

COURSE TITLE:
SPECIAL TOPICS IN LINEAR ALGEBRA

INSTRUCTOR:

Professor Christos J. Schinas (Coordinator)
Professor Garyfalos Pappaschinopoulos
Professor Basil K. Papadopoulos

SYLABUS:

Inner products. Inner product spaces. Orthogonal projection. Gram-Smidt orthonormalization. Linear operators. Adjoint operators. Operators in inner product spaces. Orthonormal operators. Isomorphisms. Normal operators. Transformation of symmetric matrices to diagonal form. Linear transformations. Quotient transformations. Basic theorems and applications. N-th root of a matrix.

BIBLIOGRAPHY:

1. K. Hoffman, R. Kunze, Linear Algebra, Prentice-Hall Inc., New Jersey 1971.
2. R. Bellman, Introduction to Matrix Analysis, McGraw-Hill Book Company, New York 1970.
3. B. Noble, J. W. Daniel, Applied Linear Algebra, Prentice-Hall Inc, New Jersey 1977.
4. R. A. Horn, C. R. Johnson, Matrix Analysis, Cambridge University Press, New York 1991.