Linear Algebra
Math 250
Spring 2025; MTWF 9:00-9:50

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Office hours for extra help: MWF: 1:00-3:00, R 9:00-10:00.

Text: *Understanding Linear Algebra*, D. Austin.
This is an open source text available as a free download at
https://understandinglinearalgebra.org/home.html
We will also be accessing the text through Runestone Academy, https://landing.runestone.academy/. You will need to create a free account on Runestone. When you register on Runestone you will need to enroll in our course: linfield_ula_spring25.

Course Activities: https://nordstromjf.github.io/TBIL_ULA/frontmatter.html

Tentative Daily Schedule

Week 1	Intro	Week 5	2.3	Week 9	3.2	Week 13	4.3
	RAT 1		2.4		3.2		4.3
	1.1		2.4		3.3		4.4
	1.2		2.5/ Quiz 2		3.4		4.4
Week 2	1.2	Week 6	2.5	Week 10	3.4	Week 14	4.5
	1.2		2.5		3.4		4.5
	1.3		2.6		3.5		4.5
	1.4		2.6		3.5 /Quiz 4		6.1/ Quiz 6
Week 3	RAT 2	Week 7	Break	Week 11	3.5	Week 15	6.2
	2.1		Break		3.5		6.3
	2.1		Break		RAT 4		6.4
	2.1/ Quiz 1		Break		No Class		
Week 4	2.2	Week 8	2.6	Week 12	4.1	Tuesday	
	2.2		RAT 3		4.2	May 27	**Final Time**
	2.2		3.1		4.2	8:00 am	
	2.3		3.1/ Quiz 3		4.2/ Quiz 5		

Course Objectives:

1. To introduce students to the basic concepts of vector spaces and matrices.

2. To introduce students to computational aspects of matrix theory including systems of equations, eigenvalues, and reduced and canonical forms.

3. To develop the student's facility with matrix computations.

4. To increase student's problem solving ability.

5. To introduce students to applications such as population models and Markov chains.

6. To improve the student's ability to think logically and abstractly.

Course Format This course is taught by a method called **team-based learning**. You will be assigned a team that you will work with on various activities in class each day.

- Before each module begins, you will be responsible for ensuring your own readiness for the module. Material for the readiness assurance process will be available on Blackboard. Make sure you prepare for the beginning of the module before class.

- The first day of each module will be dedicated to the Readiness Assurance Process. The dates for these are located in the course schedule (listed as RAT). On these days, you will first take an Individual Readiness Assurance Check (iRAT). After submitting this, working with your teammates you will retake the same problems as the Team Readiness Assurance Check (tRAT). These are designed to measure if you are prepared for the team activities on subsequent days.

- On the other class days, you will work with your teammates on a series of activities designed to guide you through discovering and understanding the course material.

Readiness Assurance Checks At the start of each module, you will take a multiple choice assessment (iRAT) based on assigned material. After submitting you answers, you will work with your team on the same assessment (tRAT), submitting team answers. Your scores on both the iRAT and the tRAT will be averaged for your RAT score. If you are unable to be at class for the RAT process, you may take the iRAT before the next class period. Your iRAT will stand as your score. If you miss a RAT and are unable to make it up before the next class, I will drop one RAT score.

RAT 1: Tuesday, Feb. 11.

RAT 2: Monday, Feb. 24.

RAT 3: Tuesday, Apr. 1.

RAT 4: Wednesday, Apr. 23.

Homework: Homework will be due twice a week on Tuesdays and Fridays at 3 pm. Assignments are posted on the course website, accessible through Blackboard. Part of doing homework is reading the text. The text contains additional examples and material that may be relevant for homework and quizzes. Late homework will be accepted within 24 hours if an extension is requested prior to 4 pm on the due date. Homework may be rewritten for full credit. All rewrites are due one week following the original due date.

In Class Activities: Each section will have several activities that you will work on with your team. You will work in groups of 4-6 students on the activities. You will not be assessed on your team's specific answers to the activities, but you will be assessed on your general engagement with your team. This includes attendance, participation, and teamwork. There will be both a peer evaluation score and a faculty evaluation score. If you are unable to be in class, it is your responsibility to check with your team about what activities you missed.

Quizzes: There will be six quizzes. The quizzes will be completed in class. You may use Sage for some computations. The quizzes are every two weeks. You may retake any quiz. Make-up quizzes must be completed within one week.

Quiz 1: Friday, Feb. 28.

Quiz 2: Friday, Mar. 14.

Quiz 3: Friday, Apr. 4.

Quiz 4: Friday, Apr. 18.

Quiz 5: Friday, May 2.

Quiz 6: Friday, May 16.

