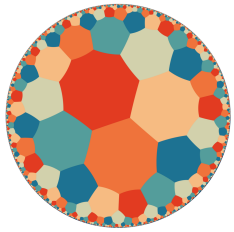


# Math 221
# Linear Algebra

Prof. Trevor Hyde
403 Rockefeller Hall
thyde@vassar.edu



## OVERVIEW

Every problem is, on first approximation, a linear problem. This makes linear algebra–the art and science of solving linear equations–the single most useful mathematical subject. In this course we will introduce the fundamental concepts of vector spaces and linear transformations and study them through the lenses of geometry and algebra. We will learn how to analyze matrices by hand and by machine. Along the way we will encounter applications from a variety of fields.

## OFFICE HOURS

**Monday and Wednesday 3 to 4 pm, Thursday 1 to 3 pm.** My office is 403 Rockefeller Hall (take a left at the top of the stairs, end of the hall on the right.)

## RESOURCES

There are four important digital resources for this class:

1. **Course website.** The homework, `tex` templates, and handouts will all be available here. Besides the standard `pdf` versions, there will be `html` versions of the homework posted on the site which may be more convenient for viewing on various devices. This is an experimental system I am working on, so **please let me know if you spot any errors or issues or have ideas for improvements.**

2. **Textbook.** We will use the free, open-source textbook *Interactive Linear Algebra* by Dan Margalit and Joseph Rabinoff (and customized for our class by yours truly). You may also find a link to it on the course website.

3. **Moodle.** You will submit homework and view your grades via Moodle.

4. **Discord.** We have a course Discord server. This is how I will make announcements and is the easiest way to reach me. I encourage you to post questions here. You are welcome to DM me at any time, I will get back to you as soon as I can. Please join and set your server profile name to your preferred full name.

## EXAMS

There will be **two midterms and a final exam** in this course. The midterms will take place in class and are scheduled for

- Friday, September 25th,
- Friday, November 13th.

The final exam is scheduled by the registrar. We will learn that date, time, and location later.

## HOMEWORK

There will be weekly problem sets posted on the course website. All homework submissions must be typeset in LaTeX. You will submit **both your .pdf and .tex files** on Moodle. I will provide you with templates for writing your solutions and I strongly prefer you use these templates as it will make grading less of a headache.

## GRADES

Grades for this course are split as follows:

- Homework: 50%
- Exams: 45%
- Participation: 5%

The exam portion of the grade is split among the two midterms and the final exam as follows:

- Midterm 1: 30%
- Midterm 2: 30%
- Final: 40%

## AI POLICY

AI tools are incredibly helpful for learning and discovering mathematics. However, there is such a thing as being *too helpful*. This class is at the border between the pre-rigorous and rigorous phase of your mathematical development, and to build these muscles it is critical that you wrestle with the mathematics yourself. **No AI tools are allowed for doing homework in this course**. Use your own mind and those of the people around you instead. It will be worth it, I promise. You are permitted to use AI tools to help you study and learn. If you are not sure if some use of AI is permitted, I am happy to discuss it with you.

## EXPECTATIONS

You are expected to attend and participate in class. I expect you to write your own solutions in your own words to homework and to give explicit credit to any sources you consult. Each homework assignment will have space for you to list your collaborators and resources and the top. If you are unsure if something is considered a breach of academic integrity, please discuss with me. Most importantly, I expect you to be respectful to everyone in the class.

## LATE POLICY

Homework turned in within 24 hours of the deadline will be docked a 5% penalty; homework turned in more than 24 hours late but less than 72 hours late will be docked a 10% penalty; anything turned in more than 72 hours late needs to be discussed with me before it can be considered for credit. **Everyone gets one free, no-questions-asked late assignment to be turned in within 72 hours of the deadline. This will be applied to the first assignment that is turned in late. You do not need to ask me permission to use it.**

## ACCOMMODATIONS STATEMENT

Academic accommodations are available for students registered with the Office for Accessibility and Educational Opportunity (AEO). Students in need of disability (ADA/504) accommodations should schedule an appointment with me early in the semester to discuss any accommodations for this course that have been approved by the Office for Accessibility and Educational Opportunity, as indicated in your AEO accommodation letter.

## BASIC NEEDS POLICY

Your safety and well-being are more important than anything going on in class. Please reach out to me if you need to talk. Any student who faces challenges securing their health, housing, food, or personal safety is urged to contact Luis Inoa (inoa@vassar.edu), Associate Dean of the College for Student Living and Wellness, for support. If you feel comfortable notifying me, I will do what I can to connect you with resources. **For on-campus emergencies, please call 911 or the Campus Response Center (CRC) at 845-437-7333.**