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Numerical Analysis

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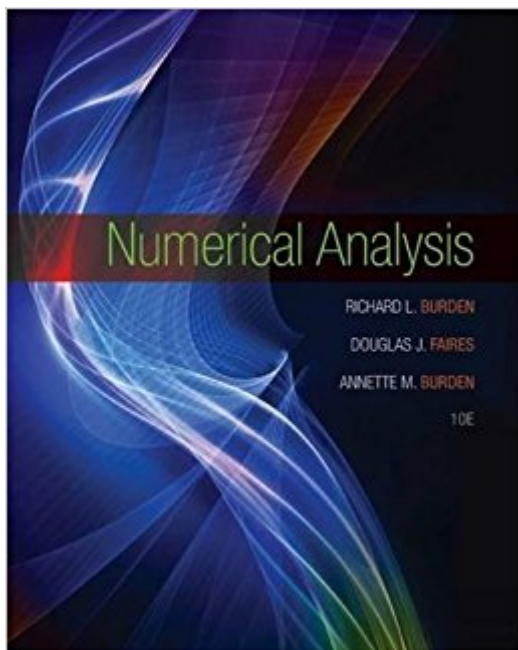
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Synopsis

This well-respected book introduces readers to the theory and application of modern numerical approximation techniques. Providing an accessible treatment that only requires a calculus prerequisite, the authors explain how, why, and when approximation techniques can be expected to work-and why, in some situations, they fail. A wealth of examples and exercises develop readers' intuition, and demonstrate the subject's practical applications to important everyday problems in math, computing, engineering, and physical science disciplines. Three decades after it was first published, Burden, Faires, and Burden's NUMERICAL ANALYSIS remains the definitive introduction to a vital and practical subject.

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#BeUnstoppable with Burden/Faires/BurdenÃ¢Â Â™s Numerical Analysis   View larger   View larger   View larger   View larger   Answers Provided For Odd Problems. Chapter Exercises have been split into computational, applied, and theoretical categories. Answers to the odd problems are provided in the back of the text.   Relevant Problems.   Applied exercises are included from diverse areas of engineering as well as from the physical, computer, biological, and social sciences.   Examples Break It Down.   Steps in the examples explicitly show the computations required for the first steps of iteration processes. This gives you a way to test and debug programs you have written for problems similar to the examples.   Materials For Review. The last section of each chapter is divided into four subsections: Numerical Software, Discussion

Questions, Key Concepts, and Chapter Review. Many of the discussion questions point you to modern areas of research in software development.

Richard L. Burden is Emeritus Professor of Mathematics at Youngstown State University. His master's degree in mathematics and doctoral degree in mathematics, with a specialization in numerical analysis, were both awarded by Case Western Reserve University. He also earned a masters degree in computer science from the University of Pittsburgh. His mathematical interests include numerical analysis, numerical linear algebra, and mathematical statistics. Dr. Burden has been named a distinguished professor for teaching and service three times at Youngstown State University. He was also named a distinguished chair as the chair of the Department of Mathematical and Computer Sciences. He wrote the Actuarial Examinations in Numerical Analysis from 1990 until 1999.J. Douglas Faires, late of Youngstown State University, pursued mathematical interests in analysis, numerical analysis, mathematics history, and problem solving. Dr. Faires won numerous awards, including the Outstanding College-University Teacher of Mathematics by the Ohio Section of MAA and five Distinguished Faculty awards from Youngstown State University, which also awarded him an Honorary Doctor of Science award in 2006.Annette M. Burden is a Professor of Mathematics at Youngstown State University (YSU) and for four years served as YSU Interim Distance Education Director. Her master's degree in mathematics was awarded by Youngstown State University and her doctoral degree in mathematics educational technology with a specialization in numerical analysis was awarded by Union Institute & University. Dr. Burden worked under Carnegie Mellon Professor Werner C. Rheinboldt from the University of Pittsburgh for several years. She is past President of the International Society of Technology in Education's Technology Coordinators, was appointed to the MAPLE Academic Advisory Board, and served as co-chair of Ohio's Distance Education Advisory Group. She has also developed numerous upper-level online courses including courses in Numerical Analysis and Numerical Methods. Dr. Burden has been named a distinguished professor for teaching and service three times at Youngstown State University.

My favorite introductory text.

The book is nice, and it looks much better like new.

Good but not great. Contained quite a few errors in computations, etc, that derailed a couple

examples into wrong answers (replacing 2 with sqrt(2), etc, not sure how that doesn't become immediately obvious). Really verbose where it doesn't need to be; it strikes me as a textbook where the author was paid based on how many words they use.I like the layout of the book though, and in true numerical analysis style it includes a good bit of help for the computational side; Maple code, algorithm descriptions, etc. The content is standard -- but ultimately I'd recommend to find another (Atkinson, maybe).

Excellent book so far. I have had this for 14 hours. One of my already owned Numerical Analysis books has a 1985 copyright. This one by Burden already far exceeds the 1985 effort. I find complete mathematical explanations inside this tenth edition. As I continue to use this book in my professional role, I will have more to write about I am sure. One thing that is an excellent help is the inside cover of the book is a listing of the Algorithms by name, then the section and page number to see the details. I agree with other reviewers that the less than five star ratings are from people who are not expecting to use math in Numerical Analysis. The cold hard reality is that math knowledge is highly important in the Numerical Analysis area of Computer Science and Software Engineering. I already predict heavy use in the next few months both professionally and personal projects.

I purchased the wrong edition. I started to get behind and Wil need this book until spring semester.

A good book only if with proper notation and non-verbose explaination

A First Course in Numerical Analysis: Second Edition (Dover Books on Mathematics) Stochastic Models, Information Theory, and Lie Groups, Volume 1: Classical Results and Geometric Methods (Applied and Numerical Harmonic Analysis) Stochastic Models, Information Theory, and Lie Groups, Volume 2: Analytic Methods and Modern Applications (Applied and Numerical Harmonic Analysis) Numerical Analysis Numerical Analysis: Mathematics of Scientific Computing (The Sally Series; Pure and Applied Undergraduate Texts, Vol. 2) An Introduction to Numerical Analysis Elementary Numerical Analysis Numerical Analysis (Available Titles CengageNOW) Numerical Analysis: Mathematics of Scientific Computing Numerical Methods: Design, Analysis, and Computer Implementation of Algorithms A Theoretical Introduction to Numerical Analysis Using R for Numerical Analysis in Science and Engineering (Chapman & Hall/CRC The R Series) Distributions in the Physical and Engineering Sciences: Distributional and Fractal Calculus, Integral Transforms and Wavelets (Applied and Numerical Harmonic Analysis) A Friendly Introduction to Numerical

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