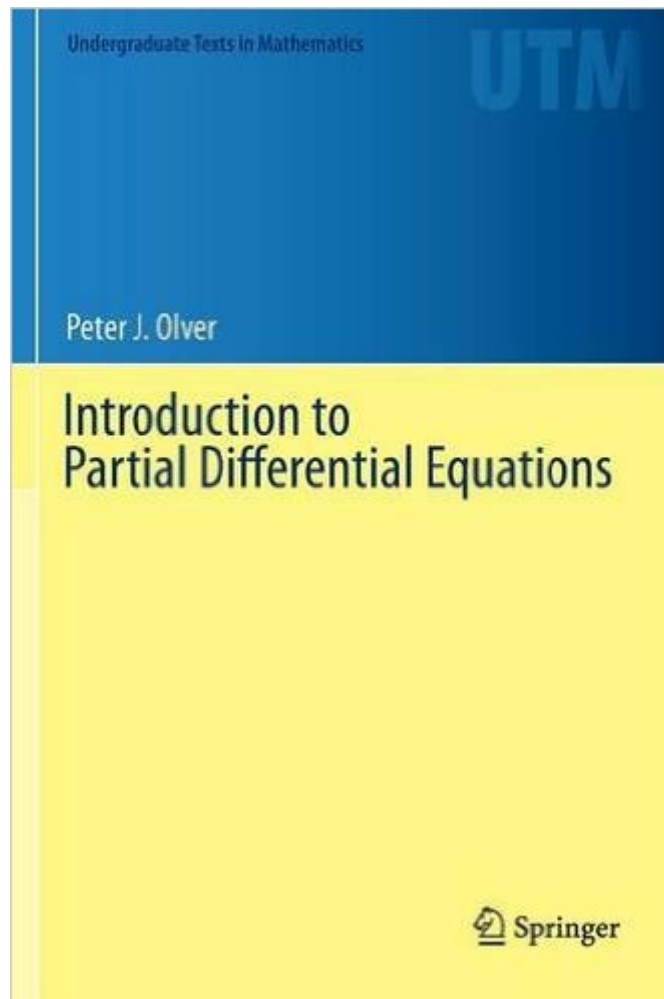


The book was found

Introduction To Partial Differential Equations (Undergraduate Texts In Mathematics)



Synopsis

This textbook is designed for a one year course covering the fundamentals of partial differential equations, geared towards advanced undergraduates and beginning graduate students in mathematics, science, engineering, and elsewhere. The exposition carefully balances solution techniques, mathematical rigor, and significant applications, all illustrated by numerous examples. Extensive exercise sets appear at the end of almost every subsection, and include straightforward computational problems to develop and reinforce new techniques and results, details on theoretical developments and proofs, challenging projects both computational and conceptual, and supplementary material that motivates the student to delve further into the subject. No previous experience with the subject of partial differential equations or Fourier theory is assumed, the main prerequisites being undergraduate calculus, both one- and multi-variable, ordinary differential equations, and basic linear algebra. While the classical topics of separation of variables, Fourier analysis, boundary value problems, Green's functions, and special functions continue to form the core of an introductory course, the inclusion of nonlinear equations, shock wave dynamics, symmetry and similarity, the Maximum Principle, financial models, dispersion and solitons, Huygens' Principle, quantum mechanical systems, and more make this text well attuned to recent developments and trends in this active field of contemporary research. Numerical approximation schemes are an important component of any introductory course, and the text covers the two most basic approaches: finite differences and finite elements. Peter J. Olver is professor of mathematics at the University of Minnesota. His wide-ranging research interests are centered on the development of symmetry-based methods for differential equations and their manifold applications. He is the author of over 130 papers published in major scientific research journals as well as 4 other books, including the definitive Springer graduate text, *Applications of Lie Groups to Differential Equations*, and another undergraduate text, *Applied Linear Algebra*. A Solutions Manual for instructors is available by clicking on "Selected Solutions Manual" under the Additional Information section on the right-hand side of this page. Â Â

Book Information

Series: Undergraduate Texts in Mathematics

Hardcover: 635 pages

Publisher: Springer; 1st ed. 2014, Corr. 3rd printing 2016 edition (September 14, 2016)

Language: English

ISBN-10: 3319020986

ISBN-13: 978-3319020983

Product Dimensions: 7 x 1.4 x 10 inches

Shipping Weight: 3 pounds (View shipping rates and policies)

Average Customer Review: 3.0 out of 5 stars See all reviews (2 customer reviews)

Best Sellers Rank: #845,344 in Books (See Top 100 in Books) #51 in Books > Science & Math > Mathematics > Infinity #408 in Books > Science & Math > Mathematics > Applied > Differential Equations #679 in Books > Science & Math > Mathematics > Mathematical Analysis

Customer Reviews

Good book!

No solutions provided.

[Download to continue reading...](#)

Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (5th Edition) (Featured Titles for Partial Differential Equations) Introduction to Partial Differential Equations (Undergraduate Texts in Mathematics) Numerical Partial Differential Equations: Finite Difference Methods (Texts in Applied Mathematics) An Introduction to Partial Differential Equations with MATLAB (Chapman & Hall/CRC Applied Mathematics & Nonlinear Science) Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Differential Equations: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Fundamentals of Differential Equations (8th Edition) (Featured Titles for Differential Equations) Fundamentals of Differential Equations and Boundary Value Problems (6th Edition) (Featured Titles for Differential Equations) Student Solutions Manual for Differential Equations: Computing and Modeling and Differential Equations and Boundary Value Problems: Computing and Modeling Partial Differential Equations (Graduate Studies in Mathematics, Vol. 19) Computational Partial Differential Equations Using MATLAB (Chapman & Hall/CRC Applied Mathematics & Nonlinear Science) Finite Difference Methods for Ordinary and Partial Differential Equations: Steady-State and Time-Dependent Problems (Classics in Applied Mathematics) Partial Differential Equations: An Introduction Student Solutions Manual to accompany Partial Differential Equations: An Introduction, 2nd Edition Partial Differential Equations: An Introduction, 2nd Edition Ordinary Differential Equations: Analysis, Qualitative Theory and Control (Springer Undergraduate Mathematics Series) Elements of Algebra: Geometry, Numbers, Equations (Undergraduate Texts in Mathematics) Geometric Partial Differential Equations and

Image Analysis Applied Partial Differential Equations: With Fourier Series and Boundary Value Problems, 4th Edition Partial Differential Equations (Applied Mathematical Sciences) (v. 1)

[Dmca](#)