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# Moran Shapiro Thermodynamics 6th Edition

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Thermodynamics, Gas  
Dynamics, and

Combustion CRC Press  
Market\_Desc: Engineers  
Special Features: ·  
Provides a broader  
range of applications  
in emerging  
technologies such as  
energy and the  
environment,  
bioengineering, and  
horizons.· Emphasizes

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modeling to support engineering decision-making involving thermodynamics concepts. • Develops problem-solving skills in three modes: conceptual, skill building, and design. • Encourages critical thinking and conceptual understanding with the help of exercises and Skills Developed checklists. • Contains Interactive Thermodynamics software that links realistic images with their related engineering model.

About The Book: In the new sixth edition, readers will learn how to solve thermodynamics problems with the help of a structured methodology, examples and challenging problems. The book's sound problem-solving

approach introduces them to concepts, which are then applied to relevant engineering-based situations. The material is presented in an engaging that includes over 200 worked examples, over 1,700 end-of-chapter problems, and numerous illustrations and graphs.

Careers in Chemical and Biomolecular Engineering  
CRC Press

Now in a Sixth Edition,  
Fundamentals of Engineering

Thermodynamics maintains its engaging, readable style while presenting a broader range of applications that motivate student understanding of core thermodynamics concepts.

This leading text uses many relevant engineering-based situations to help students model and solve problems.

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Basic And Applied  
Thermodynamics 2/E CRC  
Press

This book conveys the scope of chemical and biomolecular engineering practice, with a goal of helping students interested in studying chemical engineering and biomolecular engineering to understand the many potential career pathways that are available for graduates in these dynamic fields. Written so that it can be read by high school students and the general public, this book can serve as a supplement to both introductory courses on chemical engineering theory and calculations, and other "introduction to engineering" college courses that are aimed at helping students decide which branch of engineering (and thus course of study) might be most interesting to them.

Engineering Thermodynamics  
Bookboon

Focusing on the conversion of biomass into gas or liquid fuels the book covers physical pre-treatment technologies, thermal, chemical and biochemical conversion technologies • Details the latest biomass characterization techniques • Explains the biochemical and thermochemical conversion processes • Discusses the development of integrated biorefineries, which are similar to petroleum refineries in concept, covering such topics as reactor configurations and downstream processing • Describes how to mitigate the environmental risks when using biomass as fuel • Includes many problems, small projects, sample calculations and industrial application examples

Mathematical Modelling,  
Numerical Methods and  
Information Technology Gulf  
Professional Publishing

Physics of Cryogenics: An  
Ultralow Temperature  
Phenomenon discusses the  
significant number of  
advances that have been  
made during the last few  
years in a variety of  
cryocoolers, such as Brayton,

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Joule-Thomson, Stirling, pulse tube, Gifford-McMahon and magnetic refrigerators. The book reviews various approaches taken to improve reliability, a major driving force for new research areas. The advantages and disadvantages of different cycles are compared, and the latest improvements in each of these cryocoolers is discussed. The book starts with the thermodynamic fundamentals, followed by the definition of cryogenic and the associated science behind low temperature phenomena and properties. This book is an ideal resource for scientists, engineers and graduate and senior undergraduate students who need a better understanding of the science of cryogenics and related thermodynamics. Defines the fundamentals of thermodynamics that are associated with cryogenic processes Provides an overview of the history of the development of cryogenic technology Includes new, low

temperature tables written by the author Deals with the application of cryogenics to preserve objects at very low temperature Explains how cryogenic phenomena work for human cell and human body preservations and new medical approaches Conventional and Alternative Power Generation Wiley The focus of Thermodynamic Concepts and Applications is on traditional thermodynamics topics, while structurally the book introduces the thermal-fluid sciences. 2nd law topics are introduced hierarchically in one chapter, important structure for a beginner. The book is designed for the instructor to select topics and combine them with material from other chapters seamlessly. Pedagogical devices include: learning objectives, chapter overviews and summaries, historical perspectives, and numerous examples, questions and problems and lavish illustrations. Students are encouraged to use the

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National Institute of Science and Technology (NIST) online properties database.

Aircraft Propulsion Wiley

A much-needed, up-to-date guide on conventional and alternative power generation. This book goes beyond the traditional methods of power generation. It introduces the many recent innovations on the production of electricity and the way they play a major role in combating global warming and improving the efficiency of generation. It contains a strong analytical approach to underpin the theory of power plants—for those using conventional fuels, as well as those using renewable fuels—and looks at the problems from a unique

environmental engineering perspective. The book also includes numerous worked examples and case studies to demonstrate the working principles of these systems. Conventional and Alternative Power Generation: Thermodynamics, Mitigation and Sustainability is divided into 8 chapters that comprehensively cover: thermodynamic systems; vapor power cycles, gas power cycles, combustion; control of particulates; carbon capture and storage; air pollution dispersal; and renewable energy and power plants. Features an abundance of worked examples and tutorials. Examines the problems of generating power from an

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environmental engineering perspective Includes all of the latest information, technology, theories, and principles on power generation Conventional and Alternative Power Generation: Thermodynamics, Mitigation and Sustainability is an ideal text for courses on mechanical, chemical, and electrical engineering. Wiley Global Education Now in a Sixth Edition, Fundamentals of Engineering Thermodynamics maintains its engaging, readable style while presenting a broader range of applications that motivate student understanding of core thermodynamics concepts. This leading text uses many relevant

engineering-based situations to help students model and solve problems.

