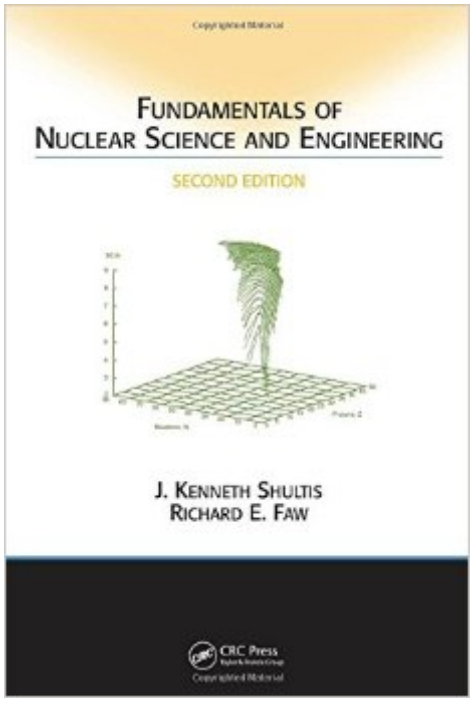
Fundamentals Of Nuclear Science And Engineering Second Edition



Synopsis

Since the publication of the bestselling first edition, there have been numerous advances in the field of nuclear science.Â In medicine, accelerator based teletherapy and electron-beam therapy have become standard. New demands in national security have stimulated major advances in nuclear instrumentation.An ideal introduction to the fundamentals of nuclear science and engineering, this book presents the basic nuclear science needed to understand and quantify an extensive range of nuclear phenomena. New to the Second Editionâ • A chapter on radiation detection by Douglas McGregor Up-to-date coverage of radiation hazards, reactor designs, and medical applications Flexible organization of material that allows for quick reference This edition also takes an in-depth look at particle accelerators, nuclear fusion reactions and devices, and nuclear technology in medical diagnostics and treatment. In addition, the author discusses applications such as the direct conversion of nuclear energy into electricity.Â The breadth of coverage is unparalleled, ranging from the theory and design characteristics of nuclear reactors to the identification of biological risks associated with ionizing radiation. All topics are supplemented with extensive nuclear data compilations to perform a wealth of calculations. Providing extensive coverage of physics, nuclear science, and nuclear technology of all types, this up-to-date second edition of Fundamentals of Nuclear Science and Engineering is a key reference for any physicists or engineer.

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Customer Reviews

This book is pure fun to read... easy to follow, clearly written, and full of cool graphs. It invokes the

engineer, physicist, and statistician in you all at once. If for nothing else but having fun, you should get a copy and read it.But wish it wasn’t so expensive.

Fundamentals of Nuclear Science and Engineering is a perfect introduction to the field. It starts gently enough so that anyone with a basic high school understanding of chemistry and physics can easily pick up the quantitative and qualitative ideas behind the operations of subatomic particles. The graphics are an appropriate companion to the text and the indices and appendices are extremely useful for performing calculations. The only potential downside would regard the end of chapter problems tending towards a "plug and chug" nature.

But why only 4 stars? There is no answer for problems! But this is a "common disease" in nuclear eng. textbooks, in my humble and limited opinion & sample size.The authors give clear explanations and derivations are good too.I really suggest it as an nuclear introductory course for anyone, also not nuclear engineering students.I have tried Lamarsh before, but it is hard to follow. Duderstadt & Hamilton is great too, but it deals "only" with reactors.

I’m a senior in Mechanical Engineering and I’m using this book for an elective I thought would be fun. I’m not some guy that is blaming poor test scores on a book, I’m genuinely disappointed by it.This text is one of the worst I’ve ever had to deal with. There are very few examples in the book and the solutions for the problems are nowhere to be found online. The lack of good examples can make a simple question take obscene amounts of time.The book is formatted poorly as well, which makes it difficult to find things when you’re flipping back and forth between pages. There are a few pictures and graphs but most pages are just block text which can take quite a bit of time to wade through if you don’t already know exactly where to look.Unfortunately most people buying this book don’t have the option to choose something else, however, if you’re a professor wanting to change books, I would recommend looking elsewhere.

Junior in Mechanical Engineering. Pulled a B in the class no thanks to this awful text. Subjects in this book are very convoluted. Example problems often have pre made assumptions that are never stated making the problems hard to follow. Good luck if you are required to use this book for your class.

This book overall does a good job discussing the required theory for nuclear engineering, and then

discusses several applications. Some of its discussion is a little hard to follow, but that's likely due to the quantum mechanical nature of the material, not the author.

Really great textbook for the fundamental principles of nuclear science!! Recommend greatly.