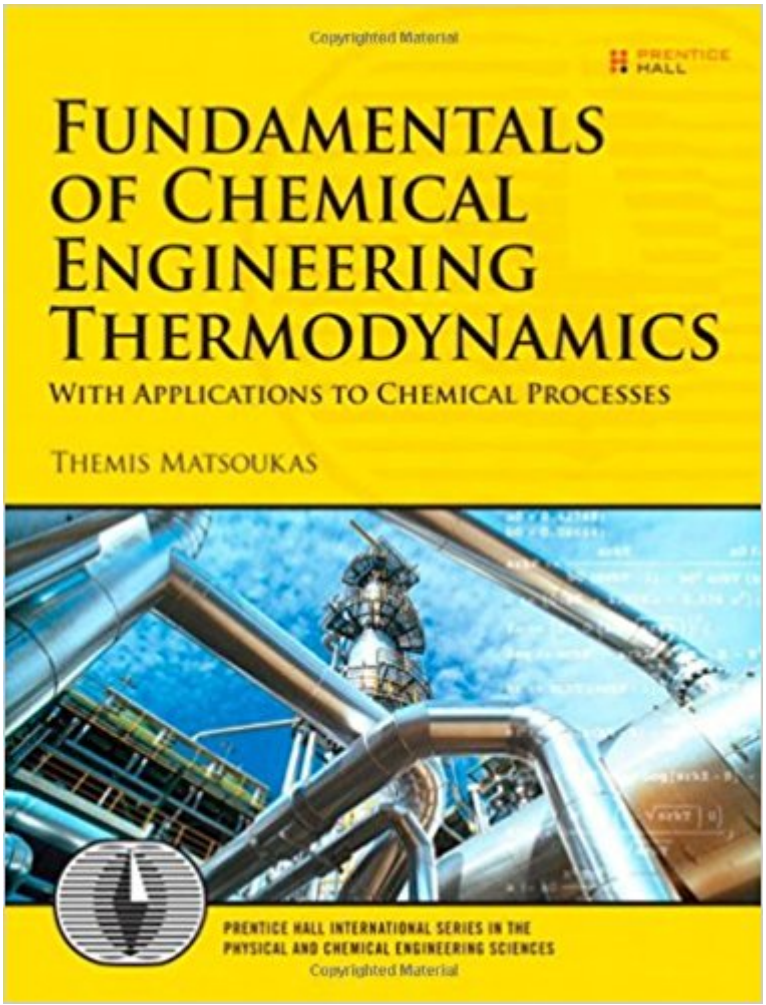
Fundamentals Of Chemical Engineering Thermodynamics (Prentice Hall International Series In The Physical And Chemical Engineering Sciences)

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Synopsis

The Clear, Well-Organized Introduction to Thermodynamics Theory and Calculations for All Chemical Engineering Undergraduate Students Â This text is designed to make thermodynamics far easier for undergraduate chemical engineering students to learn, and to help them perform thermodynamic calculations with confidence. Drawing on his award-winning courses at Penn State, Dr. Themis Matsoukas focuses on â œwhyâ • as well as â œhow.â • He offers extensive imagery to help students conceptualize the equations, illuminating thermodynamics with more than 100 figures, as well as 190 examples from within and beyond chemical engineering. Â Part I clearly introduces the laws of thermodynamics with applications to pure fluids. Part II extends thermodynamics to mixtures, emphasizing phase and chemical equilibrium. Throughout, Matsoukas focuses on topics that link tightly to other key areas of undergraduate chemical engineering, including separations, reactions, and capstone design. More than 300 end-of-chapter problems range from basic calculations to realistic environmental applications; these can be solved with any leading mathematical software. Â Coverage includes â ¢ Pure fluids, PVT behavior, and basic calculations of enthalpy and entropy â ¢ Fundamental relationships and the calculation of properties from equations of state â ¢ Thermodynamic analysis of chemical processes â ¢ Phase diagrams of binary and simple ternary systems â ¢ Thermodynamics of mixtures using equations of state â ¢ Ideal and nonideal solutions â ¢ Partial miscibility, solubility of gases and solids, osmotic processes â ¢ Reaction equilibrium with applications to single and multiphase reactions Â

Book Information

Series: Prentice Hall International Series in the Physical and Chemical Engineering Sciences
Hardcover: 720 pages
Publisher: Prentice Hall; 1 edition (October 12, 2012)
Language: English
ISBN-10: 0132693062
ISBN-13: 978-0132693066
Product Dimensions: 8.1 x 1.2 x 10.1 inches
Shipping Weight: 2.9 pounds (View shipping rates and policies)
Average Customer Review: 2.3 out of 5 stars 5 customer reviews
Best Sellers Rank: #173,754 in Books (See Top 100 in Books) #94 inÂ Books > Science & Math > Physics > Dynamics > Thermodynamics #114 inÂ Books > Textbooks > Engineering > Chemical Engineering #188 inÂ Books > Textbooks > Science & Mathematics > Mechanics

Customer Reviews

Â Themis Matsoukas has taught graduate and undergraduate thermodynamics, materials and energy balances, and various electives at Penn Stateâ “home to one of the worldâ ™s largest undergraduate programs in engineeringâ “since 1991. He has taught thermodynamics more than twenty times, to more than a thousand undergraduate students. His honors at Penn State include the George W. Atherton Award for Excellence in Teaching (2009); the Outstanding Teaching Award, Penn State Engineering Society (2006); and the AXE: Outstanding Teacher Award (2005). Â

The book came as a misprint and was missing a full chapter and a half which is not very convenient if you need to refer to the book.

The pages fall out when you turn them even though it was brand new. The binding was pretty poor quality.

This book is very concise about the use of thermodynamics in Chemical Engineering, and I think its structure is perfect

This book has MANY MANY errors. I am chemical engineering student who is taking Ch E 220 and I am currently using the book. Even though I bought the International edition, which is twice as cheap and doesn’t contain as many errors, it still severely lacks proofreading. Some of the mistakes are in grammar and use of words. Take a look at this sentence: "The notion of the cycle requires us to consider the costs of restoring the system to its original state before we can make pronouncements of efficiency" (page 165). What the hell does that mean? Or take Example 4.19. How in the world can you multiply specific by mass and ln(T2/T1) and get units of kJ/kg. Not only does the book have this appalling mistake, but also Mr. Matsoukas’ lectures. The pages fall out too. I am currently reading the book and almost the entire chapter 3 is loose.The writing:In certain parts of the book you get the feeling that the author is writing for professors rather than for students. He is making the book sound more like a manual rather than something for first-time learners. Take a look at a sentence from Section 1.2 page 11: "The distinction between classical and statistical thermodynamics is partly artificial, partly pedagogical. Artificial, because thermodynamics makes physical sense when we consider the molecular phenomena that produce the observed behaviors. From a pedagogical perspective, however, a proper statistical treatment requires more time to develop..." What the author meant is that although thermodynamics makes sense only when we

actually know what's happening on the molecular level, statistical theory requires more time to develop, so at first there should only be a simplified classical theory. The book is teeming with confusing descriptions like these.When I think of Mr. Matsoukas, I imagine a 60 years old professor with leather patches on his arms and large lens glasses and someone who writes books to earn enough money to retire in Florida. Stop confusing the youth. Write something that makes sense and that is easy to follow and enjoyable to read.

This book contains too numerous errors to count and appears as though it was not proof read or edited before being published. If you do not already know thermodynamics, it is likely you will be more confused after reading this book than before. Do not buy it.

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