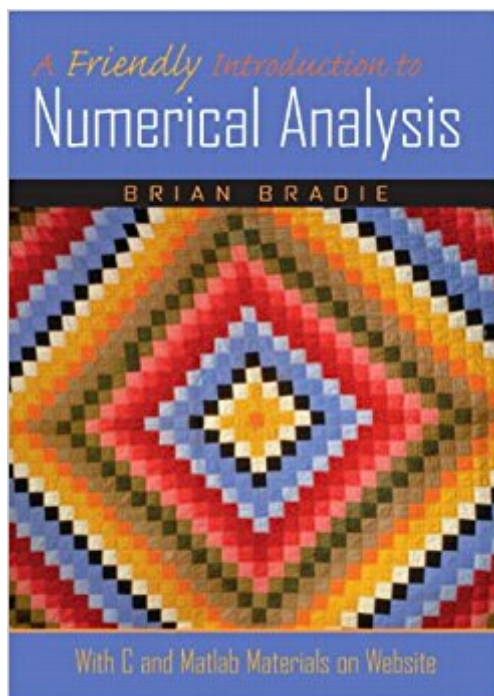


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# A Friendly Introduction To Numerical Analysis.



## Synopsis

This reader-friendly introduction to the fundamental concepts and techniques of numerical analysis/numerical methods develops concepts and techniques in a clear, concise, easy-to-read manner, followed by fully-worked examples. Application problems drawn from the literature of many different fields prepares readers to use the techniques covered to solve a wide variety of practical problems. Rootfinding. Systems of Equations. Eigenvalues and Eigenvectors. Interpolation and Curve Fitting. Numerical Differentiation and Integration. Numerical Methods for Initial Value Problems of Ordinary Differential Equations. Second-Order One-Dimensional Two-Point Boundary Value Problems. Finite Difference Method for Elliptic Partial Differential Equations. Finite Difference Method for Parabolic Partial Differential Equations. Finite Difference Method for Hyperbolic Partial Differential Equations and the Convection-Diffusion Equation. For anyone interested in numerical analysis/methods and their applications in many fields

## Book Information

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## Customer Reviews

"I am extremely impressed with Bradie's book. His passion for explaining things as clearly and understandably as possible, his thorough research of the literature for bringing relevant and pedagogically sound examples from outside mathematics, and his crisp and clear style will certainly make this text an instant success. This is one of the better texts in Numerical Analysis that I have ever seen, and I congratulate the author for producing such a gem." #151; Alejandro Engel, Rochester Institute of Technology "The chapters in this book are of uniformly high standards.

Chapter 1 in particular is a gem. The treatments of floating point number systems and of floating point arithmetic are especially good. These are topics that are often glossed over in other books, and which are often difficult for students to grasp. The book is extremely well written: the style is clear, the prose flows smoothly, the pace is unhurried, the tone is friendly and conversational, the examples and exercises are interesting and-relevant, and the amount of detail is far greater than in any textbook of its kind that I have ever seen. For these reasons, it will certainly appeal to my students." &#151; Richard Zalik, Auburn University "I think the tone will appeal to my students: It is relaxed and friendly without being wordy and effusive. The style is a very readable compromise between proof and technical detail on the one hand, and concepts with applications on the other. I think he addresses this fundamental challenge in a way that my students would like. Bradie has decided to include lots of worked examples accompanied by plots. The plots facilitate the inclusion of such a large number of examples, by succinctly communicating the point of each. This reduces the effort needed to understand the ideas behind the example, (I think students simply will not read the book if it takes too much effort. Bradie can include more exercises than is typical because the illustrations ease the communication.)" &#151; Mark Arnold, University of Arkansas "I like the way Bradie presents the materials in each chapter. He gives a mathematics review on what is needed at the beginning of each chapter. After refreshing students' memories, he begins with the simplest, most basic methods and then progresses gradually to more advanced topics. The book is well written and student-friendly. It provides a lot of examples and exercise problems. The book is written in the way that is easy for students to read. For instance, for each method, there is at least one fully worked example that helps students to understand the concept and the method." &#151; Kuiyuan Li, University of West Florida

This reader-friendly introduction to the fundamental concepts and techniques of numerical analysis/numerical methods develops concepts and techniques in a clear, concise, easy-to-read manner, followed by fully-worked examples. Application problems drawn from the literature of many different fields prepares readers to use the techniques covered to solve a wide variety of practical problems. Rootfinding. Systems of Equations. Eigenvalues and Eigenvectors. Interpolation and Curve Fitting. Numerical Differentiation and Integration. Numerical Methods for Initial Value Problems of Ordinary Differential Equations. Second-Order One-Dimensional Two-Point Boundary Value Problems. Finite Difference Method for Elliptic Partial Differential Equations. Finite Difference Method for Parabolic Partial Differential Equations. Finite Difference Method for Hyperbolic Partial Differential Equations and the Convection-Diffusion Equation. For anyone interested in numerical

analysis/methods and their applications in many fields

This book is decent in terms of content. Unfortunately it is poorly edited. The author is often verbose, which confuses topics that are otherwise straightforward. That being said, the book provides a thorough overview of very technical subjects and the author provides electronic resources in the form of code and exercise hints. I would give this book three stars except that the paperback version is poorly bound. It will fall apart.

Arrived in very poor conditions.

Tends to unnecessarily complicate some explanations and gives poor examples. This book works better to review knowledge rather than to actually try and learn from it, in which case the price isn't worth it. Stick to Google/Youtube or find a better book.

Probably the best numerical methods text I've ever used. Great examples, clear instruction.

it's a didactic book

I use this book for my lectures on numerical analysis for engineers, it is full of beautiful examples, I like it a lot.

It is nearly impossible for me to convey the degree of pain associated with trying to read this book. For a book entitled, A friendly introduction, it is anything but friendly. While the material may be of introductory level, in the field of numerical analysis, to someone with a general college math background, this book is just ... confusing. It makes rapid jumps and moves through topics very quickly with few examples. Given time and background, you can pick up on where the author went, but for "a friendly" introduction, it is a waste. I have seen most of the concepts presented in this book scattered through my other math books, whose examples are clearer and easier to follow. If you wish to explore this field of math, start somewhere else. The author would have done better to limit the topics and give more detailed explanations of each, instead of trying to cram a taste of the entire field into one .... door stop.

Normally I'd say this book is 2 stars. The online content from the website (included in the intro)

made it bearable. But the construction of this book is horrible. I went through 3 during the semester (2 replacements from manufacturer). Pages would fall out if you even TRY to open it all the way; so reading it was a trick with it's horrible binding.

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