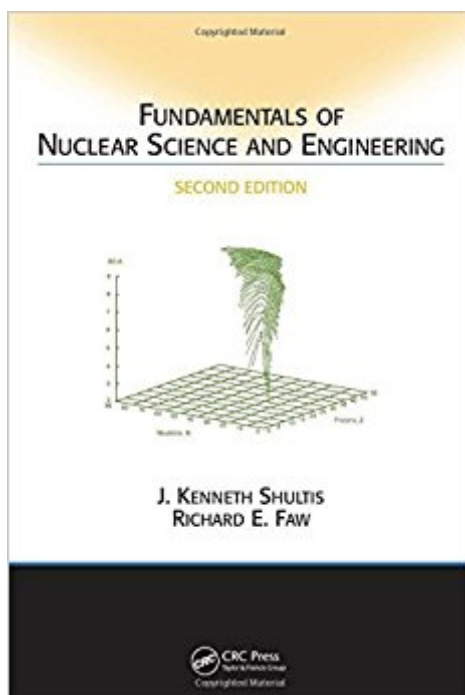


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# Fundamentals Of Nuclear Science And Engineering Second Edition



## Synopsis

Since the publication of the bestselling first edition, there have been numerous advances in the field of nuclear science. 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 Edition

- 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. 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.

## Book Information

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## Customer Reviews

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.

great!

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.

A good textbook for scientists and graduate engineers.

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

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.

Perfect.

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.

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