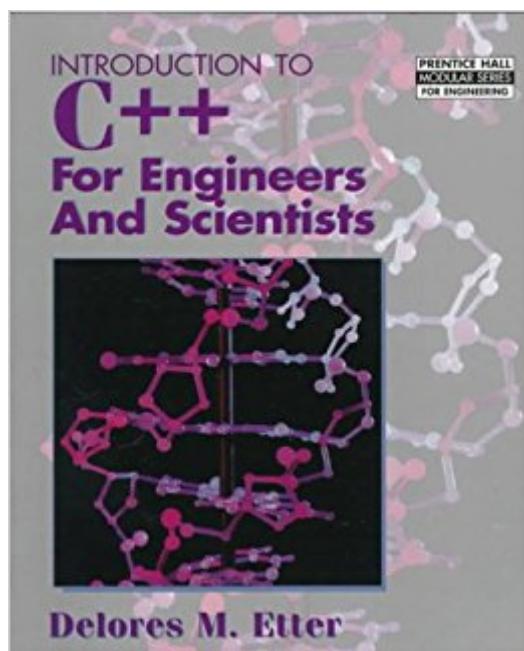


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# Introduction To C++ For Engineers And Scientists (Prentice Hall Modular Series For Engineering)



## **Synopsis**

Presents a consistent methodology for solving engineering problems through an introduction to the fundamental capabilities of C++. *Introduction to C++ for Engineers and Scientists* illustrates the problem-solving process with C++ through a variety of engineering examples and applications. The book maintains an engineering and scientific problem-solving emphasis by reinforcing a five-step process for solving engineering problems: State the problem, Describe the input and output information, Work a simple example by hand, Develop an algorithm and convert it to a computer program, and Test the solution with a variety of data. It emphasizes engineering and scientific problems through a theme of grand challenges, including: Prediction of weather, climate, and global change; Computerized speech understanding; Mapping of the human genome; Improvements in vehicle performance; Enhanced oil and gas recovery. The book provides applications to software engineering including the design and implementation of user-friendly and reusable computer solutions; readability and documentation in the development of all programs; software life cycle; portability; maintenance; modularity; abstraction; reusability; and structured programming. Provides a valuable reference book on the basics and applications of the C++ Computer language for both scientists and engineers.

## **Book Information**

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## **Customer Reviews**

Presents a consistent methodology for solving engineering problems through an introduction to the

fundamental capabilities of C++, the language of choice for many practicing engineers and scientists.

The author presents a straight forward simple and easy to understand approach to C++. This text assumes the reader knows nothing about programming and presents concepts with clear examples. In addition this text is only 150 pages and therefore can be read front to cover in a short time. Some drawbacks are it lacks advanced topics such as pointers and classes, which means what's presented in this text does not differ very much from C style programming. Also, the book was published in 1997 and the style/syntax of C++ seems to have slightly changed (e.g. headers are accessed `#include` rather than `#include`). It's a good start if you want an introduction to C++.

I already knew this book, a very good one as a first approach for somebody who is dedicated to calculations, modeling or iteration schemes, but who lacks a preparation as a programmer, specially in C++. I must say that I do not consider this is complete guide, in fact, it has nothing about plotting, but its easy and quick treatment convert it in an excellent first step.

The book arrived on time, but it was not in the condition stated. I said it was in good condition but the front cover is torn in the top right.

I thought that the title was a bit grandiose. I would have thought a better title would have been: Introduction To C++ For Technical Applications. It does not have the depth of coverage for professional engineers and scientists. It would be ideal for budding engineers/scientists at high school, laboratory technicians and drafts persons etc. who are required to do complex, tedious and repetitive computations. The author does not assume any knowledge of computers, programming or C++. A high school knowledge of algebra, trigonometry, inequalities and logarithms is all that is required. The text is easy to understand and is interspersed with style tips, bugs in programs, review questions with answers from which the reader can determine if he/she has understood the text and programming exercises of a technical nature. I was surprised that the chapter on Selection Statements, the Switch construct was omitted, also in the chapter on Loop Structures that the calculation converting degrees to radians was inside the loop. The chapter on Programmer-Defined Functions only discusses passing variables by value and omitting passing by reference, which means that the programmer can only return a single value. The section on disk file input/output is the best I have read, although it is marred by the fact that the author does not give a complete

drive/directory/file example, so the reader would not know that a double back slash is required. An additional chapter on two dimensional arrays should have been included, since computations involving matrices are common place in engineering and science. I give the book 4 stars for the type of reader it is directed to. A useful companion to this book would be Schaum's Outlines Programming with C++ by J. R. Hubbard Phd, ISBN 0-07-135346-1 to fill in the gaps. Anyone using a Borland compiler must enter the following lines: `cin >> "Press any key to continue`

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