**DESCRIPTION**

Learn to fully harness the power of Microsoft Excel(r) to perform scientific and engineering calculations

With this text as your guide, you can significantly enhance Microsoft Excel's(r) capabilities to execute the calculations needed to solve a variety of chemical, biochemical, physical, engineering, biological, and medicinal problems. The text begins with two chapters that introduce you to Excel's Visual Basic for Applications (VBA) programming language, which allows you to expand Excel's(r) capabilities, although you can still use the text without learning VBA. Following the author's step-by-step instructions, here are just a few of the calculations you learn to perform:

* Use worksheet functions to work with matrices

* Find roots of equations and solve systems of simultaneous equations

* Solve ordinary differential equations and partial differential equations
Perform linear and non-linear regression

Use random numbers and the Monte Carlo method

This text is loaded with examples ranging from very basic to highly sophisticated solutions. More than 100 end-of-chapter problems help you test and put your knowledge to practice solving real-world problems. Answers and explanatory notes for most of the problems are provided in an appendix.

The CD-ROM that accompanies this text provides several useful features:

All the spreadsheets, charts, and VBA code needed to perform the examples from the text

Solutions to most of the end-of-chapter problems

An add-in workbook with more than twenty custom functions

This text does not require any background in programming, so it is suitable for both undergraduate and graduate courses. Moreover, practitioners in science and engineering will find that this guide saves hours of time by enabling them to perform most of their calculations with one familiar spreadsheet package.

ABOUT THE AUTHOR

E. Joseph Billo, a former associate professor of chemistry at Boston College, is the author of Excel for Chemists: A Comprehensive Guide, Second Edition (Wiley). He has developed two short courses, "Advanced Excel for Scientists and Engineers" and "Excel Visual Basic Macros for Scientists and Engineers," which he has presented to thousands of scientists throughout the United States, Canada, and Europe for organizations such as The American Chemical Society, the National Cancer Institute, Procter & Gamble, Shell, and Texaco.
FEATURES

• Appeals to a wide audience of scientists and engineers (with little to no background in programming) who use Excel

• Illustrates how Excel can be used to help scientists process, analyze, and present scientific data via numerical methods in Excel.

• Contains a computer disk (or CD) usable in either MacIntosh or Windows environments with many useful spreadsheet templates, macros, and other tools.

• Demonstrates step-by-step how to program EXCEL to perform appropriate tasks, automate repetitive data processing tasks, and prepare integrated documents by transferring data and graphics.

• Provides end of chapter questions to assist in student training and understanding.

• Suitable as a supplementary or main text for second semester or second year students with at least one semester of calculus.

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