

MATH 332 – Elementary Linear Algebra

Course Description from Bulletin: Systems of linear equations; matrix algebra, inverses, determinants, eigenvalues and eigenvectors, diagonalization; vector spaces, basis, dimension, rank and nullity; inner product spaces, orthonormal bases; quadratic forms. (3-0-3)

5. Inner Product Spaces: 7
Inner products – examples, non-examples, and properties, orthonormal basis,
Gram-Schmidt process and application to QR-decomposition, best
Approximation and least squares problem, application to least squares fitting.
6. Orthogonal Matrices and Quadratic Forms: 4
Orthogonal matrices. Orthogonal decomposition, quadratic forms and
positive/negative definite matrices, application to optimization.
7. Exams and overflow 3

Assessment:	Homework	20-30%
	Quizzes/Exams	40-50%
	Final Exam	20-30%

Syllabus prepared by: Hemanshu Kaul and Greg Fasshauer
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