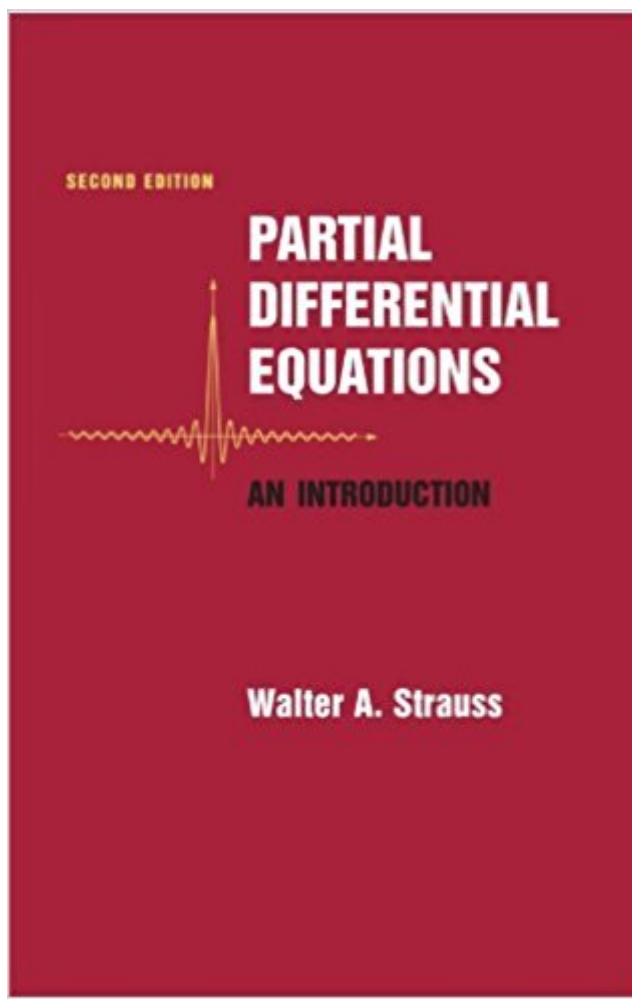The book was found

Partial Differential Equations: An Introduction, 2nd Edition

Synopsis

Our understanding of the fundamental processes of the natural world is based to a large extent on partial differential equations (PDEs). The second edition of Partial Differential Equations provides an introduction to the basic properties of PDEs and the ideas and techniques that have proven useful in analyzing them. It provides the student a broad perspective on the subject, illustrates the incredibly rich variety of phenomena encompassed by it, and imparts a working knowledge of the most important techniques of analysis of the solutions of the equations. In this book mathematical jargon is minimized. Our focus is on the three most classical PDEs, the wave, heat and Lapace equations. Advanced concepts are introduced frequently but with the least possible technicalities. The book is flexibly designed for juniors, seniors or beginning graduate students in science, engineering or mathematics. --This text refers to the Hardcover edition.

Book Information

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Customer Reviews

Written in a rather terse style. He glosses over many steps in derivations of equations, theorems, etc. This can make learning purely from the text difficult, but with a decent professor to fill in the

gaps it's an ideal text. The skipped detail makes coming back to the text later in your career much more productive.

Like another reviewer said, if you persevere and log the long hours in the earlier chapters of this book, it pays off in dividends in later chapters and exercises. My senior PDEs class covered Chapters 1-7, 9 and 12. This is a tough book but many of the ideas and exercises are interlaced in such a way that a really diligent student will be able to follow. The key here is perseverance against all frustration; for you will be frustrated with this book in the first several chapters and with the exposition. Keep a pencil in hand and work through every step of every proof and example (including all of the intermediate steps that Strauss leaves out) and you will eventually get there.

Should be on the shelf of every applied mathematician. Work through the exercises, they are integral to understanding the PDEs

Some sections are great and others are pretty terrible. By this I mean some explain the material well and have great examples that really help you learn a concept. However it seems like the author really didn't spend too much time on other sections. Overall it was very easy to learn from and I would definitely recommend it.

This text is probably quite useful if you already understand partial differential equations and just need to review topics that you have already covered and grasped in the past. It outlines all aspects of introductory PDE's well, and in the appropriate order. There are well-thought out problems at the end of each chapter with answers to selected exercises that will reinforce your recall of the material. However, if you have never studied partial differential equations before, you will never learn the subject merely by reading this book. Yes, the style is comprehensible and conversational, but the derivations leave out many important steps, and you will never be able to work the excellent problems at the end of each section merely by reading and understanding each section of this book. Instead, if you are a newby to this subject and you are forced to use this book as the result of taking a course in which it is the assigned textbook, I recommend that you use "Partial Differential Equations : An Introduction" by David Colton (ISBN 0486438341) in conjunction with this text. Colton's book does a pretty good job of mopping up after Strauss, in that Colton's text takes the time to show adequate proofs and examples of sufficient complexity that you can understand the material. In addition, it pretty much covers the same subjects as Strauss in the same order only with

much more detail. In addition, Colton also has good exercises for each chapter and also has answers to selected exercises. In summary, read Strauss as an outline for review and problem sets, read Colton's book for a good explanation.

Definitely a graduate level text. I learned a lot. The problems were challenging and really reinforced the material.

As described!

Strauss's book is very concise, which I appreciate. Some physical examples would have been much appreciated as well as some intuitive explanations for some of the subjects that are actually quite intuitive once you translate into English.

Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (5th Edition) (Featured Titles for Partial Differential Equations) [Differential Equations, Dynamical Systems, and an Introduction to Chaos [DIFFERENTIAL EQUATIONS, DYNAMICAL SYSTEMS, AND AN INTRODUCTION TO CHAOS BY Hirsch, Morris W. (Author) Mar-26-2012] By Hirsch, Morris W. (Author) [2012) [Paperback] Numerical Partial Differential Equations: Conservation Laws and Elliptic Equations (Texts in Applied Mathematics) (v. 33) Partial Differential Equations of Mathematical Physics and Integral Equations (Dover Books on Mathematics) Partial Differential Equations: An Introduction, 2nd Edition Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Fundamentals of Differential Equations (8th Edition) (Featured Titles for Differential Equations) Differential Equations: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Student Solutions Manual to accompany Boyce Elementary Differential Equations 10e & Elementary Differential Equations with Boundary Value Problems 10e Student's Solutions Manual for Fundamentals of Differential Equations 8e and Fundamentals of Differential Equations and Boundary Value Problems 6e Partial Differential Equations with Fourier Series and Boundary Value Problems (2nd Edition) Numerical Partial Differential Equations in Finance Explained: An Introduction to Computational Finance (Financial Engineering Explained) Introduction to Partial Differential Equations (Undergraduate Texts in Mathematics) Boundary Value Problems, Sixth Edition: and Partial Differential Equations Applied Partial Differential Equations: With Fourier Series and Boundary Value Problems, 4th Edition Partial Differential Equations for Scientists and

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