MATH 110: Linear Algebra

Summer 2023

Instructor:	Franny Dean (she/her/hers)	**Times:**	MW 4:10 – 6 pm T 4:10 – 5 pm Th 4:10 – 5:20 pm
Email:	frances_dean@berkeley.edu	**Place:**	Cory 241

Course Page: http://frances-dean.github.io ⇒ Teaching ⇒ MATH 110

Office Hours: Tuesday 1:30-2:30pm Evans 748; Tuesday 5:00-6:00 pm Cory 241; Wednesday 12:00-1:00pm Evans 732

Textbook: Sheldon Axler, *Linear Algebra Done Right*, Springer, 2015. (Third Edition.)
   To access the text book for free online, search for it on the UC Library Search and log in here.

Objectives: This course is designed to be a second course in Linear Algebra. While many of the topics overlap with MATH 54, our focus will be on understanding the fundamental algebra and developing mathematical proof-writing and exposition skills. See the course schedule for the topics covered in our course.

Prerequisites: MATH 54 or a course with equivalent linear algebra content. MATH 55 or an equivalent exposure to proofs is recommended.

Grading and Assignments: Homework, discussion, and quizzes (50%), Midterm (20%), Final (30%).

   Homework: There will be 8 total homework assignments due weekly on **Wednesdays** at 4:10pm. One will be dropped. Homework should be typed in a LaTeX and will be worth 20 points each. See below for guidance if you are new to LaTeX. Late homework will not be accepted.

   Discussion: There will be two opportunities for group problem discussion. There will be a one hour session on Wednesdays evenings (5:10-6pm). You will get one point for attending this session each week and work on problems that will not be turned in. On Monday evenings (5:10-6pm), there will be an optional group homework problem working session.

   Quizzes: On Thursdays, unless there is an exam, class will end with a short quiz. I will return the quizzes with feedback on Monday. You will get one point for attempting the quiz regardless of the accuracy of your solution.

   Exams: We will have a midterm and a final exam. Each will be in-class. You will be able to use any written or printed notes but no internet or books. You cannot miss exams except under extenuating circumstances. Let me know about conflicts by July 1 via email.

   Gradescope: Look out for an invitation to join 'MATH 110-3' on Gradescope. All assignments will be submitted here and you will receive feedback there.

Course Schedule: Any changes to the course schedule will be communicated in class and on the course webpage. Changes are likely.

Important Dates:

Class Policy:

- Regular lecture attendance is essential and expected but not formally required. This course will be fast paced and covers challenging content. It is imperative to stay on top of the material.

- Disrespect of any kind will not be tolerated.

Academic Honesty: Solving homework problems and studying together is encouraged, but you must type your solutions independently without referencing any other student's work. Collaboration of any form on exams and quizzes is prohibited and will be reported. Please acknowledge your collaborators. For example,

> **Acknowledgements:** The instructor is grateful to Xianglong Ni for sharing his notes from previous versions of this course.

LaTeX: Typing in LaTeX is an important skill for communicating mathematics that you may either already know or will develop in this course. LaTeX allows for the integration of mathematical symbols and equations into prose. For those already skill in LaTeX, feel free to use any editor and template. For those newer, I recommend using the online Google Docs style editor Overleaf: `https://www.overleaf.com/`. I have created a homework template for this course: `https://www.overleaf.com/read/ycwqmpkckxxm`.

To find the code for a specific mathematical symbol try Detexify: `https://detexify.kirelabs.org/classify.html`