

Math 423/523 - Summer session 2009
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Grades: 600 points total (T: 100, Final: 200, Quizzes+Homework+Attendance: 300)
Grade cutoffs: A:510 B: 450 C: 390 D: 330

Text: Linear Algebra by Friedberg (4'th edition)

Recommended reading: Real Linear Algebra by Fekete (based on Steenrod's notes)

- 1 Jun. 15 Vector Spaces and Subspaces
Jun. 16 Independence and Bases
Jun. 17 Linear Transformations, Null Spaces and Ranges
Jun. 18 Matrices, Composition and Matrix Products
- 2 Jun. 22 Inverses and Isomorphisms
Jun. 23 Change of Coordinates
Jun. 24 Dual Spaces
Jun. 25 Elementary Matrix Operations and Rank
- 3 Jun. 29 Systems of Linear Equations - Theory
Jun. 30 Systems of Linear Equations - Computations
Jul. 01 Determinants and their Properties
Jul. 02 No classes - 4'th of July break
- 4 Jul. 06 Eigenvalues and Eigenvectors
Jul. 07 Diagonalizing
Jul. 08 Invariant Subspaces and Cayley-Hamilton
Jul. 09 Inner products and Norms
- 5 Jul. 13 Gram-Schmidt and Orthogonal Complements
Jul. 14 Adjoint
Jul. 15 Normal and Self-Adjoint
Jul. 16 Unitary and Orthogonal
- 6 Jul. 20 Orthogonal Projections and the Spectral Theorem
Jul. 21 Review
Jul. 22 Midterm Exam
Jul. 23 Singular Value Decomposition and Pseudoinverses
- 7 Jul. 27 Bilinear and Quadratic Forms
Jul. 28 The Geometry of Orthogonal Operators
Jul. 29 Generalized Eigenvectors
Jul. 30 Jordan Canonical Form
- 8 Aug. 03 The Minimal Polynomial
Aug. 04 Review
Aug. 05 Review
Aug. 06 Final Exam