

MATH 355 Linear Algebra

Summer 2019

Instructor: Ethan Gwaltney, ewg3@rice.edu

Office: Herman Brown Hall B47 (in the basement)

Office Hours: Mondays and Wednesdays 1-2, or by appointment

Classroom: Herman Brown Hall 423

Time: MTWRF 10:30am-12:00pm

Course Outline: Many problems from the sciences have a natural expression in the language of linear algebra. My goal for students is a basic fluency with the vocabulary, tools, and fundamental ideas of linear algebra. Main topics include the solution of linear equations, linear transformations and matrices, inner products, eigenvalues, eigenvectors, and the spectral theorem for real symmetric finite matrices. We will strive to balance the abstraction that gives linear algebra its power with many concrete examples.

Expectations: You should expect to spend significant time and thought on problem sets. I expect you to attend scheduled classes and exams. I expect you to have more difficulty with some parts of the course than others, and not necessarily those same parts found more difficult by your peers. I expect you to visit me in office hours when you find yourself having such difficulty.

Texts and materials: We will roughly follow Linear Algebra and its Applications by David C. Lay, Steven R. Lay, and Judi J. McDonald, fifth edition. Some written homework will come from this text. We will also use WeBWorK, which you can access at <http://webwork.math.rice.edu/webwork2/Math355Summer19Gwaltney/>.

Grading: Your grade will be computed as follows:
 30% (Homework) + 35% (Midterms) + 35% (Final).

Exams: There will be two midterm exams, worth 15% and 20% of your course grade, according to which benefits you more. Both will be in-class exams.

Exam 1: Week 2

Exam 2: Week 4

Homework: There will be two types of homework: online WeBWorK problems and written homework. Homework will be due at the beginning of class twice weekly (Tuesdays and Fridays, excepting the first week) and late homework will generally not be accepted. Instead, your lowest homework score will be dropped.

I strongly recommend you work on all homework individually at first, then collaborate with others after you've given the problems significant thought. I am happy to discuss homework problems in office hours (but not over email), as long as you've worked on it on your own first.

If you do collaborate with others, you must indicate who you worked with on the assignment, and you must complete your write-up of solutions independently. You may not use outside software unless specified and you certainly may not seek help from internet forums!

Rice Honor Code: 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/>.

Statement on Religious Accommodations: It is your responsibility to provide me with advance notice of the dates of religious holidays on which you will be absent, so that I can make reasonable accommodations. In particular, if the exam dates conflict with a religious observance of yours, please let me know *before the end of the first week of class!*

Disability Resources: If you have a disability or other condition that may affect academic performance you should make sure documentation is on file with the Disability Resource Center (Allen Center, Room 111 / adarice@rice.edu) to determine the accommodations you need; and talk with me by the end of the first week of class about your accommodation needs.

Disclaimer: I reserve the right to make changes to this syllabus and to course policies during the semester, excluding the section on grade calculation. Such changes will be announced in lecture.