

Math 3083: Linear Algebra, Spring 2024

DATE	SECTION ^a	TOPIC	RECOMMENDED HOMEWORK ^b
Jan 17	1.1	Matrices and systems	1–8
Jan 19	1.2	Row echelon form	1–6, 8, 10–15
Jan 22	1.3	Matrix arithmetic	1–14
Jan 24	1.4	Matrix algebra	1–7, 9–14, 17, 24, 32, 33
Jan 26	1.5	Elementary matrices	1–13, 15, 16,
Jan 29	1.6	Partitioned matrices	1, 4–6
Jan 31	—	Catching up and review	
Feb 2	2.1	Determinants	1–6
Feb 5	2.2	Properties of determinants	1–5, 7, 10, 13
Feb 7	2.3	Cramer’s rule	1–6
Feb 9	—	Review of Chapters 1 and 2	
Feb 12	—	Test on Chapters 1 and 2	
Feb 14	3.1	Vector spaces	1, 2, 4, 6, 8, 11, 16
Feb 16	3.2	Subspaces	1–5, 8–14, 16
Feb 19, 21	3.3	Linear independence	1, 2, 4–8, 13–15
Feb 23	3.4	Basis and dimension	1–12, 14, 15a,b
Feb 26, 28	3.5	Change of basis	1–10
Mar 1	3.6	Row and column space	1–9, 11, 13, 15,
Mar 4	4.1	Linear Transformations	1, 3–9, 17–20, 24
Mar 6	4.2	Matrix representations	1–8, 14, 18
Mar 8	4.2	Matrix representations (cont.)	
Mar 11	—	Review of Chapters 3 and 4	
Mar 13	—	Test on Chapters 3 and 4	
Mar 15	5.1	The scalar product in R^n	1–11
Mar 18–22	—	Spring break, no classes	
Mar 25	5.2	Orthogonal subspaces	1–4, 6, 7, 9, 14
Mar 27	5.3	Least squares	1–6
Mar 29, Apr 1	5.4	Inner product spaces	1–4, 10, 11, 17, 19, 26
Apr 3	5.5	Orthogonal sets	1–3, 5–7, 11, 12, 14–16, 21–23
Apr 5	5.6	The Gram-Schmidt process	1–3, 5–9
Apr 8	—	Catching up and review	
Apr 10, 12	6.1	Eigenvalues and vectors	1–4, 7–8, 10, 18, 28
Apr 15, 17	6.3	Diagonalization	1–4
Apr 19	6.4	Symmetric matrices	5a,d,e,f,g,
Apr 22	—	Review of Chapters 5 and 6	
Apr 24	—	Test on Chapters 5 and 6	
Apr 26	—	Review of Chapters 1 and 2	
Apr 29	—	Review of Chapters 3 and 4	
May 1	—	Review of Chapters 5 and 6	
May 6	—	Final Exam, 10:15–12:15	

^a Some sections may be omitted.

^b Only odd-numbered problems unless indicated otherwise.

Other Information

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Textbook: *Linear Algebra with Applications*, 9th ed., Steven J. Leon; Chaps. 1–6.

Web page: <https://luecking.hosted.uark.edu/classes/>

Exams: There will be three regular exams worth 100 points each. Exams will occur on the dates in the above schedule. There will be a comprehensive final exam worth 200 points.

Quizzes: There will be a quiz every few sections, each worth 10 points. Most quizzes will be take-home. If so, they must be turned in at the beginning of class on the day they are due, before you take your seat. I plan to have 12–14 quizzes.

Make-ups: No make-up exams and no make-up quizzes. If you have a *reasonable conflict* that prevents your taking an exam, you will be excused, and I will give you a grade on that exam equal to the average of all other scores, except the final (but including the quizzes). Conflicts which are known in advance must be reported in advance in order to be excused. Reasonable conflicts include (but are not limited to) *required* university activities, jury duty, national guard duty, illness or other emergencies, family duties and funerals. Missed exams without an excuse are recorded as 0 points.

All missed quizzes are recorded as 0 points. In compensation, only the 10 best quizzes are counted. Missed deadlines on take-home quizzes **may** be extended, but only if you have a reasonable conflict (see previous paragraph) and only until the beginning of the next class session.

Attendance: I take attendance occasionally, and I take note of a missed quiz, homework not turned in, or a graded item that is not picked up. Attendance will be taken into account when borderline grades are considered.

Grading: All of your solutions must show enough of the work that I can tell you understand what you are doing in each step; the answer alone will not get you full credit. When I do example problems in class, I will say what parts of my solutions must be present in yours.

Your 10 highest quiz scores will be added for a possible 100 points. Your two highest test scores will be added for another possible 200 points. The final exam is worth another 200 possible points.

Your grade is then determine from this grand total of quizzes, tests and the final, according to this scale: 450–500 = A, 400–449 = B, 350–399 = C, 300–349 = D.

Policy on Class Cancellation: In the event of bad weather, check with the University: if it is open, class will be held.

Statement on Academic Honesty: Submitting the work of another as your own is a serious violation of the University's policy on academic integrity, and will result in disciplinary proceedings when detected.

This includes any take-home assignments unless I say otherwise. Do not accept help and do not offer help to anyone on them. If you are uncertain what constitutes a violation, talk to me before you do it.

Quoting University policy: *Each University of Arkansas student is required to be familiar with and abide by the University's 'Academic Integrity Policy' which may be found at*

<http://honesty.uark.edu/policy/index.php>

Students with questions about how these policies apply to a particular course or assignment should immediately contact their instructor.

Miscellaneous: You are not permitted to use any electronic device (unless mandated by a recognized disability) during any test or in-class quiz. In compensation, I almost never require you to simplify numerical answers or algebraic expressions.

On in-class quizzes you may use only pencils or pens and blank scratch paper.

On exams (including the final), in addition to pencil and paper, you may use your textbook and class notes *handwritten* on paper. A good strategy is to write down the main ideas you have trouble remembering on a single sheet of paper.