

MATH 2270 Linear Algebra, Spring 2022

Instructor: Peter Wear

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Class Meetings: MTWF from 12:55 pm to 1:45 pm in WEB 2250. All classes will (hopefully) also be live streamed on Zoom.

Office Hours: TBD, some in JWB 312, some on Zoom

Course Information: Math 2270 Linear Algebra is a 4 credit course.

Prerequisite Information: Prerequisites: 'C' or better in ((MATH 1260 OR MATH 1320 OR MATH 1321 OR MATH 2210) OR (MATH 1220 AND Full Major status in Computer Science OR Computer Engineering OR Data Science)) OR 'B' or better in MATH 1220.

Course Description: Euclidean space, linear systems, Gaussian elimination, determinants, inverses, vector spaces, linear transformations, quadratic forms, least squares and linear programming, eigenvalues and eigenvectors, diagonalization.

Text: *Linear Algebra and Its Applications*, 5th edition, by D. Lay, S. Lay and J. McDonald. We will cover most of the first seven chapters of the textbook, following it fairly closely. **The textbook is required as homework will be assigned from it.** This course is using the Inclusive Access program for the textbook. This means that you are automatically signed up to get a digital copy of the textbook over Canvas. **Your student account will be automatically charged \$29.18 after two weeks. If you don't want this to happen, you need to manually opt out before then!**

Canvas: Canvas will be used for posting course announcements, Zoom links, homework assignments, grades, files and any relevant supplementary material. You are also encouraged to make use of the Canvas discussion board to discuss course problems or topics. You can access the Canvas page through CIS or by logging in at utah.instructure.com. Please check the Canvas page regularly for course information and resources.

Grading: The following are the grade components and the percentage each contributes to your final grade:

- **Homework Assignments (20%)**- Weekly homework will be assigned and submitted online using Gradescope. **Homework will be due on Tuesdays at 9 pm.** Homework will cover the material discussed in class up to the previous Friday. Homework submitted between 9 pm and 11 pm on Tuesday will be accepted, but will get at most half credit. Homework submitted after 11 pm will not be accepted. The lowest two homework scores will be dropped. You may use calculators on the homework.
- **Quizzes (50%)**- Six 20-minute **in-person** quizzes will be given, one every other Wednesday. Each quiz will cover material up to the preceding Friday. The lowest quiz score will be dropped. All quizzes will be taken in person, and will take place at the end of lectures. **The quizzes will take place on the following dates: January 19th, February 2nd and 16th, March 2nd and 30th, April 13th.** You may use one single-sided, hand-written page (8.5 by 11) of notes on each quiz. Calculators will not be allowed (or needed) on the quizzes. Quizzes will cover the material discussed in class up to the previous Friday.
- **Final Exam (30%)**- A comprehensive exam will be given and proctored in person end of the semester. **Our final exam is scheduled for Friday, April 29th from 1-3 pm.** You may use one double-sided, hand-written page (8.5 by 11) of notes on the final. Calculators will not be allowed (or needed) on the final.

Final course letter grades will be determined as follows: A [93-100), A- [90-93), B+ [87-90), B [83-87), B- [80-83), C+ [77-80), C [73-77), C- [70-73), D+ [67-70), D [63-67), D- [60-63), E [0-60). The scale might be adjusted to become more lenient, but will not be any stricter.

Covid policies:

University leadership urges all faculty, students, and staff to model the vaccination, testing, and masking behaviors we want to see in our campus community. These include:

- **Vaccination:** Get a COVID-19 vaccination if you have not already done so. Vaccination is proving highly effective in preventing severe COVID-19 symptoms, hospitalization and death from coronavirus. Vaccination is the single best way to stop this COVID resurgence in its tracks. Visit <http://mychart.med.utah.edu/>, <http://alert.utah.edu/covid/vaccine>, or <http://vaccines.gov/> to schedule your vaccination.
- **Masking:** While masks are no longer required outside of Health Sciences facilities, UTA buses and campus shuttles, CDC guidelines now call for everyone to wear face masks indoors.
- **Testing:** If you are not yet vaccinated, get weekly asymptomatic coronavirus tests. This is a helpful way to protect yourself and those around you because asymptomatic individuals can unknowingly spread the coronavirus to others. Saliva based testing is available at alert.utah.edu/covid/testing
- **Self-Reporting:** All of us, including faculty, students, and staff, must self-report if we test positive for COVID-19 via this website: <https://coronavirus.utah.edu/>.

Mathematical resources:

- **Tutoring Center & Computer Lab-** There is free online tutoring at the virtual math center <https://utah.instructure.com/courses/613503/>
- **Private Tutoring-** See the ASUU website for additional tutoring options <https://www.asuu.utah.edu/student-resources/>. There is also a list of tutors at the math department office JWB 233.

Additional Policies and Resources

Academic Code of Conduct: Students are encouraged to review the Student Code for the University of Utah: <https://regulations.utah.edu/academics/6-400.php>. In order to ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty, including but not limited to refraining from cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating. A student who engages in academic misconduct as defined in Part I.B. may be subject to academic sanctions including but not limited to a grade reduction, failing grade, probation, suspension or dismissal from the program or the University, or revocation of the student's degree or certificate. Sanctions may also include community service, a written reprimand, and/or a written statement of misconduct that can be put into an appropriate record maintained for purposes of the profession or discipline for which the student is preparing.

ADA Statement: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability & Access, 162 Olpin Union Building, 801-581-5020. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability & Access.

Addressing Sexual Misconduct: Title IX makes it clear that violence and harassment based on sex and gender (which Includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support

and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

Campus Safety: The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit <https://safeu.utah.edu>

Inclusivity Statement: It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status, and other unique identities. gender, sexuality, disability, age, socioeconomic status, ethnicity, race, culture, and other unique identities. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

Student Names and Personal Pronouns: Class rosters are provided to the instructor with the student's legal name as well as Preferred first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise me of any name or pronoun changes (and update CIS) so I can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your UIDcard, please visit the LGBT Resource Center Room 409 in the Olpin Union Building, or email bpeacock@sa.utah.edu to schedule a time to drop by. The LGBT Resource Center hours are M-F 8am-5pm, and 8am-6pm on Tuesdays.

Wellness Statement: Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a students ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at <https://www.wellness.utah.edu> or 801-581-7776.