A Concise Handbook of Mathematics, Physics, and Engineering

Sciences Cambridge University Press Now in a Sixth Edition, Fundamentals of Engineering Thermodynamics maintains its engaging, readable style while presenting a broader range of applications that motivate student understanding of core thermodynamics concepts. This leading text uses many relevant engineering-based situations to help students model and solve problems.

*Concepts and Applications*  
Cambridge University Press

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**Principles, Design, and Analysis** CRC Press

A comprehensive and rigorous introduction to thermal system design from a contemporary perspective Thermal Design and Optimization offers readers a lucid introduction to the latest methodologies for the design of thermal systems and emphasizes engineering economics, system simulation, and optimization methods. The methods of exergy analysis, entropy generation minimization, and thermoeconomics are

incorporated in an evolutionary manner. This book is one of the few sources available that addresses the recommendations of the Accreditation Board for Engineering and Technology for new courses in design engineering. Intended for classroom use as well as self-study, the text provides a review of fundamental concepts, extensive reference lists, end-of-chapter problem sets, helpful appendices, and a comprehensive case study that is followed throughout the text. Contents include: \*

- Introduction to Thermal System Design \*
- Thermodynamics, Modeling, and Design Analysis \*
- Exergy Analysis \*
- Heat Transfer, Modeling, and Design Analysis \*
- Applications with Heat and Fluid Flow \*
- Applications

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with Thermodynamics and Heat and Fluid Flow \* Economic Analysis \* Thermoeconomic Analysis and Evaluation \* Thermoeconomic Optimization Thermal Design and Optimization offers engineering students, practicing engineers, and technical managers a comprehensive and rigorous introduction to thermal system design and optimization from a distinctly contemporary perspective. Unlike traditional books that are largely oriented toward design analysis and components, this forward-thinking book aligns itself with an increasing number of active designers who believe that more effective, system-oriented design methods are needed. Thermal Design and Optimization offers a lucid presentation of thermodynamics, heat

transfer, and fluid mechanics as they are applied to the design of thermal systems. This book broadens the scope of engineering design by placing a strong emphasis on engineering economics, system simulation, and optimization techniques. Opening with a concise review of fundamentals, it develops design methods within a framework of industrial applications that gradually increase in complexity. These applications include, among others, power generation by large and small systems, and cryogenic systems for the manufacturing, chemical, and food processing industries. This unique book draws on the best contemporary thinking about design and design methodology, including discussions of



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concurrent design and quality function deployment. Recent developments based on the second law of thermodynamics are also included, especially the use of exergy analysis, entropy generation minimization, and thermoeconomics. To demonstrate the application of important design principles introduced, a single case study involving the design of a cogeneration system is followed throughout the book. In addition, *Thermal Design and Optimization* is one of the best news sources available for meeting the recommendations of the Accreditation Board for Engineering and Technology for more design emphasis in engineering curricula. Supported by extensive reference lists, end-of-chapter problem sets, and helpful appendices, this is a

superb text for both the classroom and self-study, and for use in industrial design, development, and research. A detailed solutions manual is available from the publisher. *Fundamental and Advanced Topics* CRC Press  
This book results from a Special Issue related to the latest progress in the thermodynamics of machines systems and processes since the premonitory work of Carnot. Carnot invented his famous cycle and generalized the efficiency concept for thermo-mechanical engines. Since that time, research progressed from the equilibrium approach to the irreversible situation that represents the general case. This book illustrates the present state-of-the-art advances after one or two

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centuries of consideration regarding applications and fundamental aspects. The research is moving fast in the direction of economic and environmental aspects. This will probably continue during the coming years. This book mainly highlights the recent focus on the maximum power of engines, as well as the corresponding first law efficiency upper bounds.

*Fundamentals of Engineering*

*Thermodynamics* John Wiley & Sons

Chemical engineers face the challenge of learning the difficult concept and application of entropy and the 2nd Law of Thermodynamics. By following a visual approach and offering qualitative discussions of the role of molecular interactions, Koretsky

helps them understand and visualize thermodynamics.

Highlighted examples show how the material is applied in the real world. Expanded coverage includes biological content and examples, the Equation of State approach for both liquid and vapor phases in VLE, and the practical side of the 2nd Law. Engineers will then be able to use this resource as the basis for more advanced concepts.

