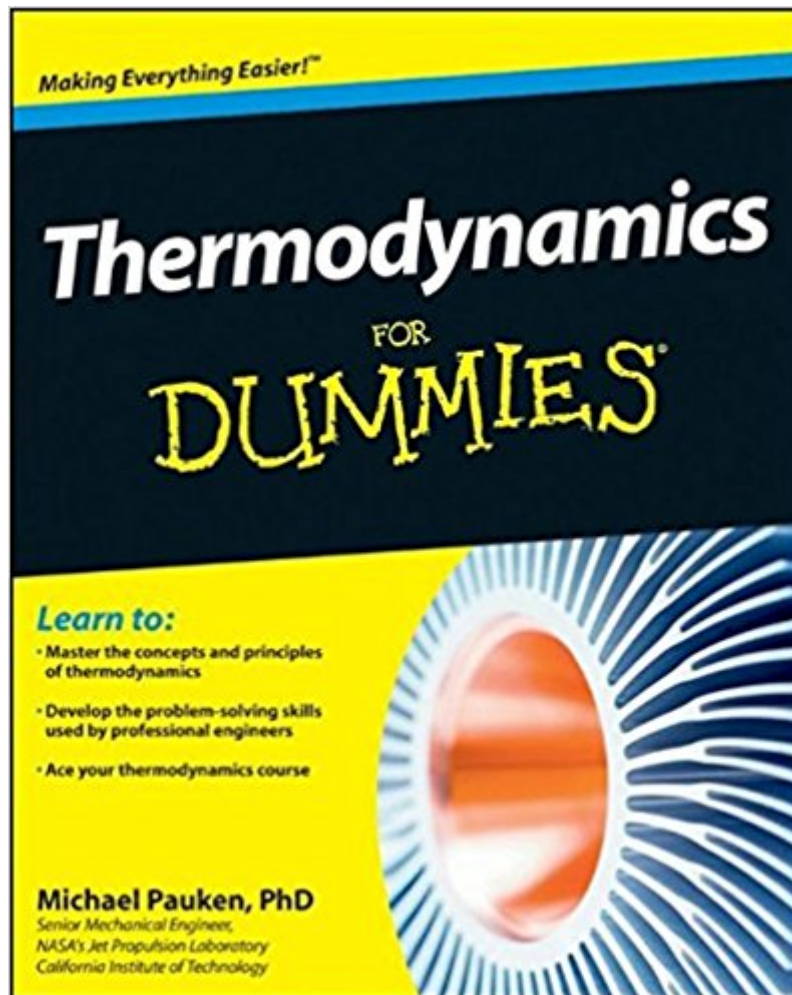


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# Thermodynamics For Dummies



## Synopsis

Take some heat off the complexity of thermodynamics Does the mere thought of thermodynamics make you sweat? It doesn't have to! This hands-on guide helps you score your highest in a thermodynamics course by offering easily understood, plain-English explanations of how energy is used in things like automobiles, airplanes, air conditioners, and electric power plants.

Thermodynamics 101 â " take a look at some examples of both natural and man-made thermodynamic systems and get a handle on how energy can be used to perform work Turn up the heat â " discover how to use the first and second laws of thermodynamics to determine (and improve upon) the efficiency of machines Oh, behave â " get the 411 on how gases behave and relate to one another in different situations, from ideal-gas laws to real gases Burn with desire â " find out everything you need to know about conserving mass and energy in combustion processes

Open the book and find:

- The laws of thermodynamics
- Important properties and their relationships
- The lowdown on solids, liquids, and gases
- How work and heat go hand in hand
- The cycles that power thermodynamic processes
- Chemical mixtures and reactions
- Ten pioneers in thermodynamics
- Real-world applications of thermodynamic laws and concepts

Learn to:

- Master the concepts and principles of thermodynamics
- Develop the problem-solving skills used by professional engineers
- Ace your thermodynamics course

