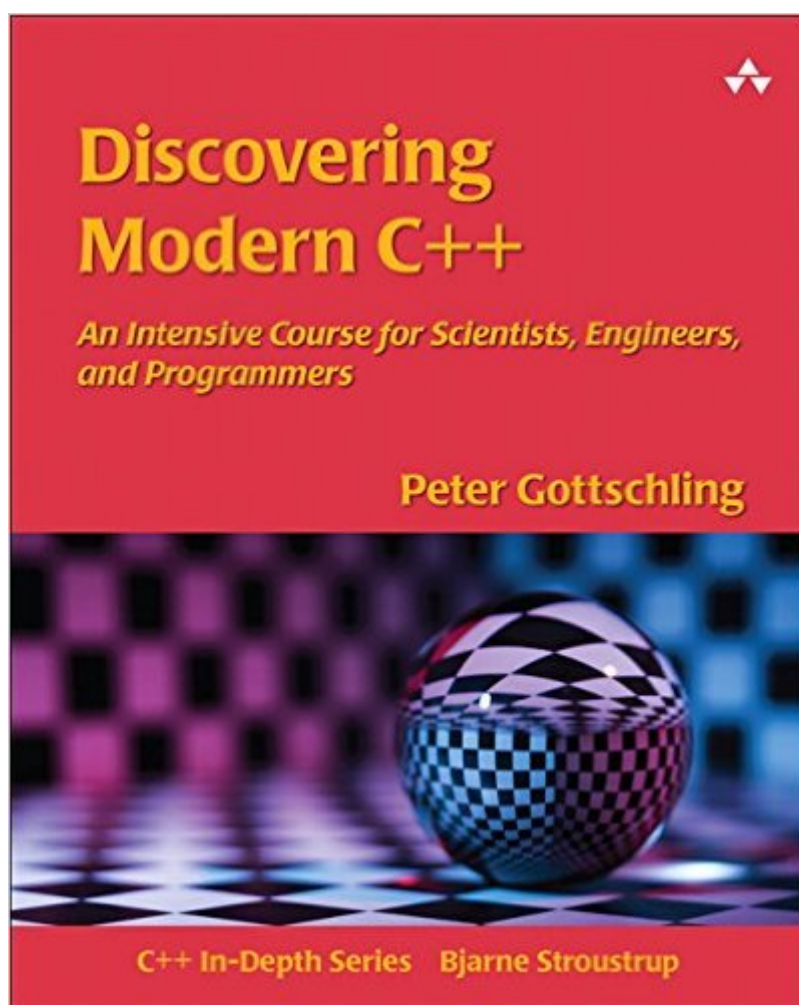


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# Discovering Modern C++: An Intensive Course For Scientists, Engineers, And Programmers (C++ In-Depth)



## Synopsis

As scientific and engineering projects grow larger and more complex, it is increasingly likely that those projects will be written in C++. With embedded hardware growing more powerful, much of its software is moving to C++, too. Mastering C++ gives you strong skills for programming at nearly every level, from close to the hardware to the highest-level abstractions. In short, C++ is a language that scientific and technical practitioners need to know. — Peter Gottschling's *Discovering Modern C++* is an intensive introduction that guides you smoothly to sophisticated approaches based on advanced features. Gottschling introduces key concepts using examples from many technical problem domains, drawing on his extensive experience training professionals and teaching C++ to students of physics, math, and engineering. This book is designed to help you get started rapidly and then master increasingly robust features, from lambdas to expression templates. You'll also learn how to take advantage of the powerful libraries available to C++ programmers: both the Standard Template Library (STL) and scientific libraries for arithmetic, linear algebra, differential equations, and graphs. Throughout, Gottschling demonstrates how to write clear and expressive software using object orientation, generics, metaprogramming, and procedural techniques. By the time you're finished, you'll have mastered all the abstractions you need to write C++ programs with exceptional quality and performance. —

## Book Information

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## Customer Reviews

I just got this book, but taking a brief look at the layout, i can tell i really like this style. It covers the

basic language and some of the new features (new as in c++11, c++14) and i like the way it's flagged on the paragraph to let you know that its a part of the newer standard. The examples are pretty short, and i like that. It's not cluttered with 50 pages of text for some example code. So therefore it's more like a great book for me to be in my collection as a quick reference when i need to look up features that i'm not that familiar with, like smart pointers. I got the book as a refresher as my last c++ book was i think the c++03 standard. This book is geared more for scientific programmers, the author briefly points out arithmetic libraries used with c++ for different types of math like differential equations. Although it says it's a book used and taught to beginning students, i think it's an excellent companion book as well. So if you dont like the typical layout of most c++ books, then try this one out. If you need step by step, then i'd say get a different book like lippman's & lajoie's c++ primer or prata's c++ primer plus

This may be the best C++ technical book ever. First, let me mention that the typeset text in the paper edition has exquisite highlights in a blueish-purple typeface set against black which makes it very easy to use. I love the annotations which describe features found in C++11 and those found in C++14. There are numerous diagrams, almost like whiteboard sketch's - little visuals - to help with the understanding of detailed language features. I love the editing of Addison-Wesley programming books and this is not an exception, polished, well done and crisp. The author uses numerous technical algorithms for examples. See his matrix inversion library at [...] as an example. This is the book to bring your C++ knowledge up to date (mid 2016) with C++11 and C++14 modern development practice. The book has been tested in academia and real world development for three years and covers everything from the tool chain and build process to templates, lambdas and scientific libraries.

A good book that don't treat you as some one of low IQ. I am a Fortran programmer and wanted to learn C++ to get a grip of source codes of OpenFOAM. The topics covered are so enormous that you will take a while to cross each page. Its concise size of only 444 pages tempts you to carry it always in your bag to help you read it during cup of coffee. A plus point contrasting with all those 900-1200 paged most famous and most expensive books. Being the first edition, contains few trivial errors. (Such as saying square-root cannot be negative by "mathematics" at section 1.6.1, though his intention of making the program to provide non-negative is meaningful by convention; In section 1.7.3 "myfile" should read "square\_file") As the cover says, it is an intensive course. I am still in third chapter of generic programming which is very crucial for my purpose of understanding OpenFoam

codes.

Great introduction to C++ -- covers basics in a complete but brief fashion then dives into many of the important and unique aspects of C++, encapsulation, templates (parametric polymorphism as well as template meta-programming), OO, and some basics for scientific computing. This is one of the very few C++ books that properly includes material on how C++ is done today by its master practitioners (i.e., generic programming).

While it isn't perfect, this is the best book I've found on getting up to speed with modern C++. My only complaint is that in some examples he uses C++14 features which he doesn't actually explain anywhere in the book.

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