Grading:

Homework:	40%
RATs:	10%
Team Assessment	20%
Quizzes:	30%

Letter grades correspond to the following percentages:

A-, A:	90-100%
B-, B, B+:	80-89%
C-, C, C+:	65-79%
D:	55-64%

Advising Information: The prerequisite for this course is Math 170-Calculus I. This course is required for math majors and data science minors. It will also be useful for students minoring in mathematics with a major in science, economics, business, or computer science. Although Calculus I is the only prerequisite, students will find this course easier to handle if they have taken Math 175-Calculus II or Math 220-Introduction to Proofs before this course.

Cell Phone Policy: Cell phones must be off and put away during class. Laptop computers and tablets are encouraged, as we will be engaging with materials that are available electronically. However, please use them in ways that are focused on the course and the activities of the class.

Academic Integrity Policy: Linfield University operates under the assumption that all students are honest and ethical in the way they conduct their personal and scholastic lives. Academic work is evaluated on the assumption that the work presented is the students own, unless designated otherwise. Anything less is unacceptable and is considered a violation of academic integrity. Furthermore, a breach of academic integrity will have concrete consequences that may include failing a particular course or even dismissal from the university. Violations of academic integrity include but are not limited to the following:

Cheating: Using or attempting to use unauthorized sources, materials, information, or study aids in any submitted academic work; changing answers after graded work has been returned; making unauthorized changes to an exam, quiz, or assignment.

Plagiarism: Submission of academic work that includes material copied or paraphrased from published or unpublished sources without proper documentation. This includes self-plagiarism, the submission of work created by the student for another class unless they receive consent from both instructors.

Fabrication: Deliberate falsification or invention of any information, data, or citation in academic work.

Facilitating Academic Dishonesty: Knowingly helping or attempting to help another to violate the universitys policy on academic integrity.

Any form of academic dishonesty will result in a 0 on that assignment/ quiz/ exam. Additionally, academic dishonesty may result in a failing grade in the course. See the Linfield Academic Integrity Policy (https://catalog.linfield.edu/academic-policies-procedures/undergraduate/academic-integrity/) in the Linfield Catalog for information on the procedure to be used in dealing with academic dishonesty.

Use of AI in Student-Generated Work: Students in this course are expected to avoid the use AI tools, such as Chat GPT and PhotoMath, to generate presentation, quiz, or homework solutions. Any tools used may only be in a manner that contributes to understanding math, rather than avoiding the work necessary to deepen your understanding. Use of such tools, like any other academic work that is not entirely the students own, must be cited. Work for a grade that is not primarily in the students own words and properly cited, will be considered plagiarized. Note, many of the math tools that exist use techniques that are not part of this course. Clear violations of the policy will receive a 0 on the entire assignment/ quiz/ presentation.

Disability Statement: Students with disabilities are protected by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. If you are a student with a disability and feel you may require academic accommodations please contact Learning Support Services (LSS), as early as possible to request accommodation for your disability. The timeliness of your request will allow LSS to promptly arrange the details of your support. LSS is located in Melrose Hall 020 (503-883-2562), or LSS@linfield.edu. We also encourage students to communicate with faculty about their accommodations.

Electronic Recording/ Content Sharing: I may opt to record the classroom activities for instructional purposes and post them to the cloud. The electronic recording of classroom lectures, discussions, simulations, and other course-related activity is governed by Linfields Classroom Recording Policy (Faculty Handbook, VII.26 and Student Policy Guide). Students do not have permission to record any Zoom meetings. Students do not have permission to distribute or share any recorded content from Zoom meetings.

Sexual Misconduct and Relationship Violence & Title IX: Linfield University faculty are committed to supporting students and fostering a campus environment free of sexual misconduct and relationship violence. If a student chooses to disclose to a faculty or staff member an experience related to sexual misconduct, sexual assault, domestic violence, dating violence, or stalking, all faculty and staff are obligated to report this disclosure to the Linfield Title IX Coordinator by emailing titleix@linfield.edu. Upon receipt of the report, the Title IX Coordinator will contact you to inform you of your rights and options and connect you with support services. If you would rather share information about these experiences with an employee who does not have these reporting responsibilities and can keep the information confidential, please visit confidential resources: https://inside.linfield.edu/sexual-misconduct/reporting-options/confidential.html.

For more information about your rights and reporting options at Linfield, including confidential reporting options, please visit inside.linfield.edu/sexual-misconduct/. Support services are offered to all Linfield students regardless of whether or not they report. Still have questions? Email knowmore@linfield.edu.

Commitment to Diversity and Inclusion: Linfield University honors human rights and academic freedom, celebrates diverse cultures, fosters a climate of mutual respect, and promotes an inclusive environment that affirms the value of all persons. Dimensions of diversity can include sex, race, age, national origin, immigration status, ethnicity, gender identity and expression, intellectual and physical ability, sexual orientation, income, faith and non-faith perspectives, socio-economic class, political ideology, education, primary language, family status, military experience, cognitive style, and communication style. In a multi-perspective intellectual space, challenges to our beliefs and ideas are part of the learning process and can provide opportunities for growth. Reasoning, thoughtfulness, and open dialogues that honor the dignity of everyone is expected.