

## Class Axioms

Mathematical potential is distributed equally among different groups, irrespective of geographic, demographic, and economic boundaries.

Everyone can have joyful, meaningful, and empowering mathematical experiences.

Mathematics is a powerful, malleable tool that can be shaped and used differently by various communities to serve their needs.

Every student deserves to be treated with dignity and respect.

~ Federico Ardila

## Course Information

### MATH 308E: Matrix Algebra

#### Prof. Bianca Viray

Email: [bviray@uw.edu](mailto:bviray@uw.edu) (Include [Math 308] in the subject of all emails)

Office Hours: Tuesday 1:30 - 2:20pm and Thursday 3:55 - 4:45 pm, or by appointment.

<https://washington.zoom.us/j/98641875574>

## About the Course

### Course Overview

In this course we will study the foundations of matrix algebra, or linear algebra, the study of all things linear. You will learn how both geometry and algebra can be leveraged to understand properties of vectors, matrices, linear transformations, and subspaces.

This course is run in an *active learning* or *flipped classroom* style. What that means is that you will learn the basic definitions and standard examples on your own, before class. Then, during class, we will focus on the more difficult and more conceptual problems together. This format of class has the same amount of assignments and problems as a more traditional class, but they are broken up into more frequent, smaller chunks.

### Required Texts

*Linear Algebra with Applications, Second Edition*, by Jeffrey Holt.

### Community Agreement

*(First draft -- to be edited together!)*

This course aims to offer a joyful, meaningful, and empowering experience to every participant; we will build that rich experience together by devoting our strongest available effort to the class. You will be challenged and

supported. Please be prepared to take an active, critical, patient, and generous role in your own learning and that of your classmates.

## Learning Remotely

You will need internet access, a device that connects to the internet with a camera, and a way to produce and upload handwritten work (your cell phone works). If you don't have access to these, you can contact [The Student Technology Loan Program](#). If you have any concerns about your access to any of these, please make an appointment to meet with me. You will not have to disclose anything you are uncomfortable doing; my only goal is to help you obtain a setup that enables you to be successful in the class.

Zoom tips:

- [Sign in to UW Zoom](#)
- [Zoom Docs](#)

All quizzes will be administered through GradeScope. Here are some tips and instructions on how to use Gradescope.

- [Gradescope Assignments](#) -- How to log in to Gradescope and begin a quiz
- [Take an Online Exam using your phone](#) -- login to Gradescope using a browser on your phone to upload a photo of your handwritten work. Its easier to read the questions on your computer, but the **least complicated way to upload your answers** is by taking photos from within the Gradescope page running in a browser on your phone. If you can read the questions on your phone, you don't even need to login to Gradescope on your computer.
- [GradescopeUploadInstructions](#)
- The mobile apps for Google Drive and Dropbox also have great scanning functionality.

## Academic Integrity

As stated in [UW's policy on Academic Misconduct](#), University of Washington students are expected to practice high standards of academic and professional honesty and integrity. Among other things, this means that you are expected to adhere to the quiz policies of this class.

Violation of these policies, cheating, or academic misconduct of any kind will not be tolerated. Any instances will be reported to the department of Community Standards and Student Conduct and no credit will be given for the assignment(s) in question. For the syllabus quiz, you will upload a file of a certain type.

## Grading

Quizzes (9 quizzes, 3 questions at 10 points each, lowest 3 questions dropped)	240 points
Conceptual problems (weekly, graded based on completeness)	30 points
Reading reflections	10 points

WebAssign	20 points
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**Life Happens**

The assignment deadlines and quiz dates are set to give you enough time to digest the material and ask for help with any confusion, while also ensuring that you do not fall behind on new material. That said, life can (and often does!) interfere with a carefully planned quarter. You can receive an automatic extension on any two homework assignments for any complication that may arise. For any extensions beyond two, I ask that you make an appointment with me so we can figure out a modified plan to work with your constraints and help keep you on track with the course. Please upload a gif that captures your feelings about this class. You will not have to disclose any details about your situation that you are uncomfortable with.

**Course Schedule**

	Monday	Wednesday	Friday
Week 1 (Sept 27 - Oct. 3)	NO CLASS	Course Intro	S1.1
Week 2 (Oct. 4 -Oct 10)	S1.2	S2.1	Quiz
Week 3 (Oct 11 - Oct 17)	S2.2	S2.3	Quiz
Week 4 (Oct 18 - Oct 24)	S3.1	S3.1	Quiz
Week 5 (Oct 25 - Oct 31)	S3.2	S3.3	Quiz
Week 6 (Nov 1 - Nov 7)	S4.1	S4.2	Quiz
Week 7 (Nov 8 - Nov 14)	S4.3	UW CLOSED	Quiz
Week 8 (Nov 15 - Nov 21)	S4.4	S5.1	Quiz
Week 9 (Nov 22 - Nov 28)	S5.2		UW CLOSED
Week 10 (Nov 29 - Dec 5)	S6.1	S6.1	Quiz
Week 11 (Dec 6 - Dec 12)	S6.2	S6.2	Quiz

**Access and Accommodations**

Your experience in this class is important to me. If you have already established accommodations with [Disability Resources for Students \(DRS\)](#), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or [uwdrs@uw.edu](mailto:uwdrs@uw.edu) or [disability.uw.edu](http://disability.uw.edu). DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

## Religious Accommodations

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](#). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form](#).

## Tips for Success

- Practice, practice, practice: Learning mathematics is in many ways similar to learning a foreign language or sports: the way to learn and improve is by doing! This means solving more problems than you are assigned, working on many different types of problems, explaining what you did to your classmates, and challenging your classmates to explain the reasoning behind every step.

- Do the homework assignment without looking at the textbook or your notes: You should use the homework assignments to check whether you have really digested the material in the reading or in class. However, if you constantly reference your notes or books when solving the problem, you are really only checking if you can follow the material when it's being presented. This is different from internalizing the material.

I suggest first attempting the assignment with your book and notes closed. You will probably struggle at first. When you have made as much progress as you think you can, then put away the homework, reread your notes and book and/or come to office hours, and work through some other examples. Then you should go back to the assignment (again with your notes and book closed!) and try again, possibly repeating the process multiple times. This [link](#) may be helpful.

This will probably take longer, but you will have gained a much better understanding of the material, and it will be much better preparation for the exams.

- Start your homework assignment early: This is a consequence of the last tip, but is important so bears repeating.

- Come to office hours: If you are confused in class or on a problem, come to office hours and ask! Even if you aren't confused, come to office hours – we can talk about something else or you can help clarify things for another student. Nothing solidifies your understanding as well as explaining it to someone else does.