*Heat Transfer* John Wiley & Sons

This leading text in the field maintains its engaging, readable style while presenting a broader range of applications that motivate engineers to learn the core thermodynamics concepts. Two new coauthors help update the material and

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integrate engaging, new problems. Throughout the chapters, they focus on the relevance of thermodynamics to modern engineering problems. Many relevant engineering based situations are also presented to help engineers model and solve these problems.

**Fundamentals of Engineering Thermodynamics, Sixth Edition WileyPLUS Set** New Age International  
Now in a Sixth Edition, Fundamentals of Engineering Thermodynamics maintains its engaging, readable style while presenting a broader range of applications that motivate student understanding of core thermodynamics concepts. This leading text uses many relevant engineering-based situations to help students model and solve problems. *Combustion Engineering, Second Edition* Wiley  
Software tools are a great aid

to process engineers, but too much dependence on such tools can often lead to inappropriate and suboptimal designs. Reliance on software is also a hindrance without a firm understanding of the principles underlying its operation, since users are still responsible for devising the design. In *Process Engineering and Design Using Visual Basic*, Arun K. Datta provides a unique and versatile suite of programs along with simultaneous development of the underlying concepts, principles, and mathematics. Each chapter details the theory and techniques that provide the basis for design and engineering software and then showcases the development and utility of programs developed using the material outlined in the chapter. This all-inclusive guide works systematically from basic mathematics to fluid mechanics, separators, overpressure protection, and glycol dehydration, providing

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basic design guidelines based on international codes. Worked examples demonstrate the utility of each program, while the author also explains problems and limitations associated with the simulations. After reading this book you will be able to immediately put these programs into action and have total confidence in the result, regardless of your level of experience. Companion Visual Basic and Excel files are available for download on under the "Downloads/Updates" tab on this web page.

## **Engineering and Chemical**

**Thermodynamics** John Wiley & Sons

This book introduces students to the basic physical principles to analyze fluid flow in micro and nano-size devices. This is the first book that unifies the thermal sciences with

electrostatics and electrokinetics and colloid science; electrochemistry; and molecular biology. The author discusses key concepts and principles, such as the essentials of viscous flows, an introduction to electrochemistry, heat and mass transfer phenomena, elements of molecular and cell biology, and much more. This textbook presents state-of-the-art analytical and computational approaches to problems in all of these areas, especially electrokinetic flows, and gives examples of the use of these disciplines to design devices used for rapid molecular analysis, biochemical sensing, drug delivery, DNA analysis, the design of an artificial

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kidney, and other transportengine component phenomena. This textbook includes exercise problems, modern examples of the applications of these sciences, and a solutions manual available to qualified instructors.

*Application of Compact Heat Exchangers For Combined Cycle Driven Efficiency In Next Generation Nuclear Power Plants* MDPI

FUNDAMENTALS OF ENGINEERING THERMODYNAMICS, 6TH ED

*Engineering Thermodynamics Solutions Manual* CRC Press

New edition of the successful textbook updated to include new material on UAVs, design guidelines in aircraft

systems and additional end of chapter problems

Aircraft Propulsion, Second Edition follows the successful first edition textbook with comprehensive treatment of the subjects in airbreathing propulsion, from the basic principles to more advanced treatments in engine components and system integration. This new edition has been extensively updated to include a number of new and important topics. A chapter is now included on General Aviation and Uninhabited Aerial Vehicle (UAV) Propulsion Systems that includes a discussion on electric and hybrid propulsion. Propeller theory is added to the presentation of

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turboprop engines. A new section in cycle analysis treats Ultra-High Bypass (UHB) and Geared Turbofan engines. New material on drop-in biofuels and design for sustainability is added to reflect the FAA's 2025 Vision. In addition, the design guidelines in aircraft engine components are expanded to make the book user friendly for engine designers. Extensive review material and derivations are included to help the reader navigate through the subject with ease. Key features: General Aviation and UAV Propulsion Systems are presented in a new chapter Discusses Ultra-High Bypass and Geared Turbofan engines Presents alternative drop-in jet fuels Expands on engine components' design guidelines The end-of-chapter problem sets have been increased by nearly 50% and solutions are available on a companion website Presents a new section on engine performance testing and instrumentation Includes a new 10-Minute Quiz appendix (with 45 quizzes) that can be used as a continuous assessment and improvement tool in teaching/learning propulsion principles and concepts Includes a new appendix on Rules of Thumb and Trends in aircraft propulsion Aircraft Propulsion, Second Edition is a must-have textbook for graduate and undergraduate students,

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and is also an excellent source of information for researchers and practitioners in the aerospace and power industry.

Nuclear Engineering

Handbook John Wiley & Sons Incorporated

A Concise Handbook of Mathematics, Physics, and Engineering Sciences takes a practical approach to the basic notions, formulas, equations, problems, theorems, methods, and laws that most frequently occur in scientific and engineering applications and university education. The authors pay special attention to issues that many engineers and students