

BOOK REVIEW

Selection of books for review is based on the editor's opinions regarding possible reader interest and on the availability of the book to the editor. Occasional selections may include books on topics somewhat peripheral to the subject matter ordinarily considered acceptable.



Nuclear Energy: An Introduction to the Concepts, Systems, and Applications of Nuclear Processes, Sixth Edition

Author Raymond L. Murray

Publisher Elsevier Inc., Burlington, Massachusetts (2009)

Price \$71.75

Reviewer Nicholas Tsoulfanidis

I have used all the editions of this book by Ray Murray, both as a reference and as a text, and I was never disappointed. This sixth edition is no exception.

The sixth edition is not too much different from the fifth edition. The 27 chapters are divided into 3 large units: I. Basic Concepts; II. Nuclear Systems; and III. Nuclear Energy and Man. One very nice addition to the last two editions is the inclusion of Internet sites in the reference list for each chapter and also the inclusion of a few computer tools/programs for the solution of some of the problems (MATLAB, EXCEL, QBASIC).

I found this book to be ideal as a text for an introductory course in nuclear engineering for students at the freshman or sophomore level. If the book is used to instruct engineers in

other fields (e.g., mechanical engineering, civil engineering, electrical engineering, etc.), it may be used for juniors, seniors, and even first-year graduate students.

I have nothing but praise for all the chapters, but I would like to make special mention of Chapter 15, "The History of Nuclear Energy"; Chapter 18, "Useful Radiation Effects" (could be titled "Applications of Ionizing Radiation"); and Chapter 19, "Reactor Safety and Security." The problems at the end of each chapter are very appropriate, and an instructor will appreciate the support materials offered by the author through the website <http://textbooks.elsevier.com>.

Based on my personal experience from using the book as a text, I recommend it without any reservations for the instruction of students at the levels mentioned above. Of course, the book can serve as a useful reference for any engineer and scientist who may need information about any aspect of nuclear energy.

Nicholas Tsoulfanidis has served as Editor of Nuclear Technology since 1996. He is a Professor Emeritus of Nuclear Engineering from the University of Missouri-Rolla (now Missouri University of Science and Technology). He is the author of one book on radiation measurements and the coauthor of a second book on the nuclear fuel cycle. He is the author of numerous technical articles in the areas of radiation transport and radiation protection.