MATH 436 Linear Algebra Fall 2023 Schedule

Lec.	Date	Section	Topic
1	8/21	1.A	Introduction. Complex numbers. $\mathbb{R}^n$ and $\mathbb{C}^n$.
2	8/23	1.B,C	Vector spaces. Subspaces.
3	8/25	1.C	Examples. Sums and direct sums of subspaces.
4	8/28	2.A	Linear combinations and span. Polynomials.
5	8/30	2.A	Linear dependence and linear independence.
6	9/1	2.A	Linearly independent and spanning lists. Finite-dimensional subspaces.
-	*9/4*		*Labor Day - no classes.*
7	9/6	2.B	Bases.
8	9/8	2.C	Dimension.
9	9/11		**Team Worksheet 1.**
10	9/13	3.A	Linear maps.
11	9/15	3.A,B	The space of linear maps. Null space and range.
12	9/18	3.B	Fundamental Theorem of Linear Maps and corollaries.
13	9/20	3.C	Matrices. Matrices of linear maps.
14	9/22	3.D	Invertible linear maps. Invertible operators on V.
15	9/25	3.D	Isomorphic vector spaces.
16	9/27		**Team Worksheet 2.**
17	9/29		Review.
18	10/2		**Exam 1** covering Sections 1.A - 3.C.
19	10/4	3.E	Products of vector spaces. Affine subsets.
20	10/6	3.E, p.137	Quotient space. Quotient operator.
21	10/9	4	Zeros and factorization of polynomials.
22	10/11	5.A	Eigenvalues and eigenvectors.
23	10/13	5.B	Existence of eigenvalues.
24	10/16		**Team Worksheet 3.**
25	10/18	5.B	Upper triangular matrices.
26	10/20	5.C	Diagonalizable operators.
27	10/23	10.B	The determinant of a matrix and of an operator. *(Notes.)*
28	10/25	9.A, 10	Characteristic polynomial. Trace. Complexification. *(Notes.)*
29	10/27	6.A	Inner products and norms.
30	10/30	6.A	Inner products and norms.
31	11/1		**Team Worksheet 4.**
32	11/3		Review.
33	11/6		**Exam 2** covering Sections 3.D-F, 4, 5.A-C, 10.