

Tentative Course Schedule

Updated: January 19, 2024.

Meeting	Day	Topic	Reference	Assignment
1	15/1	Vector spaces: definition and examples	§1B	<i>WS 1</i>
2	18/1	Subspaces, sums and direct sums	§1C	<i>WS 1</i>
3	18/1	Span, independence, bases	§2A, §2B	<i>WS 1</i>
4	22/1	Bases and dimension	§2B, §2C	<i>WS 2</i>
5	25/1	Linear maps, null spaces and range	§3A, §3B	<i>WS 2</i>
6	25/1	Matrices and invertibility	§3C, §3D	<i>WS 2</i>
7	29/1	Products and Quotients	§3E	<i>WS 3</i>
8	1/2	Duality	§3F	<i>WS 3</i>
9	1/2	Duality	§3F	<i>WS 3</i>
10	5/2	Digression: Polynomials	§4	HW 1 , <i>WS 4</i>
11	8/2	Invariant subspaces	§5A	<i>WS 4</i>
12	8/2	The Minimal Polynomial	§5B	<i>WS 4</i>
13	19/2	Upper-Triangular Matrices	§5C	<i>WS 5</i>
14	22/2	Diagonalizable Operators	§5D	<i>WS 5</i>
15	22/2	Commuting Operators	§5E	<i>WS 5</i>
16	26/2	Inner Products and Norms, Orthonormal Bases	§6A §6B	HW 2 , <i>WS 6</i>
17 & 18	29/2	Midterm 1	M 1-15	Midterm 1
19	11/3	Orthogonal Complements, Minimization, Pseudoinverses	§6B, §6C	HW 3 , <i>WS 7</i>
20	14/3	Self-Adjoint and Normal Operators	§7A	<i>WS 7</i>
21	14/3	Spectral Theorem	§7B	<i>WS 7</i>
22	18/3	Positive Operators and Isometries	§7C, §7D	<i>WS 8</i>
23	21/3	Singular Value Decomposition	§7E	<i>WS 8</i>
24	21/3	Consequences of Singular Value	§7F	<i>WS 8</i>
25	25/3	Generalized Eigenvectors and Nilpotent Operators	§8A	HW 4 , <i>WS 9</i>
26	28/3	Generalized Eigenspace Decomposition	§8B	<i>WS 9</i>
27	28/3	Jordan Form	§8C	<i>WS 9</i>
28	8/4	Trace	§8D	HW 5
29 & 30	11/4	Midterm 2	M 16,19-28	Midterm 2
31	15/4	Bilinear and Quadratic Forms	§9A	<i>WS 10</i>
32	18/4	Tensor Products	§9D	<i>WS 10</i>
33	18/4	Tensor Products	§9D	<i>WS 10</i>
34	22/4	Alternating Multilinear Forms	§9B	<i>WS 11</i>
35	25/4	Determinants	§9C	<i>WS 11</i>
36	25/4	Determinants	§9C	<i>WS 11</i>
	29/4			HW 6

- The reference concerns sections of the textbook.
- The first exam will cover the material from Meetings 1-15.
- The second exam will cover the material from Meetings 16, 19-28.
- WS means Worksheet. You don't have to turn them in, but they are the exercises that I expect you know how to solve.

- HW means Homework. You need to turn these in and they will be graded.
- The final exam is commulative.