MATH 4A, Linear Algebra with Applications

Lecture:	MTWR 12:30-1:35 PM PDT Pre-recorded on GauchoCast/Panopto (Link on GauchoSpace or below:) https://gauchocast.hosted.panopto.com/Panopto/Pages/Sessions/List.aspx?folderID=83bcd645-9e10-4ba8-9f7e-ac02016cdcd2
Instructor:	Melody Molander (she/her/hers)
Email:	melodymolander@math.ucsb.edu
Office Hours:	M 7:30-8:30 PM PDT, RF 9-10 AM PDT or by appointment, Zoom link: https://ucsb.zoom.us/j/97481945267
TAs:	Christian Hong (he/him/his) christianhong@math.ucsb.edu Michael Zshornack (he/him/his) zshornack@math.ucsb.edu
TA Office Hours:	Christian: W 2-3 PM Christian's OH Zoom Link: https://ucsb.zoom.us/j/93831011350 Michael: R 1-2 PM Michael's OH Zoom Link: https://ucsb.zoom.us/my/zshornack
TA Math Lab Hours:	Christian: M 11-1 Michael: M 2-4 Math Lab Zoom Link: ucsb.zoom.us/my/mathlab
TA Live Discussion Times:	Christian: M 2:30-3:20 PM, W 3:30-4:20 PM Christian's Discussion Zoom Link: https://ucsb.zoom.us/j/93831011350 Michael: T 2:30-3:20 PM, R 3:30-4:20 PM Michael's Discussion Zoom Link: https://ucsb.zoom.us/my/zshornack
Piazza Course Page:	https://piazza.com/ucsb/summer2020/math4asessionb/home
Textbook:	*Linear Algebra & its Applications* by David Lay Or *Linear Algebra with Applications* by Stephen Pablo (this text will be on GauchoSpace)
Prerequisites:	Math 2B or 3B or 3BI with a minimum grade of C.
Topics:	Systems of linear equations, matrix algebra, determinants, vector spaces and subspaces, basis and dimension, linear transformations, eigenvalues and eigenvectors, diagonalization, and orthogonality.

Exams:	Through https://www.gradescope.com/. Entry Code: **M33B7Y**
	Exam 1 - At the end of week 2
	Exam 2 - At the end of week 4
	Exam 3 - At the end of week 6
	See Exams section below for more information
Grade:	Exams 60%, Homework 25%, Quizzes - 10%, Participation 5%
Grading Scheme:	93-100 A, 90-92.9 A-, 87-89.9 B+, 84-86.9 B, 80-83.9 B-, 77-79.9 C+, 74-76.9 C, 70-73.9 C-, 67-69.9 D+, 64-66.9 D, 60-63.9 D-, 0-59.9 F
	If you choose to take the class as "Pass/No-Pass," please be advised that a grade of C or above will result in a Pass (P), while a grade of C- or below will result in No-Pass (NP).
Holidays:	September 7th (Labor Day) (No class lecture will be uploaded and there will be no discussion section)
Deadlines:	Crashers list round 1 opens - August 3rd
	Fee Payment Deadline - August 5th
	Crashers list round 1 closes/crashers list round 2 opens - August 5th
	Crashers list round 2 closes - August 7th
	Last day to add without an approval code - August 7th
	Last day to drop with a full refund - August 7th
	Crashers list round 3 opens - August 10th
	Add code distribution begins - August 10th
	Crashers list round 3 closes - August 12th
	Last day to add with an approval code - August 13th
	Last day to drop (no W grade) - August 18th
	Last day to change grade option - August 31st

Enrollment: Questions about enrollment and the waitlist should be directed to Math Undergraduate Advising at ugrad@math.ucsb.edu, as instructors have no control over assigning add-codes. If you are crashing the course, please contact me via your UCSB email so that I can add you to the Gauchospace and Piazza course pages.

Class Structure: Lectures will be pre-recorded in Gauchocast and a link to Gauchocast will be on GauchoSpace. I will break up each 65 minute lecture into videos by topic. It is your responsibility to watch these videos in a timely manner to keep up with the class. Quiz questions will be asked throughout the videos.

