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Autor:

Editorial:

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Sinopsis

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Elegant and carefully written, with many examples and exercises throughout the book
Contains up-to-date material as well as classical topics
Includes topics not normally discussed in most books in the subject area, such as perturbation methods and differential equations in Mathematica
For over 300 years, differential equations have served as an essential tool for describing and analyzing problems in many scientific disciplines. This carefully-written textbook provides an introduction to many of the important topics associated with ordinary differential equations. Unlike most textbooks on the subject, this text includes nonstandard topics such as a chapter on perturbation methods and a section in Chapter 3 that shows how to solve differential equations using Mathematica codes. In addition to the nonstandard topics, this text also contains contemporary material in the area as well as its classical topics. This second edition is updated to be compatible with Mathematica, version 7.0, and all Mathematica codes are in the book itself. This new edition also provides 81 additional exercises, a new section in Chapter 1 on the generalized logistic equation, an additional theorem in Chapter 2 concerning fundamental matrices, and many further enhancements to the first edition. This book can be used either for a second course in ordinary differential equations or as an introductory course for well-prepared students. The prerequisites for this book are three semesters of calculus and a course in linear algebra, although the needed concepts from linear algebra are introduced along with examples in the book. An undergraduate course in analysis is needed for the more theoretical subjects covered in the final two chapters.
Content Level » Graduate