

MATH 429: Linear Algebra

Spring 2020

Course Syllabus

- **Instructor:** Aliakbar Daemi <adaemi@wustl.edu>
- **Office:** Cupples I, Room 207A St
- **Course Assistant:** Michael Zeng <michael.z@wustl.edu>
- **Class Schedule:** MWF 10:00-10:50 am, McMillan Hall, G052.
- **Office Hours:** Wednesday 9:00-10:00 pm, Friday 11:00 am-12:00 pm.

- **About the Course:** The purpose of this course is to give an introduction of the linear algebra of finite dimensional vector spaces. The topics which we will cover include systems of linear equations, matrices, determinants, inner product spaces and spectral theory.
The level of rigor in this class is higher than Math 309, and hence Math 310 is a prerequisite for this class. Math 309 is not an explicit prerequisite, but familiarity with basic topics from matrix theory (matrix operations, linear systems, row reduction, Gaussian elimination) is expected, as these will be covered quickly.
- **Where to Find Course Materials:** I will maintain a website for the course: <https://www.math.wustl.edu/~adaemi/linear.html>. You may find there the plan for each lecture and the worksheets (see below). I also use Canvas to send announcements and keep track of your grades. So make sure that you get immediate notification after announcements are posted in Canvas.
- **Textbook:** Our primary reference for the class is *Linear Algebra*, 4th edition by Stephen Friedberg, Arnold Insel and Lawrence E. Spence. I encourage you to obtain a copy of the textbook. Each lecture of the class is based on one or more sections of the textbook. I strongly recommend reading the relevant part of the textbook after each lecture.
- **Homework:** For most weeks of the semester, there is a homework assignment. The problems will be posted online in **Crowdmark**, and you should upload your solutions there. The problem set of each week is due on **Saturday** of that week at **6:00 pm**. If you miss the deadline, you can submit your assignment until **Monday** of the week after at **6:00 pm**, and you will be penalized 30% for each day. Our CA grade your assignments and return the grades in Crowdmark. Depending on the length of the problem set, the CA might only grade a random set of problems which will be chosen after you turn in your homework and will be the same for everyone.

Homework problems are an essential part of this class. For one thing, they constitute a good portion of your final grades. More importantly, spending enough time on homework problems helps you to have a better grasp on the materials of the class. You should start working on homework problems closer to the time that they are assigned, not when it is due. You can, and in fact are encouraged, to collaborate on solving homework problems. Your classmates provide you with one of the best learning resources. So take advantage of that as much as possible. That being said, you should make sure that you know how to solve each problem after discussing it with others and then write it in your own language. Writing math is another important skill that you develop by doing homework problems.

- **Exams and grading:** There will be one in class Midterm, two take-home Midterms, and a **Final Exam**. The dates and times are listed below; the location for the final will be announced later. Make sure that you are available at the listed times for the exams. Success on the exams will require correct and efficient solutions to the more difficult homework problems. Calculators are not allowed in the exams. On the other hand, there will not be computationally heavy problems in the exams.

Midterm I: Wednesday, February 12, 10:00-10:50 am, McMillan Hall, G052.

Take Home Midterm I: Sunday, February 16 - Saturday, February 22

Take Home Midterm II: Sunday, April 5 - Saturday, April 11

Final Exam: Monday, May 4, 10:30 am -12:30 pm.

- **Letter Grade:** Your final letter grade will be computed based on the following wighted combination of your exams and homework grades. The cutoff grades which will be used to convert your weighted grade into a letter grade will be announced at the end of the semester.

Midterm 1	Take-home Midterm 1	Take-home Midterm 2	Final	Homework
15%	5%	20%	35%	25%

- **Tentative Schedule for the Course:**

Week	dates	Sections	Assignments due	Notes
1	1/13-1/17	1.1-1.3		
2	1/22-1/24	1.4, 1.5	Problem Set 1	Martin Luther King Day Add/drop deadline (1/23)
3	1/27-1/31	1.6, 2.1	Problem Set 2	
4	2/3-2/7	2.2-2.4	Problem Set 3	
5	2/10-2/14	2.5, 3.1	Problem Set 4	Midterm 1
6	2/17-2/21	3.2, 3.3	Take-Home Exam I	
7	2/24-2/28	3.4-4.2	Problem Set 5	Deadline to change to pass/fail (2/28)
8	3/2-3/6	4.2-4.4	Problem Set 6	week before Spring Break
10	3/23-3/27	5.1, 5.2	Problem Set 7	
11	3/30-4/3	5.2, 5.4	Problem Set 8	Withdraw deadline (4/3)
12	4/6-4/10	6.1, 6.2	Take-Home Exam II	
13	4/13-4/17	6.3-6.4	Problem Set 9	
14	4/20-4/24	6.5-6.6	Problem Set 10	

Check the course website regularly during the semester to see the updated schedule.

- **Disability Services:** If you require accommodations for a disability which affect your work during the exams or the class, please contact the Office of [Disability Resources \(DR\)](#) promptly to discuss appropriate arrangements. Send your VISA (which you will receive from DR) to me at least two weeks in advance of the first exam so your accommodations can be arranged.

- **Campus Resources:**
 - [The Bulletin](#) - university academic policies
 - [Mental Health Services](#)
 - [The Learning Center](#) - academic support services
 - [Title IX](#) - resources on sexual harassment and discrimination
 - [Disability Resources](#) - exam and other accommodations

Enjoy the Course!