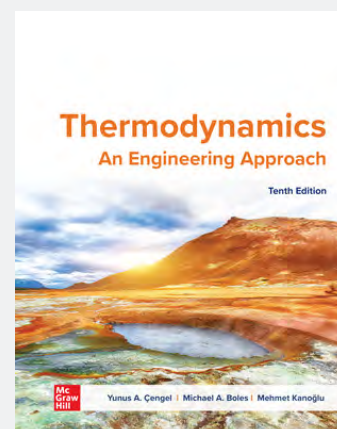




Thermodynamics: An Engineering Approach

Yunus Cengel | Michael Boles | Mehmet Kanoglu
2024 Release



Overview

Cengel's *Thermodynamics* is known to be student friendly, self-instructive, and easy to read and understand even for the most challenging topics with the help of attractive illustrations, examples, and real-world applications. The authors' philosophy is that the best way to learn is by practice. Special effort is made throughout the book to reinforce material that was presented earlier and to appeal to students' natural curiosity and intuition. For instructors looking to engage students and enhance their problem-solving skills, Connect offers student-friendly, accessible content, tools, and resources that develop high-level problem-solving and critical thinking skills.

Writing Style

Clear. Precise. Builds on student intuition.

Course Level

Second or Third year.

Duration of Course

1- or 2-semester.

What You Need to Know

Check Your Understanding Questions

Based on fundamentals concepts. Enhances the self-learning experience for students.

Removal of Relative Pressure P_r , and Relative Specific Volume v_r

A new simple entropy function s^+ can do everything P_r and v_r can do, plus more; and do it in a more straightforward and intuitive way.

Numerous Worked-Out Examples

Clarify the material and illustrate the use of the basic principle. An intuitive and systematic approach is used.

Real-World End-of-Chapter Problems

Include Concept Questions, Practical problems, Review Problems, Design and Essay Problems, and Fundamentals of Engineering (FE) Exam Problems.

Table of Contents

1. Introduction and Basic Concepts
2. Energy, Energy Transfer, and General Energy Analysis
3. Properties of Pure Substances
4. Energy Analysis of Closed Systems
5. Mass and Energy Analysis of Control Volumes
6. The Second Law of Thermodynamics
7. Entropy
8. Entropy Analysis
9. Exergy
10. Gas Power Cycles
11. Vapor and Combined Power Cycles
12. Refrigeration Cycles
13. Thermodynamic Property Relations
14. Gas Mixtures
15. Gas-Vapor Mixtures and Air-Conditioning
16. Chemical Reactions
17. Chemical and Phase Equilibrium
18. Compressible Flow
- Appendix 1. Property Tables and Charts (SI Units)
- Appendix 2. Property Tables and Charts (English Units)

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This Title has Gone Evergreen

This title is transitioning to an evergreen delivery model. This means you will have the most relevant and up-to-date content, tools, and accessibility delivered directly to your existing McGraw Hill Connect® course, all without switching editions or building a new course from scratch.

A complete list of Release Notes for this title is available within your Connect course at connect.mheducation.com

Big Picture Changes in This Release

Enhancements to Connect include Application-Based Activities

Highly interactive, assignable exercises boost engagement and allow students to apply concepts learned to real-world scenarios. Each ABA involves the application of multiple topics providing the ability to synthesize information and use critical-thinking skills.

ABA Example Topics include

Carnot Cycle, Ericsson Cycle, Stirling Cycle, Brayton Cycle, Vapor Compression Refrigeration Cycle, and Gas Refrigeration Cycle.



Education for All? We're All In.

Every student deserves the chance to succeed, in college and beyond.

We offer a range of affordable, engaging learning solutions wrapped in dedicated support services to aid effective teaching and learning. Faculty and students enjoy the freedom to choose, based on their needs and course goals.

