MATH 113
LINEAR ALGEBRA
WINTER 2019
MWF 11:30-12:20 AT 380-380F

STAFF

Lecturer. Umut Varolgunes (OH: Thursday 3-5pm)
CA. Zachary Izzo (OH: TBD)
Grader. To be determined

Course outline

Math 113 is a course on linear algebra, the study of vector spaces and linear maps. The emphasis will be theoretical: we will study abstract properties of vector spaces and linear maps as well as their geometric interpretation.

Besides studying linear algebra, an important goal of the course is to learn how to write mathematics. In class we will give rigorous proofs, emphasizing proper mathematical language and notation. Through the homework assignments, you will learn to apply mathematical reasoning and write clear, compelling and correct proofs yourself. Your homework and exams will be judged accordingly. No background in linear algebra or proofs is assumed, and there are no formal prerequisites for the course: Math 113 is appropriate for students who have already seen some linear algebra in Math 51.

The course textbook is *Linear Algebra done right* by Sheldon Axler. We will mostly follow the order of topics there, with the addition of an introduction to general fields in week 1 and an interlude about determinants around week 4. The latter will be to mostly put your previous knowledge in context. My expectation is that each chapter in the book will take about a week.

Homework

There will be weekly homework assignments posted online. You will submit your solution sets to the online platform. Your lowest grade from all assignments will be dropped.

It is strictly required that you write your own solutions. No copying or paraphrasing is allowed. Read, discuss, collaborate, understand first, then go to your corner and write a solution. This is very strict and its breach will have consequences.

Grading

There will be one in-class midterm around mid-February and one final during the finals week - https://registrar.stanford.edu/winter-quarter-exams. Your grade will be based on 20 percent midterm, 40 percent final, and 40 percent homework.

Further information

- Contact the CA first about your questions regarding homework and grading.
- Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Office of Accessible Education (OAE). Professional staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an Accommodation Letter for faculty dated in the current quarter in which the request is being made. Students should contact the OAE as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 563 Salvatierra Walk (phone: 723-1066, URL: http://studentaffairs.stanford.edu/dae).