Discussion Sections: You will have sections with Christian or Michael. They will hold two sections a week at the following times **(NOTE: this is slightly different than GOLD times)**
For Christian: M 2:30-3:20 PM, W 3:30-4:20 PM
For Michael: T 2:30-3:20 PM, R 3:30-4:20 PM
Since not everyone may be available during those times, both TAs will record their sections and upload them to Gauchocast within 24 hours. During section you will often review concepts covered in class and go over problems covering current topics that relate to the current homework set.

Time: All students can expect to spend (on average) two hours of homework for each hour spent in class. 4 hours of lecture is 8 hours of homework for a 4-unit course. You should also spend additional time reviewing and studying for exams.

Email Policy: Use your school account when emailing instructors to avoid having your email sent straight to spam. When emailing me, please include Math 4A on the subject line. During Monday - Friday, I will try to reply to your email within 24 hours. If you email me during the weekend, expect a response the following Monday. If you don't get my reply within the time range, please talk to me in office hours. It is possible that I didn't receive your email. **Please check your email frequently for emails regarding this class.**

Exams: There will be 3 exams, all equally weighted. You are expected to know all relevant definitions, perform the basic computations covered in class, and think critically to solve conceptual problems. You will be expected to justify all work and explain your solutions clearly. The point of mathematics is to understand the tools we use, and know when to apply them to solve a problem. Even if you see a problem that doesn't look exactly like something we covered in class, you should be able to solve it using the basic tools that we have learned. **You may use course notes/textbooks while taking exams, but peer collaboration and internet use are forbidden**.

The exams will be at the end of weeks 2, 4 and 6. Generally, there will be a multi-day window for you to decide when to take an exam, but there will be a time-limit for submitting the exam once you first open it. All exams will be administered and graded via Gradescope. More information about Gradescope will be provided on Gauchospace/Piazza. Late exam submissions are not allowed without a documented excuse or an extenuating circumstance. Please contact me as soon as possible if this applies to you during the session. Points on the exam will be awarded for correctly submitting work to Gradescope. Additionally, if your work is not legible, you will receive a 0. It is a good idea to set up your Gradescope account ahead of time.

Homework: Mandatory WebWork will be posted to Gauchospace. **Webwork will generally be due twice a week on Thursdays and Mondays.** The point of the Webwork is to provide short

basic problems relevant to the daily lectures, to ensure better retention of the material. Since this is an accelerated course, we will be moving very quickly through the material. The only way to have solid understanding of the course material is by reading notes and working through practice problems on a regular basis. It is always a good idea to start the homework early, especially on weeks when you have an exam. You are encouraged to work with others on the homework, **however the work you turn in must be your own.**

Quizzes: During the lecture videos there will be questions given. Please be careful in answering these questions, as you only get one try. The week's worth of questions will be accumulated into a weekly quiz score. Since I am aware there may be technical difficulties, I will drop your lowest quiz score. **All questions for the week's quiz are due by Friday at midnight PDT.** All of the tools needed to complete the quiz will be covered in the lecture. You may use course notes/textbooks while taking exams, but peer collaboration is forbidden.

Participation: In most cases, participation will not negatively affect your grade if you are engaging in the course in some way. The following opportunities will positively impact your participation grade:

• Have your video on during Zoom discussion section and engage with/ask questions about the lecture material. It is very difficult to try to engage with a void of 25 black boxes. While not a strict requirement, it will be very appreciated if you keep your video on whenever you feel comfortable! Also, please display your name on Zoom as it is listed on the Gauchospace roster.
• Attend office hours.
• Ask and answer questions on the Piazza message board.

Since some students are in different time zones, I don't expect everyone to be able to regularly attend Zoom discussion sections. The Piazza message board is meant to give all students a platform to more freely participate and engage in the course.

Resources: I highly encourage you to take advantage of some of the following resources to help aid your success in the course. Do not let your pride prevent you from seeking help in mathematicsI would not have been as successful in my math courses as an undergraduate if it wasn't for my professors' office hours!

- **Piazza**: We will be using the Piazza message board as a way to engage in the course outside of Zoom meetings. Piazza should be your go-to place to ask questions about the homework outside of office hours. Post all non-personal questions related to course material and general administrative matters on Piazza, rather than sending emails. Please read and follow the "Math 4A Piazza Rules/Guidelines" post on Piazza before writing/responding to a post.

- **Myself and the TAs Office Hours:** Each student has individual needs which may not be resolved by simply reading the textbook or asking a question in class. Thus coming to office hours can be very beneficial to students. I can also sometimes answer math questions through email and email is usually the best way to try and contact me outside of class.

