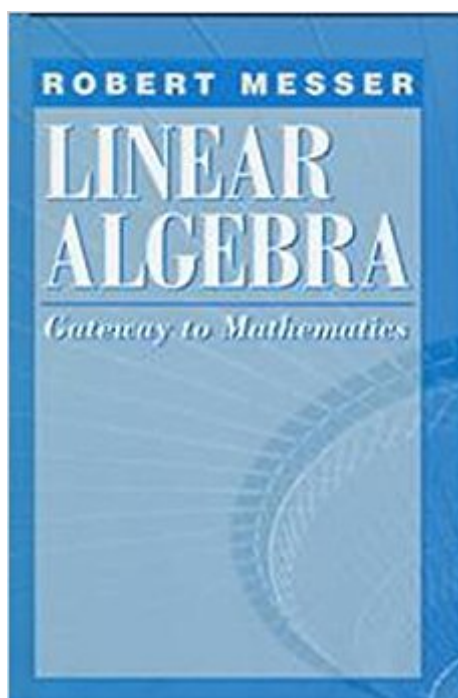The book was found

Linear Algebra: Gateway To Mathematics

Synopsis

This text is designed to resolve the conflict between the abstractions of linear algebra and the needs and abilities of the students who may have dealt only briefly with the theoretical aspects of previous mathematics courses. The author recognizes that many students will at first feel uncomfortable, or at least unfamiliar, with the theoretical nature inherent in many of the topics in linear algebra. Numerous discussions of the logical structure of proofs, the need to translate terminology into notation, and suggestions about efficient ways to discover a proof are included. This text combines the many simple and elegant results of elementary linear algebra with some powerful computational techniques to demonstrate that theorectical mathematics need not be difficult, mysterious, or useless. This book is written for the second course in linear algebra (or the first course, if the instructor is receptive to this approach).

Book Information

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Customer Reviews

This book was my first resource for linear algebra as it was required for my college course. Overall it was not a good "introduction" to the subject as it didn't really get to the intuitive nature of linear algebra but focused on the pure side of the subject. Unless you are a math whiz eating up proofs and digesting them with ease I would say to avoid this book as an introduction. If you are like me and have to get this book for a course get a secondary resource! Strang has a very good introduction to the subject.

Unless you've taken a linear algebra class before, I highly recommend that you avoid this book. It

has crap examples, difficult problems, and has random answers in the back of the book (not all odds). If you want a book that is heavily proof based and doesn't hold your hand, then this is the book for you.

i hate this book..

I didn't realize that the seller was shipping from overseas at first, so I was a little surprised at the late delivery date estimate. Once I realized where the book was coming from, it made more sense. However, the delivery was significantly delayed--I finally received the item nearly two months after I ordered it, and almost a month after it was expected to arrive. So, while the book was in good condition, the delivery could have been faster.

I used the book several times to teach a linear algebra course. It is well written and contains plenty of good exercises of various levels.In chapter 1, you are thrown at the definition of vector space without preparation. The definition is a long list of axioms and it's tough on the student. What follows is also tough but inevitable -- using the axioms to prove some "simple" facts about the algebra of vectors. Discussing Euclidean spaces would provide some context for the student. I was glad to see quotient spaces and vector fields as optional topics. In chapter 2, systems of linear equations are introduced. There is, again, no context. Meanwhile, spending so much time on elementary row operations seems wasteful. In chapter 3, the standard topics of linear combinations, linear independence, span, basis, and dimensions are discussed. Some proofs here are too terse in my opinion. I was good to see infinite dimensional spaces as an optional topic. Many good examples are given. In chapter 4, inner product spaces are introduced axiomatically. I'd prefer to put this topic at the end of the course. In chapter 5, 6, and 7, one goes to matrices, then to linear operators, back to matrices, and then the determinants. I was pleased to see a few commutative diagrams. Dual spaces are included as an option. There is little time left for chapter 8, eigenvalues and eigenvectors. Oddly, eigenvalues appear to have to be real.The rationale for the second part of the title is that it can serve as an introduction to pure mathematics: definitions, proofs, etc. This would be tricky and there are better ways to do it. I wish I saw more connections to calculus. The book is a bit pricey.

I used this book in a math class and only purchased it because I am familar with the organization and layout of concepts in the book. The author writes the book that may be confusing to the first

time student of linear algebra. If you are to use this book, I suggest to also pick up a copy of another linear algebra book that may concentrate on definitions and simpler proofs in the begining of the book.

While Messer shows good logic on how to impliment proofs, he fails to make good definitions of common terms. Most of the in text examples have nothing to do with the chapter they are in and are often so over simplified that it is impossible to extend the idea. The only reason that this book gets 2 stars is because it has a decent answer section.

We've used this book in our freshman course in Mathematics (Linear Algebra) at University of Copenhagen, Denmark. It's very good as a introduction to Mathematical Proofs too.

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