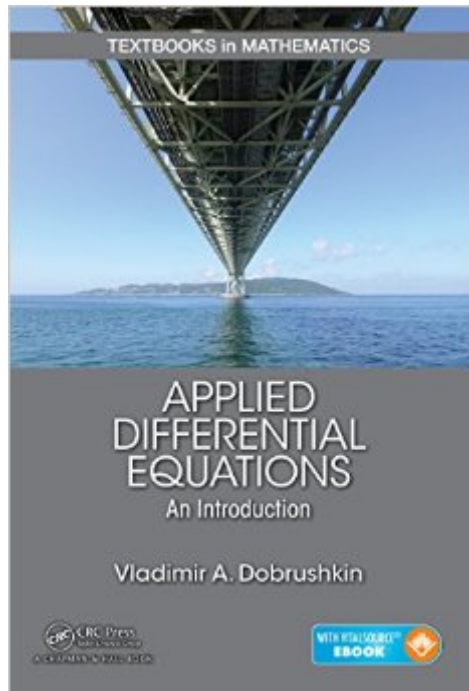# Applied Differential Equations: The Primary Course (Textbooks In Mathematics)

Synopsis

A Contemporary Approach to Teaching Differential EquationsApplied Differential Equations: An Introduction presents a contemporary treatment of ordinary differential equations (ODEs) and an introduction to partial differential equations (PDEs), including their applications in engineering and the sciences. Designed for a two-semester undergraduate course, the text offers a true alternative to books published for past generations of students. It enables students majoring in a range of fields to obtain a solid foundation in differential equations. The text covers traditional material, along with novel approaches to mathematical modeling that harness the capabilities of numerical algorithms and popular computer software packages. It contains practical techniques for solving the equations as well as corresponding codes for numerical solvers. Many examples and exercises help students master effective solution techniques, including reliable numerical approximations.This book describes differential equations in the context of applications and presents the main techniques needed for modeling and systems analysis. It teaches students how to formulate a mathematical model, solve differential equations analytically and numerically, analyze them qualitatively, and interpret the results.

Book Information

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Customer Reviews

This book, an update of the vaunted Boyce & DiPrima work, has been a seminal part of my differential equations education. Prof. Dobrushkin is a wonderful mentor to many at Brown, and he applies a similar style of mentorship/apprenticeship to this course. I'd highly recommend the textbook to any advanced math student looking to expand his/her differential equations skill set.

I have Vladimir Dobrushkin as a professor for this course at Brown, and he is amazing. He is very thorough, and is extremely intelligent. This book will provide you with a comprehensive education in the field of differential equations, and is much better than other textbooks on the market.

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