- **MATH LAB:** The Math Lab is an excellent resource to use for this class. They are open **Mon - Thurs 11-4 pm and Friday 12-3 pm** and the Zoom link is: ucsb.zoom.us/my/mathlab

- **CLAS**: Free supplemental tutoring for lower division math courses. For more information visit clas.sa.ucsb.edu

- **Youtube/Internet:** I highly recommend 3Blue1Brown's Essence of Linear Algebra video series on YouTube - A video series with beautiful visualizations to help develop geometric intuition behind the subject. Additionally, there is an endless amount of supplemental math resources available online, whether it be course notes, Wikipedia, Khan Academy, etc. If you don't understand a concept in mathematics or don't know a certain definition, you can easily discover a lot of information via simple googling. Disclaimer: Again, I am not suggesting that you look up solutions to homework problems on sites such as Chegg Study, but rather find resources to help you understand the main ideas of the course.

- **Private Tutoring:** Please contact the math department if you would like to seek a private tutor. Many of the graduate students offer private tutoring services.

Academic Integrity: Peer collaboration on homework sets is encouraged; however, you are expected to complete final write-ups on your own. You are welcome to use any of the resources we provide for you (notes, textbook, worksheets) in completing the homework and exams, and you are also welcome to ask Christian, Michael, or myself for assistance. Online resources like Wikipedia can also be beneficial in helping you understand the main ideas of the course material. However, you should not be directly copying solutions from sites like Chegg Study. Common examples include copying (part of) anyone's solution or using an unauthorized source such as Chegg Study. If you cannot do the homework sets on your own, it is important to take this not as a sign of defeat, but an indication that there is still something that you need to learn in order to truly understand the material. Whether you seek help from me, the TAs, fellow classmates, or rereading the course notes is up to you, just don't give up! Oftentimes, the difference between the students who score well and those who don't is a refusal to give up and seek help when necessary.

Any student caught cheating will be dealt with in the most serious possible way. To be successful in this class, all work on tests and quizzes must be yours and yours alone. On tests and quizzes, you will never be permitted to use your cell phone, the internet, a tutor, a friend or any other study aids. **Should you see someone else engaging in this behavior, I encourage you to report it to me.** Students who cheat devalue their degree as well as yours. Be aware that it is my professional obligation to report academic misconduct, and I will not hesitate to do so. If you are caught cheating or engaging in another form of academic dishonesty as defined in the Student Code Conduct, you will receive a 0 for the assignment which may not be dropped. You will also be referred to the discipline officer.

Special Accommodations: Providing academic accommodations to students with disabilities is a shared responsibility of the campus. Students with disabilities are responsible for ensuring that the Disabled Students Program (DSP) is aware of their disabilities and for providing DSP with appropriate documentation. Please submit requests for accommodations as soon as possible after enrolling in the course, so that we have a reasonable amount of time to accommodate you. Ensuring that your instructor is aware of your disability and any problems it may cause you (to the extent which you feel comfortable sharing) will help us provide you with a more comfortable classroom experience. DSP's website is https://dsp.sa.ucsb.edu/ and serves as the campus liaison regarding issues and regulations related to students with disabilities. The DSP staff works in an advisory capacity with a variety of campus departments to ensure that equal access is provided to all disabled students.

Diversity and Inclusion: Mathematics is among the most abstract and universal of human disciplines. While many of the topics we will study in this course are mostly removed from cultural influences, I want to ensure a classroom experience that is accessible to all students. Please contact me or submit anonymous feedback if you have any suggestions to improve the quality of the course materials. If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to discuss it with me. If something was said in class (by anyone) that made you feel uncomfortable, please feel welcome to bring it to my attention.

Disclaimer: All information on the syllabus is subject to change if the instructor finds it necessary. Any changes will be announced through email.

HOW TO DO WELL IN THIS CLASS
1. Have a positive attitude.
2. Learn to manage your time.
3. Actively pay attention to lectures.
4. Do your homework.
5. Check your work.
6. Learn from your mistakes.

7. Know how to get help if you need it.
8. Organize your class materials, homework, quizzes, and tests.
9. Read your textbook before class.
10. Don't be afraid to ask questions.

Anyone can do math. With hard work you can accomplish anything! I believe in your success. Please always feel comfortable talking to me about your concerns and questions via office hours or email.