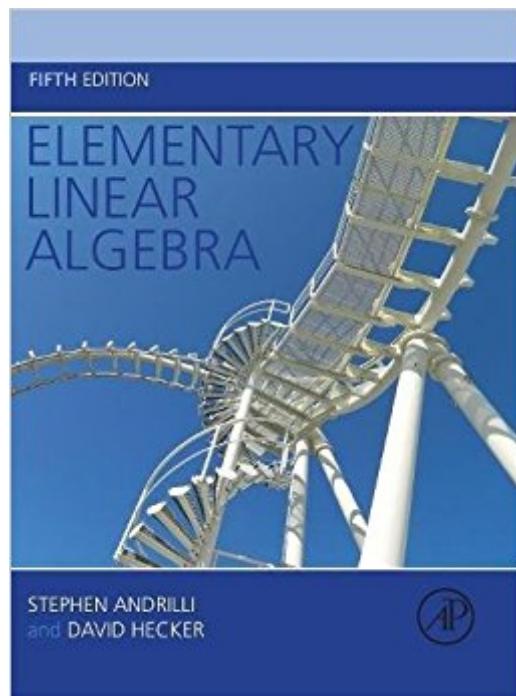The book was found

Elementary Linear Algebra, Fifth Edition

Synopsis

Elementary Linear Algebra, 5th edition, by Stephen Andrilli and David Hecker, is a textbook for a beginning course in linear algebra for sophomore or junior mathematics majors. This text provides a solid introduction to both the computational and theoretical aspects of linear algebra. The textbook covers many important real-world applications of linear algebra, including graph theory, circuit theory, Markov chains, elementary coding theory, least-squares polynomials and least-squares solutions for inconsistent systems, differential equations, computer graphics and quadratic forms. Also, many computational techniques in linear algebra are presented, including iterative methods for solving linear systems, LDU Decomposition, the Power Method for finding eigenvalues, QR Decomposition, and Singular Value Decomposition and its usefulness in digital imaging. The most unique feature of the text is that students are nurtured in the art of creating mathematical proofs using linear algebra as the underlying context. The text contains a large number of worked out examples, as well as more than 970 exercises (with over 2600 total questions) to give students practice in both the computational aspects of the course and in developing their proof-writing abilities. Every section of the text ends with a series of true/false questions carefully designed to test the studentsÃ¢â ¬â„¢ understanding of the material. In addition, each of the first seven chapters concludes with a thorough set of review exercises and additional true/false questions. Supplements to the text include an InstructorÃ¢â ¬â„¢s Manual with answers to all of the exercises in the text, and a Student Solutions Manual with detailed answers to the starred exercises in the text. Finally, there are seven additional web sections available on the bookÃ¢â ¬â„¢s website to instructors who adopt the text. Builds a foundation for math majors in reading and writing elementary mathematical proofs as part of their intellectual/professional development to assist in later math coursesPresents each chapter as a self-contained and thoroughly explained modular unit.Provides clearly written and concisely explained ancillary materials, including four appendices expanding on the core concepts of elementary linear algebraPrepares students for future math courses by focusing on the conceptual and practical basics of proofs

Book Information

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Customer Reviews

"...they succeed at building an algorithmic feel for the subject, with many summaries of how to do things like diagonalizing a matrix in six easy steps or testing a set of vectors for linear independence in three steps...allows the reader to choose more practice when desired, without it being necessary to complete every exercise." --MAA Reviews"...they succeed at building an algorithmic feel for the subject, with many summaries of how to do things like diagonalizing a matrix in six easy steps or testing a set of vectors for linear independence in three steps...allows the reader to choose more practice when desired, without it being necessary to complete every exercise." --MAA Reviews

Dr. Andrilli has a Ph.D. degree in mathematics from Rutgers University, and is an Associate Professor in the Mathematics and Computer Science Department at La Salle University in Philadelphia, PA, having previously taught at Mount St. MaryÃ¢â ¬â„¢s University in Emmitsburg, MD. He has taught linear algebra to sophomore/junior mathematics, mathematics-education, chemistry, geology, and other science majors for over thirty years. Dr. AndrilliÃ¢â ¬â„¢s other mathematical interests include history of mathematics, college geometry, group theory, and mathematics-education, for which he served as a supervisor of undergraduate and graduate student-teachers for almost two decades. He has pioneered an Honors Course at La Salle based on Douglas HofstadterÃ¢â ¬â„¢s Ã¢â ¬Å"Godel, Escher, Bach,” into which he weaves the Alice books by Lewis Carroll. Dr. Andrilli lives in the suburbs of Philadelphia with his wife Ene. He enjoys travel, classical music, classic movies, classic literature, science-fiction, and mysteries. His favorite author is J. R. R. Tolkien.Dr. Hecker has a Ph.D. degree in mathematics from Rutgers University, and is a Professor in the Mathematics Department at Saint JosephÃ¢â ¬â„¢s University in Philadelphia, PA. He has taught linear algebra to sophomore/junior mathematics and science majors for over three decades. Dr. Hecker has previously served two terms as Chair of his department, and his other mathematical interests include real and complex analysis, and linear algebra. He lives on five acres in the farmlands of New Jersey with his wife Lyn, and is very devoted

to his four children. Dr. Hecker enjoys photography, camping and hiking, beekeeping, geocaching, science-fiction, humorous jokes and riddles, and rock and country music. His favorite rock group is the Moody Blues.

This a an elegantly written book. New comers to this field will find this textbook accessible and non-threatening.Theorems are proved with added words to support understanding.I am adopting this book for the course I am teaching.

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