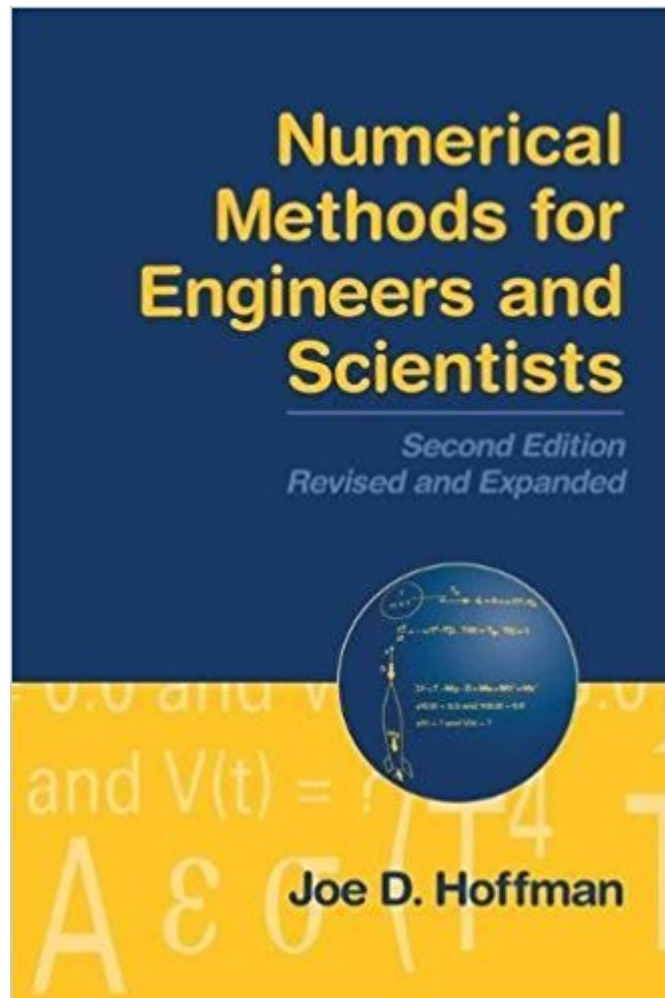




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# Numerical Methods For Engineers And Scientists, Second Edition,



## Synopsis

Emphasizing the finite difference approach for solving differential equations, the second edition of Numerical Methods for Engineers and Scientists presents a methodology for systematically constructing individual computer programs. Providing easy access to accurate solutions to complex scientific and engineering problems, each chapter begins with objectives, a discussion of a representative application, and an outline of special features, summing up with a list of tasks students should be able to complete after reading the chapter- perfect for use as a study guide or for review. The AIAA Journal calls the book "A good, solid instructional text on the basic tools of numerical analysis."

## Book Information

Hardcover: 840 pages

Publisher: CRC Press; 2 edition (May 31, 2001)

Language: English

ISBN-10: 0824704436

ISBN-13: 978-0824704438

Product Dimensions: 7 x 1.8 x 10 inches

Shipping Weight: 3.4 pounds (View shipping rates and policies)

Average Customer Review: 4.6 out of 5 stars 13 customer reviews

Best Sellers Rank: #299,969 in Books (See Top 100 in Books) #36 in Books > Science & Math > Mathematics > Number Systems #209 in Books > Science & Math > Mathematics > Mathematical Analysis #571 in Books > Textbooks > Engineering > Mechanical Engineering

## Customer Reviews

"a good, solid instructional text on the basic tools of numerical analysis." -AIAA Journal

Very thorough introductory text on the finite difference approach to numerically solving ODEs and PDEs. I love this book and teach a graduate-level numerical methods course from it. On the other hand, it is introductory only and the PDE section only covers 2 dimensional problems (2-D space OR 1-D space plus time). The extension to 3-D is fairly obvious for elliptic and parabolic PDEs - and is discussed briefly in the text - but not so for hyperbolic problems. Also, mixed-type problems are mentioned, but not covered. The book is thick, but that is because it has built in redundancies, which is good because it doesn't leave anything to chance/guesswork. I would hope that a future edition would include more complicated examples, especially problems with non-constant

coefficients and with higher dimensions - like in the real world.

The book is quite exhaustive in terms of info contained. There are numerous typos both in the examples and selected answers portions. Not all examples are helpful.

Great for my master's class! It has helped me out in preparing for it. Very clear and easy to follow.

This book is great at explaining principle, providing examples, and sample code. It would be improved by more visual explanation of method procedures.

excellent deal, everything as expected. just as expected I got the right component at the right time...  
good deal overall

This is one of the best books considered numerical methods. The book consists of many important parts of numerical mathematics and shows how we must solve our problem.

Great books, in good condition.

I had Dr. Hoffman as the instructor. He is an excellent teacher and writer. Many math books are horrible for self-study and first timers. But this book sets up a standard. A lot of details are given with plenty of detailed examples. I am sure first timers will appreciate his huge effort put into the book. But keep in mind one feature (not drawback). This book uses heavily finite difference method (400 pages in the 1st edition and 200 pages in the 2nd). This method is good for only 1d problems. Coordinate transformation needed to extend this to 2d or 3d (even just non-uniform 1d) is not easy especially for 3d. I wish there was an equally good book on finite volume method, which is popular for 3d CFD. Anyways, this book is intended for beginners and thus the choice of finite difference method is an appropriate one.

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