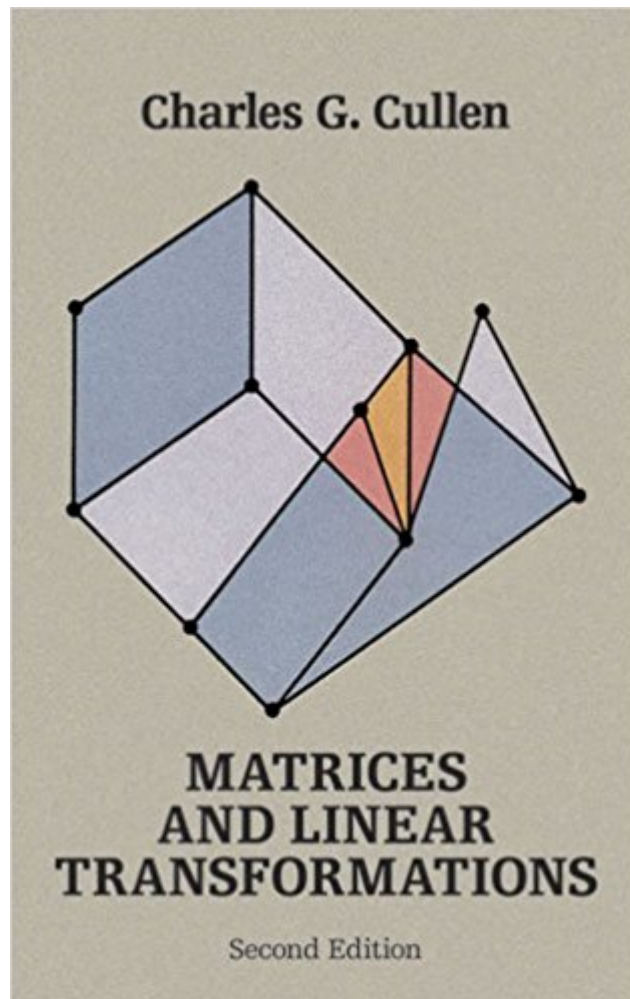# The book was found

Matrices And Linear Transformations: Second Edition (Dover Books On Mathematics)

Synopsis

"Comprehensive . . . an excellent introduction to the subject." â ” Electronic Engineer's Design Magazine.This introductory textbook, aimed at sophomore- and junior-level undergraduates in mathematics, engineering, and the physical sciences, offers a smooth, in-depth treatment of linear algebra and matrix theory. The major objects of study are matrices over an arbitrary field. Contents include Matrices and Linear Systems; Vector Spaces; Determinants; Linear Transformations; Similarity: Part I and Part II; Polynomials and Polynomial Matrices; Matrix Analysis; and Numerical Methods. The first seven chapters, which require only a first course in calculus and analytic geometry, deal with matrices and linear systems, vector spaces, determinants, linear transformations, similarity, polynomials, and polynomial matrices. Chapters 8 and 9, parts of which require the student to have completed the normal course sequence in calculus and differential equations, provide introductions to matrix analysis and numerical linear algebra, respectively. Among the key features are coverage of spectral decomposition, the Jordan canonical form, the solution of the matrix equation AX = XB, and over 375 problems, many with answers.

Book Information

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Customer Reviews

Charles Cullen deserves to pat himself on the back for this one. The first three chapters are the

meat of the book which review or, possibly to some, introduce the fundamentals of linear algebra (matrices, vector spaces, and determinants.)After firmly laying down a foundation from which to work with, Cullen does a remarkable job explaining linear transformations and eigenvalues and eigenvectors (although, some basic calculus is assumed known).After introducing matrix similarity and Jordan-canonical form, Cullen dabbles in polynomial matrices and more similarity with divisor theorems and polynomial matrix canonical form.Finally, rounding third plate are an intro into formal matrix analysis (in which some upper-level, although not necessarily advanced, calculus is necessary) and numerical methods. Although these two chapters only encompass about 35 pages total, they do offer a solid foundation for further study.I recommend this book as it breaks a lot of steps involving matrix calculations down and allows the reader to not only understand how, but why.

Charles Cullen's original goal was to "provide a text, requiring a minimum number of prerequisites, which would enable me, in a one-term course, to cover...linear algebra and matrix theory." This volume does so in the first five chapters and continues with four additional chapters designed to support a second term. He suggests as background "only" an introductory course in calculus and analytic geometry.The first chapter introduces basic matrix operations such as addition, multiplication, transposition and inversion. Chapter 2 covers vector spaces and the concepts of linear independence and rank. Chapters 3 and 4 introduce and elaborate matrix determinants and linear transformations. Chapter 5 develops the Jordan canonical form using invariant subspaces and direct sum decompositions. Chapters 6 and 7 take an alternative path to explaining the Jordan canonical form. Chapters 8 and 9 use concepts and tools from previous chapters to introduce matrix analysis and numerical analysis.I bought this book for an online matrix algebra course when I found the required text, Matrix Algebra: An Introduction, less than helpful. Even though the course text was targeted toward social scientists like myself, its explanations and formula derivations were less helpful than its examples. I found Cullen's book and it got me through the course. In addition to clear explanations, practice exercises with answers, and helpful organization, it was also less expensive and covered more material.I recommend this book to those needing a refresher in matrix methods or approaching them for the first time.

So many math books take a relatively simple topic and with the use of horrible notation and confused english, convert it to something esoteric and complicated. This book, however, is anything but that. It involves mathematical rigor, covers a broad range of topics and has answers to selected problems at the back which for a math book, works real well for me. Besides you can't argue with

the price.This book never leaves my desk, recommended strongly.

This book is concise and possesses a great deal of information on matrices. I had to buy $100+ book for a upper division linear algebra class and it sucked; it contained in 300 very cluttered and long winded pages what this book accomplishes in a little over a hundred pages with far greater depth. It's a highly affordable book and quite well written, which, I guess, is why they don't use this book to teach linear algebra in a 'modern' classroom.

This book is a very good book for someone wanting to dive into Linear algebra. The author does a massive number of the proofs in the book and is fairly good at explaining the subject matter in each chapter. Given that every person learns a little differently, I'd still suggest using online resources to supplement the readings and exercises, especially for practical applications.

This book is in its second edition. But it was copyrighted 1972, not 1990. Its original price was $8.95. Perhaps Dover increased its price to $14.95 in the latest printing. But I still think was a bit misleading there.In any case, this is an undergraduate level reference book with proofs on Laplace Expansion, Cramer's Rule, Jordan Canonical Form, Cayley-Hamilton Theorem, and other stuff that you see it proved once and never want to see it again. The last section even covers numerical methods on matrices. All in all, it got a good mix of rigor and practicality for a book of its kind.

Matrices and Linear Transformations goes right to the point.The text is clear and concise and is illustrated by a limited number but very helpful set of examples.The proof are easy to follow but are rigorous.This is without a doubt my favorite book about matrices.

I have several books on linear algebra and no two of them attack the topic the same way. This book offers a theoretical bent and convers some of the important theorems not covered in some other texts on the subject.

Matrices and Linear Transformations: Second Edition (Dover Books on Mathematics) Matrices and Transformations (Dover Books on Mathematics) Matrices and Linear Algebra (Dover Books on Mathematics) Transformations Of Coordinates, Vectors, Matrices And Tensors Part I: LAGRANGE'S EQUATIONS, HAMILTON'S EQUATIONS, SPECIAL THEORY OF RELATIVITY AND CALCULUS ... Mathematics From 0 And 1 Book 16) Linear Algebra With Applications (Jones

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