

MATH 110: LINEAR ALGEBRA

Summer 2023

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Changes are likely and will be communicated in class and on the course webpage here.

Pre-Midterm:

Lecture	Date	Topic	Reading	Assignment Due
1	June 20	Vector Spaces	<i>Axler</i> p. 4-10, 12-17	
2	June 21	Subspaces	<i>Axler</i> p. 18-24	Short Homework 1
3	June 22	Span and Linear Independence	<i>Axler</i> p. 28-36	
4	June 26	Bases	<i>Axler</i> p. 39-42	
5	June 27	Dimension	<i>Axler</i> p. 44-47	
6	June 28	Linear Maps	<i>Axler</i> p. 52-57	Homework 2
7	June 29	Rank-Nullity	<i>Axler</i> p. 59-66	
8	July 3	Matrices	<i>Axler</i> p. 70-77	
	July 4	Holiday!	None.	
9	July 5	Isomorphisms	<i>Axler</i> p. 80-88	Homework 3
10	July 6	Linear Functionals and Duality	<i>Axler</i> p. 101-112	
11	July 10	Linear Functionals and Duality	<i>Axler</i> p. 101-112	
12	July 11	Invariant Subspaces, Eigenstuff	<i>Axler</i> p. 132-136, 143-145	
13	July 12	Review	None.	Homework 4
	July 13	Midterm Exam!	None.	

Post-Midterm

Lecture	Date	Topic	Reading	Assignment Due
14	July 17	Upper Triangular, Diagonalization	<i>Axler</i> p. 146-160	
15	July 18	Inner Products/Norms	<i>Axler</i> p. 164-174	
16	July 19	Orthonormal Bases	<i>Axler</i> p. 180-189	Homework 5
17	July 20	Orthogonal Complement, Minimization	<i>Axler</i> p. 193-200	
18	July 24	Self-adjoint and Normal Operators	<i>Axler</i> p. 204-214	
19	July 25	The Spectral Theorem	<i>Axler</i> p. 217-222	
20	July 26	Positive Operators and Isometries	<i>Axler</i> p. 225-231	Homework 6
21	July 27	Generalized Eigenvectors	<i>Axler</i> p. 242-249	
22	July 31	Decomposition of Operators	<i>Axler</i> p. 252-259	
23	August 1	Characteristic, Minimal Polynomials	<i>Axler</i> p. 261-267	
24	August 2	Jordan Normal Form	<i>Axler</i> p. 270-274	Homework 7
25	August 3	Trace	<i>Axler</i> p. 296-304	
26	August 7	Determinant	<i>Axler</i> p. 307-320	
27	August 8	Review!	None.	
27	August 9	Review!	None.	Homework 8
	August 10	Final Exam!	None.	