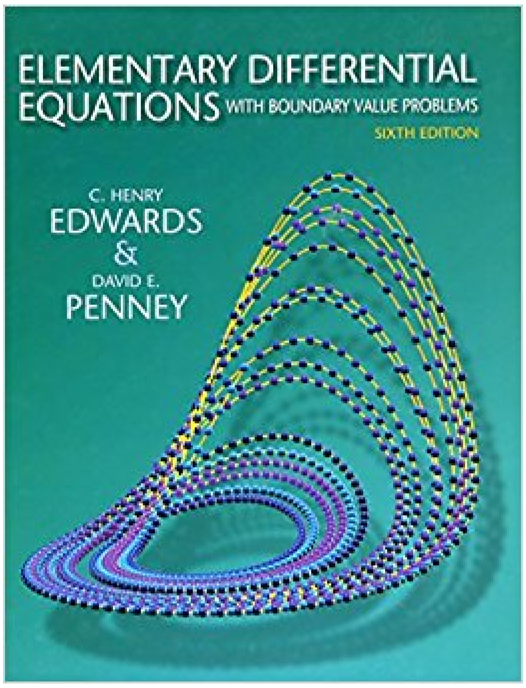
Elementary Differential Equations With Boundary Value Problems (6th Edition)



Synopsis

For briefer traditional courses in elementary differential equations that science, engineering, and mathematics students take following calculus.   Ã Â   The Sixth Edition of this widely adopted book remains the same classic differential equations text it's always been, but has been polished and sharpened to serve both instructors and students even more effectively.Edwards and Penney teach students to first solve those differential equations that have the most frequent and interesting applications. Precise and clear-cut statements of fundamental existence and uniqueness theorems allow understanding of their role in this subject. A strong numerical approach emphasizes that the effective and reliable use of numerical methods often requires preliminary analysis using standard elementary techniques.

Book Information

Hardcover: 792 pages

Publisher: Pearson; 6 edition (December 10, 2007)

Language: English

ISBN-10: 0136006132

ISBN-13: 978-0136006138

Product Dimensions: 8.3 x 1.2 x 10.1 inches

Shipping Weight: 3.1 pounds (View shipping rates and policies)

Average Customer Review: 3.1 out of 5 stars   25 customer reviews

Best Sellers Rank: #58,797 in Books (See Top 100 in Books)   #3 inÃ Â Books > Science & Math > Mathematics > Pure Mathematics > Functional Analysis   #35 inÃ Â Books > Science & Math > Mathematics > Applied > Differential Equations   #998 inÃ Â Books > Textbooks > Science & Mathematics > Mathematics

Customer Reviews

C. Henry Edwards is emeritus professor of mathematics at the University of Georgia. He earned his Ph.D. at the University of Tennessee in 1960, and recently retired after 40 years of classroom teaching (including calculus or differential equations almost every term) at the universities of Tennessee, Wisconsin, and Georgia, with a brief interlude at the Institute for Advanced Study (Princeton) as an Alfred P. Sloan Research Fellow. He has received numerous teaching awards, including the University of Georgia's honoratus medal in 1983 (for sustained excellence in honors teaching), its Josiah Meigs award in 1991 (the institution's highest award for teaching), and the 1997 statewide Georgia Regents award for research university faculty teaching excellence.

His scholarly career has ranged from research and dissertation direction in topology to the history of mathematics to computing and technology in the teaching and applications of mathematics. In addition to being author or co-author of calculus, advanced calculus, linear algebra, and differential equations textbooks, he is well-known to calculus instructors as author of The Historical Development of the Calculus (Springer-Verlag, 1979). During the 1990s he served as a principal investigator on three NSF-supported projects: (1) A school mathematics project including Maple for beginning algebra students, (2) A Calculus-with-Mathematica program, and (3) A MATLAB-based computer lab project for numerical analysis and differential equations students. David E. Penney, University of Georgia, completed his Ph.D. at Tulane University in 1965 (under the direction of Prof. L. Bruce Treybig) while teaching at the University of New Orleans. Earlier he had worked in experimental biophysics at Tulane University and the Veteran's Administration Hospital in New Orleans under the direction of Robert Dixon McAfee, where Dr. McAfee's research team's primary focus was on the active transport of sodium ions by biological membranes. Penney's primary contribution here was the development of a mathematical model (using simultaneous ordinary differential equations) for the metabolic phenomena regulating such transport, with potential future applications in kidney physiology, management of hypertension, and treatment of congestive heart failure. He also designed and constructed servomechanisms for the accurate monitoring of ion transport, a phenomenon involving the measurement of potentials in microvolts at impedances of millions of megohms. Penney began teaching calculus at Tulane in 1957 and taught that course almost every term with enthusiasm and distinction until his retirement at the end of the last millennium. During his tenure at the University of Georgia he received numerous University-wide teaching awards as well as directing several doctoral dissertations and seven undergraduate research projects. He is the author of research papers in number theory and topology and is the author or co-author of textbooks on calculus, computer programming, differential equations, linear algebra, and liberal arts mathematics.

