.").

Expectations: The Dept of Mathematics supports an inclusive learning environment where diversity and individual differences are understood, respected, and recognized as a source of strength. Racism, discrimination, harassment, and bullying will not be tolerated. We expect all participants in mathematics courses (students and faculty alike) to treat each other with courtesy and respect, and to adhere to the mathematics department standards of collegiality, respect, and sensitivity (`https://math.rice.edu/department-statement-collegiality-respect-and-sensitivity`) as well as the Rice Student Code of Conduct. If you think you have experienced or witnessed unprofessional or antagonistic behavior, then the matter should be brought to the attention of the instructor and/or department chair. The Ombudsperson is also available as an intermediate, informal option, and contacting them will not necessarily trigger a formal inquiry.

Disability Resource Center: If you have a documented disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with the Disability Resource Center (Allen Center, Room 111 /`adarice@rice.edu` / x5841) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.

Sexual Violence: Rice University cares about your wellbeing and safety. Rice encourages any student who has experienced an incident of harassment, pregnancy discrimination or gender discrimination or relationship, sexual, or other forms interpersonal violence to seek support through The SAFE Office. Students should be aware when seeking support on campus that most employees, including myself, as the instructor, are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. For more information, please visit `safe.rice.edu` or email titleixsupport@rice.edu.

A note about accommodations: We are all living in a time of unprecedented circumstances, and I recognize that this means you may experience hardships out of the ordinary throughout this semester. Please do not hesitate to ask for reasonable accommodations (e.g. homework extensions) should you find yourself in such a situation. I reserve the right to not grant accommodation requests, but it doesn't hurt to ask!