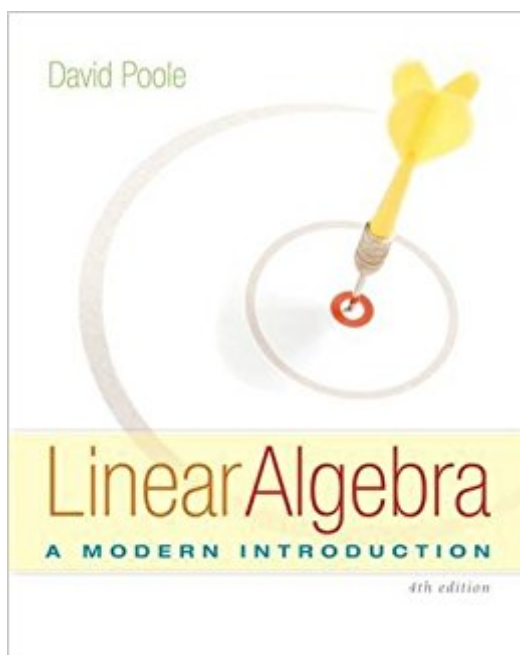The book was found

Linear Algebra: A Modern Introduction

Synopsis

David Poole's innovative LINEAR ALGEBRA: A MODERN INTRODUCTION, 4e emphasizes a vectors approach and better prepares students to make the transition from computational to theoretical mathematics. Balancing theory and applications, the book is written in a conversational style and combines a traditional presentation with a focus on student-centered learning. Theoretical, computational, and applied topics are presented in a flexible yet integrated way. Stressing geometric understanding before computational techniques, vectors and vector geometry are introduced early to help students visualize concepts and develop mathematical maturity for abstract thinking. Additionally, the book includes ample applications drawn from a variety of disciplines, which reinforce the fact that linear algebra is a valuable tool for modeling real-life problems.

Book Information

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Average Customer Review: 4.1 out of 5 stars   75 customer reviews

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Customer Reviews

David Poole is Professor of Mathematics at Trent University, where he has been a faculty member since 1984. Dr. Poole has won numerous teaching awards: Trent University's Symons Award for Excellence in Teaching (the university's top teaching award), three merit awards for teaching excellence, a 2002 Ontario Confederation of University Faculty Associations Teaching Award (the top university teaching award in the province), a 2003 3M Teaching Fellowship (the top university teaching award in Canada, sponsored by 3M Canada Ltd.), a 2007 Leadership in Faculty Teaching Award from the province of Ontario, and the Canadian Mathematical Society's 2009 Excellence in Teaching Award. From 2002-2007, Dr. Poole was Trent University's Associate Dean (Teaching &

Learning). His research interests include discrete mathematics, ring theory, and mathematics education. He received his B.Sc. from Acadia University in 1976 before earning his M.Sc. (1977) and Ph.D. (1984) from McMaster University. When he is not doing mathematics, David Poole enjoys hiking and cooking, and he is an avid film buff.

I think there are many factors that make this a great book. First of all, it is easy to read and understand. Topics are organized in a logical way. Every chapter begins with a problem that introduces informally the concepts that will be addressed in the sections. This helps the students, especially those who, like me, are new to the subject, to get familiar with the concepts through visualization and examples. Theorems are stated clearly and proofs are rigorous and concise. Each chapter contains an "Exploration" section where real-life application from a wide variety of sciences are presented. These include coding, Markov chains, LU factorization among others.The author has accomplished the most difficult task: write a book that is rigorous enough for someone with interest in the mathematical aspects of linear algebra, and interesting enough for someone who is more concerned with the applications of it in the sciences.There is something else that makes this book exceptional. The author's passion. For instance, in chapter 3, after proving a theorem on the composite of linear transformations, the author exclaims with joy:"Isn't it a great result? Say it in words:'The matrix of the composite is the product of the matrices.' What a lovely formula!"Linear algebra is definitely not among my mathematical strengths, but Professor Poole made it interesting and challenging.

Solid introduction to intermediate-level Linear Algebra. Easy to read and understand, but definitely isn't as deep or difficult as O. Bretscher's textbook, which my class actually had to use. I used Poole as a much-needed supplement to Bretscher, which it did a pretty good job as.

What a bargain!

This book was very well written and organized. It offered great introductory material on linear algebra. At the end of each chapter it has a long section on the applications of what you just learned in different fields. It also offered many proofs and many concepts presented.

I really like and prefer the organization and presentation of material in this book; especially compared to David Lay's book.

An OK book. The order of development is a little odd and confusing to students. It does cover many of the important topics.

Great Linear Algebra textbook that I had to use for my college textbook. For the most part, very clear when explaining topics and the homework sets are excellent to reinforce understanding of the material.

Poole has done an excellent job of organization. He clearly delineates between the "theory" and the "applications". This was helpful for me as I just needed to brush up on a few techniques. So, the clear demarcation made it easy for me to quickly read the relevant "theory" pages without drawn out examples of the applications. He still provide examples, but they are more generic in nature. For example, in the "theory" sections he demonstrates how to calculate the projection of a vector v onto a u. In the "applications" section, he'll show you how to use reduced row echelon form to solve a Leontief input-output model in economics or how linear algebra is used in coding theory. The book is a "quick read" if you are not doing the end-of-section exercises. The exercises and application sections will clearly elongate the material, but with added depth, of course.

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