



METADATA

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Abstract

The book covers the classic material of a linear algebra course. It begins by discussing the solution of linear systems, introduces the use of matrices as an effective tool, and continues with the concept of vector space. Many examples are given from two-dimensional and three-dimensional real space, while abstract vector spaces are studied in the last chapter of the book. This is followed by the concept of dimension, linear functions between vector spaces, eigenvalues,

eigenvectors, and related theorems. In addition, inner products and the spectral theorem and its inverse for the orthogonalization of matrices are discussed. The above are presented briefly in general vector spaces. Historical information is provided at the end of each chapter so that the reader can get an idea of the chronological development of each topic. Particular emphasis is placed on applications. The proofs have a strong geometric flavor.