I bought this book after finishing "Calculus Early Transcendentals" by the same authors. This is another book that is so well-written that it doesn’t require a teacher.There are 9 chapters in all: 1) First-Order Differential Equations 2) Linear Equations of Higher Order 3) Power Series Methods 4) Laplace Transform Methods 5) Linear Systems of Differential Equations 6) Numerical Methods 7) Nonlinear Systems and Phenomena 8) Fourier Series Methods 9) Eigenvalues and Boundary Value Problems.The most important part of studying any maths book is doing the exercises. In each exercise, make sure that you solve one problem of each type. (Don’t do much more than this or you'll get overworked; don't do much less than this or you won't get enough practice.) This way you'll end up solving roughly 10 problems from each exercise. Make sure you use MATLAB (or any similar software) whenever a problem requires it. Remember that this book requires a solid background of high-school calculus, and be prepared to work hard. Good luck with it.

This book clearly presents a university-level approach to differential equations in a well-organized and easy-to-understand format. The topics are clearly laid out and are listed sequentially so that everything flows and ties together from previous sections. What I specifically liked about this book is that the theoretical aspects were kept to a minimum, but the applications were heavily emphasized. I believe this helps make the material more presentable to those learning differential equations for the first time. At the same time, I don't see that the lack of theory is a drawback by any means. So, I think that if you want a gentle, yet thorough introduction to the methods of differential equations, then this is a book definitely worth checking out.

I bought the 5th edition of this book for my Differential Equations course and I am extremely satisfied with it. This book is clearly a great source for anyone interested in the subject. It has plenty of great examples in each chapter and it also includes many problems at the end of each section. Just make sure that you buy the book WITH "Boundary Value Problems" which includes two extra chapters: "Fourier Series Methods" and "Eigenvalues and Boundary Value Problems".

This bonk, in the sixth edition, is very popular, used at many colleges and universities. I got it to brush-up on ODE's so I can help students at the learning center where I work. They are taking this course using the sixth edition, and I'm auditing the class with them. I learned a while back that I can save a lot of money by getting earlier editions of textbooks. The text doesn't change much, if at all; one need only be careful with assignments as the numberings may differ. (For example, problem #7 in one edition may be problem #8 in another.) So if problems are required for turn-in, a work-around for this is to check with a classmate or the teacher and get copies of the exercises in the current edition. If turn-ins aren't required, I generally just do a selection of problems of each type, to get good all-around practice.Speaking of practice, most people know by the time they get to this level -- though it bears repeating -- that practice is necessary. Very few of us can learn merely by reading or watching, and even those fortunate few do better with practice. Some people complain that this book assumes a good background in calculus, but I think that's in the nature of the subject. One of my professors said, "you learn algebra when you study calculus, and you learn calculus when you study ODE’s." Calculus is a pre-requisite to ODE’s, and if some of the formulas etc have slipped one’s mind, it’s good to get a laminated study guide such as the Barcharts "Quick Study" series.In addition to the text, I recommend the solutions manual that goes with this book, and a supplementary workbook such as Schaumn’s Outline series. The solutions manual give hints that may not occur naturally to most learners, and supplementary workbooks generally have more detailed explanations written with the student in mind.

This isn’t the best differential equations book. The explanations are satisfactory, but the overall quality is definitely not the best you could find. It does not mention complex methods as a way of solving trigonometric inputs, which makes the equations much easier to solve. This book was required for a class I’m taking at MIT. If I could do it over, I would probably just get the pdf for problems and buy a better differential equations book for a reference. It’s not bad, but it’s not the best.

Fast shipping, the book is same as described

Bad condition....

Good textbook. Exactly what I needed for my differential equations summer class. A few of the examples are hard to follow, but most are easy to understand.

Student Solutions Manual to accompany Boyce Elementary Differential Equations 10e & Elementary Differential Equations with Boundary Value Problems 10e Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (5th Edition) (Featured Titles for Partial Differential Equations) Student’s Solutions Manual for Fundamentals of Differential Equations 8e and Fundamentals of Differential Equations and Boundary Value Problems 6e Elementary Differential Equations with Boundary Value Problems (6th Edition) Elementary Differential Equations and Boundary Value Problems , 8th Edition, with ODE Architect CD Elementary Differential Equations with Boundary Value Problems (2nd Edition) (Kohler/Johnson) Elementary Differential Equations and Boundary Value Problems, 11th Edition Elementary Differential Equations and Boundary Value Problems Student Solutions Manual: Elementary Differential Equations & Boundary Value Problems Elementary Differential Equations with Boundary Value Problems (Kohler/Johnson) Differential Equations with Boundary Value Problems (2nd Edition) Differential Equations with Boundary-Value Problems, 8th Edition Boundary Value Problems, Sixth Edition: and Partial Differential Equations Fundamentals of Differential Equations and Boundary Value Problems (7th Edition) Differential Equations and Boundary Value Problems: Computing and Modeling (4th Edition) Applied Partial Differential Equations: With Fourier Series and Boundary Value Problems, 4th Edition Partial Differential Equations with Fourier Series and Boundary Value Problems (2nd Edition) Differential Equations with Boundary-Value Problems Boundary Value Problems: and Partial Differential Equations