

MAT 5230, Linear Algebra, Autumn 2005

Contents

1. Algebraic Structures
2. Field Properties
3. §3.1 \rightarrow 3.3 of our text
4. Vector Space Properties
5. Homomorphisms
6. Subspace
6. Subspace Graphs
7. Operations on Subspaces
8. Linear In/Dependence
9. Linear Independence, Spanning, and Basis
10. Basis and Dimension, I
11. Basis and Dimension, II
12. Basis and Direct Sum; Intro to Linear Transformations
13. $R(T)$ and $N(T)$
14. The Dimension Theorem
14. Linear Transformation Project
15. Linear Transformation Project “Solution”
15. Rank & Nullity; Inverses
16. Inverses; Transformation Algebras
17. Transformation Algebras, II
18. Linear Functionals
19. Linear Functionals, II
20. Algebraic Transpose