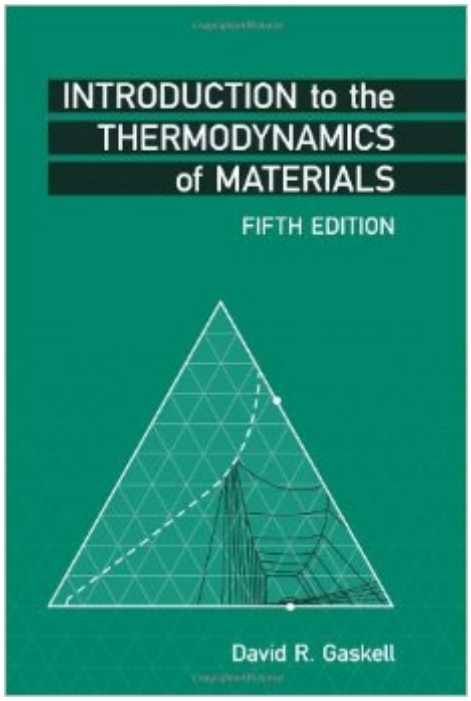
# Introduction To The Thermodynamics Of Materials, Fifth Edition



## Synopsis

This classic textbook is the definitive introduction to the thermodynamic behavior of materials systems. Written as a basic text for advanced undergraduates and first year graduate students in metallurgy, metallurgical engineering, ceramics, or materials science, it presents the underlying thermodynamic principles of materials and their plethora of applications. The book is also of proven interest to working professionals in need of a reference or refresher course.

## Book Information

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## Customer Reviews

I used this book for my course in Materials Thermodynamics, and I must say that it’s got some pretty good material and also some poor parts. In particular Gaskell usually does a good job of explaining his derivations, but there are times when the typographic errors get in the way and you sit there for an hour, until your teacher finally tells you that Gaskell made a mistake.Another annoyance is that Gaskell’s solutions in the back of the book are sometimes wrong, which means that it may be difficult to use a self-teaching book. In addition, Gaskell’s solutions to some configurational entropy problems are just completely unconventional and nonsensical from an intuitive standpoint -- my teacher told us to disregard his method entirely.The text does have some pluses: it has plentiful diagrams, excellent thermodynamic appendicies, and in general does a good job of rigorously explaining every concept. It’s definitely not a beginner’s book, but Thermodynamics is a complex topic and there are certain assumptions made of the reader in any Thermodynamics textbook.

Gaskell has a good book here, but there are more mistakes per chapter than any book I have used. The mistakes aren't grammatical or anything (he he), but instead, they are mistakes in formulas and example problems -> where it counts!

I used this book (fourth edition) in a graduate level thermo course and found the errors so numerous that it was absolutely frustrating trying to make sense of an already difficult subject. The one good thing about the book is that Gaskell offers many worked examples (unfortunately the errors in the examples make many of them quite confusing).I find it ironic that the preface reads "The fourth edition...is different from the third...[in that] there is an acute emphasis on typographical and mathematical accuracy." If this is the case I would have hated to have used the third addition.

Thermodynamics is already a hard enough subject to learn. If you want to learn thermo this is the wrong book for you. Gaskell confused my whole class so much that we hardly even used this book, fortanetly we had a good professor that was able to make sense of what Gaskell had to say. There are so many errors in this book that it is pathetic not just in the answers but also in the tables that Gaskell provides. Gaskell himself came and lectured our class this term. Luckly for him it was early in the term when we were just starting to use the book, if he had came in later in the term he would have been beaten senseless with this horrible book.

This is garbage for two main reasons. First, this book is full of errors! Ok, so what's the big deal about having errors? To some people, like some thermodynamics professors, they are nothing that needed to be worried about. (I guess some of you can refer to it!) But to the students, errors are bad news because they cause confusions and misconceptions to students, especially when Gaskell made mistakes on equations or formulars. Students can spend a lot of time trying to make sense out of Gaskell's mistakes! That's absolutely terrible.Secondly, Prof. Gaskell has the habit to write very, very, very long sentences. In this book it is not uncommon to find long sentences that consisted of more than 50 words. When a sentence is as long as a paragraph I don't think there are many readers (at least not the PhD students I knew) who can comprehend what it is trying to say. At the end, nothing is learned but only the readers' time, energy, and money are wasted. I really don't know what Prof. Gaskell thinks of his own writing style. The way I see it is that the author was trying hard to make his book sounded elegant and high class, however, failed.This book is not good for any body who wants to learn thermodynamics. Thermodynamics is itself a very difficult subject to be learned. So when it is taught through a book that's full of errors and hard to be comprehended as

well, then how much thermodynamics can students possibly learn?It's my opinion that any professor who decided to use this as a textbook and requires students to buy it has no concern of his/her students' quality of education. I feel that any professor who is willing to open the book and spend some time to check it out will find this book is just a waste of student's money.

Thermodynamics is one of those topics covered in multiple branches of science such as physics, chemistry, geology, materials science, chemical engineering, etc... This book approaches the subject from materials science and is meant to serve as the book for a one or two semester course in thermo. First of, it is not meant for beginners to thermo. I used this book in a course taught by one of the best instructors in my department, after having taken two easier courses in thermo. Yet I still found it difficult. Second, the math is advanced enough that one should not take the course without having differential equations. Third, the example problems can get quite difficult real quickly; and not all have solutions. But overall, the text is a good reflection of the subject; difficult and time-consuming to master.

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