## Book Information

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## Customer Reviews

Buy this book before any other Thermo books. The best introductory book on Thermodynamics. I have recently read Thermo for Dummies and it is probably the best thermo introductory text out

there. Dummies is only 339 pages and a very readable explanation of thermo. The examples are very good, practical and clear. For an under grad who has no intro to thermo buy this book hand down. This book will take you from being a Dummy to top of your class. Bravo, Professor Pauken well done. Pauken lacks practice problems but is very clear and readable and the examples more than make up for the lack of problems. I would buy Schaum's or equal for the problems and this one for the explanation of thermo. I also like CRC's Thermo book by Ka Fu Wong. It is more geared for the practicing engineer but an under grad would have little problem understanding it. I have also read Cengel and Moran's books are very good and readable but long. As an undergrad I was tortured with Von Wheelan and Sontag in a wash out class. It turned so many young engineers off to Thermo which is shame for the United States. We need every new engineer we can turn out. This book should help turn the tide. Again Bravo, Prof Pauken a great book.

The book takes you through much of what I was supposed to learn in a first semester Thermodynamics class and just was not clearly explained. I wish I had had it then. With this book, some basic Algebra, Chemistry, Physics, and such you can go a long way toward getting that engineering degree you always wanted.

I found this book very helpful. I need to read certain thermodynamic facts that other people would think don't need to be stated because they're too obvious. This book states the obvious, and because of this, I was able to understand the subject better. For instance, in thermodynamics, they discuss heat engines. I never made the connection that the engine in my car is a heat engine. I figured the spark plug ignites the fuel/air mixture and that pushes the piston down, I didn't understand how it's a heat engine. This book explains that the spark plug igniting the fuel/air mixture is the heat in ( $Q_{in}$ ) part of the cycle and that it's a heat engine. Now I understand. I also didn't understand how air-conditioning works, now I do. I didn't understand what enthalpy was, now I do. I didn't understand how to use entropy, now I do. I'm still trying to understand the difference between a gas and a vapor, but this book has helped in that regard too.

I ordered this for my son who needed additional resources to help him through his Thermodynamics II college course he's taking. He indicated it has helped immensely. That's good for him, that's great for me!

Several decades ago, I took a superb thermodynamics course as part of a university physics

program. It was extremely theoretical with, as can be expected, a lot of mathematical derivations, proofs, etc., but short on applications to the real world. This excellent book complements such a course: it is loaded with actual applications of various heat engines: jet, gasoline, diesel, refrigerators, heat pumps, etc. The book is designed so that it does not necessarily have to be read from cover to cover, which is what I did. Consequently, each chapter contains a certain amount of repetition – something which I found to be quite refreshing. References are routinely made to other chapters regarding various techniques, definitions, etc. Once a topic is presented, practical examples are given in a clear step-by-step format. The various formulas that are included are simple and generally not derived in the book. I noticed that the author has used various terms/quantities that I was not familiar with. It turns out that these are particularly useful in the engineering/technological world and not necessary in the theoretical physics domain. I believe that this book could be extremely useful to engineering/technology students because of its friendly style, clarity and all the practical applications. But I also believe that it could be useful for physics students who are exposed mainly to the theory/mathematics/derivations in thermodynamics but less to real world applications.

I thought I was going to fail my ChemE Thermo and PChem courses halfway through the fall semester, but it turned out all I needed was to spend lots of time understanding concepts and doing problems. I read some of the book for concepts I didn't understand and it did a pretty good job of explaining them.

A+, Thank you Mike for writing this masterpiece. I highly recommend this book for anyone intimidated by this topic and wants to not be and for any undergrad who is required to take this weeder course in college. I've talked with a 32 year veteran Industrial engineer and a mechanical engineer at Boeing aerospace and also a wireline oilfield engineer from Schlumberger, none of them use the thermo class from college. This book covers the real world, e.g. the car you drive most likely has a heat engine, unless it's an EV. The refrigerator in your domicile uses the thermodynamic process. When this book opens your eyes, you will know that a lot of things you take for granted really have thermo under the covers.

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