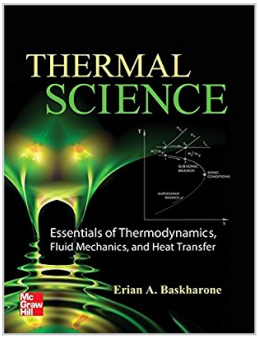

Thermal Science (Mechanical Engineering)

By Erian A. Baskharone

Thermal Science (Mechanical Engineering) By Erian A. Baskharone

A practical, illustrated guide to thermal science

A practical, illustrated guide to thermal science Written by a subject-matter expert with many years of academic and industrial experience, *Thermal Science* provides detailed yet concise coverage of thermodynamics, fluid mechanics, and heat transfer. The laws of thermodynamics are discussed with emphasis on their real-world applications.

This comprehensive resource clearly presents the flow-governing equations of fluid mechanics, including those of mass, linear momentum, and energy conservation. Flow behavior through turbomachinery components is also addressed. The three modes of heat transfer--conduction, convection, and radiation--are described along with practical applications of each.

Thermal Science covers:

- Properties of pure substances and ideal gases
- First and second laws of thermodynamics
- Energy conversion by cycles
- Power-absorbing cycles
- Gas power cycles
- Flow-governing equations
- External and internal flow structures
- Rotating machinery fluid mechanics
- Variable-geometry turbomachinery stages
- Prandtl-Meyer flow
- Internal flow, friction, and pressure drop
- Fanno flow process for a viscous flow field
- Rayleigh flow
- Heat conduction and convection
- Heat exchangers
- Transfer by radiation

Instructor material available for download from companion website

Thermal Science (Mechanical Engineering)

By Erian A. Baskharone

Thermal Science (Mechanical Engineering) By Erian A. Baskharone

A practical, illustrated guide to thermal science

A practical, illustrated guide to thermal science Written by a subject-matter expert with many years of academic and industrial experience, *Thermal Science* provides detailed yet concise coverage of thermodynamics, fluid mechanics, and heat transfer. The laws of thermodynamics are discussed with emphasis on their real-world applications.

This comprehensive resource clearly presents the flow-governing equations of fluid mechanics, including those of mass, linear momentum, and energy conservation. Flow behavior through turbomachinery components is also addressed. The three modes of heat transfer--conduction, convection, and radiation--are described along with practical applications of each.

Thermal Science covers:

- Properties of pure substances and ideal gases
- First and second laws of thermodynamics
- Energy conversion by cycles
- Power-absorbing cycles
- Gas power cycles
- Flow-governing equations
- External and internal flow structures
- Rotating machinery fluid mechanics
- Variable-geometry turbomachinery stages
- Prandtl-Meyer flow
- Internal flow, friction, and pressure drop
- Fanno flow process for a viscous flow field
- Rayleigh flow
- Heat conduction and convection
- Heat exchangers
- Transfer by radiation

Instructor material available for download from companion website

Thermal Science (Mechanical Engineering) By Erian A. Baskharone Bibliography

- Sales Rank: #1830422 in Books
- Brand: Brand: McGraw-Hill Professional
- Published on: 2012-07-17
- Original language: English

- Number of items: 1
- Dimensions: 10.30" h x 1.00" w x 8.00" l, 2.30 pounds
- Binding: Hardcover
- 480 pages

Editorial Review

About the Author

Erian A. Baskharone, Ph.D., is a Professor Emeritus of Mechanical and Aerospace Engineering at Texas A&M University, and a member of the Rotordynamics/Turbomachinery Laboratory Faculty. He is a member of the ASME Turbomachinery Executive Committee. After receiving his Ph.D. degree from the University of Cincinnati, Dr. Baskharone became a Senior Engineer with Allied-Signal Corporation (currently Honeywell Aerospace Corporation), responsible for the aerodynamic design of various turbofan and turboprop engines. His research covered a wide spectrum of turbomachinery topics, including unsteady stator/rotor flow interaction, and the fluid-induced vibration problem in the Space Shuttle Main Engine. Dr. Baskharone’s perturbation approach to the problem of turbomachinery fluid-induced vibration was a significant breakthrough. He is the recipient of the General Dynamics Award of Excellence in Engineering Teaching (1991) and the Amoco Foundation Award for Distinguished Teaching (1992).

Users Review

From reader reviews:

Pamela Steele:

Have you spare time for any day? What do you do when you have much more or little spare time? Yeah, you can choose the suitable activity to get spend your time. Any person spent their spare time to take a stroll, shopping, or went to typically the Mall. How about open or even read a book entitled Thermal Science (Mechanical Engineering)? Maybe it is for being best activity for you. You recognize beside you can spend your time using your favorite's book, you can smarter than before. Do you agree with its opinion or you have various other opinion?

Patricia Stokes:

This Thermal Science (Mechanical Engineering) book is just not ordinary book, you have it then the world is in your hands. The benefit you receive by reading this book is actually information inside this e-book incredible fresh, you will get info which is getting deeper an individual read a lot of information you will get. That Thermal Science (Mechanical Engineering) without we understand teach the one who reading it become critical in contemplating and analyzing. Don't end up being worry Thermal Science (Mechanical Engineering) can bring once you are and not make your bag space or bookshelves' turn into full because you can have it in your lovely laptop even phone. This Thermal Science (Mechanical Engineering) having very good arrangement in word and layout, so you will not feel uninterested in reading.

Gerri Pettit:

This Thermal Science (Mechanical Engineering) usually are reliable for you who want to be considered a successful person, why. The key reason why of this Thermal Science (Mechanical Engineering) can be one of several great books you must have is giving you more than just simple reading through food but feed an

individual with information that might be will shock your preceding knowledge. This book is definitely handy, you can bring it everywhere and whenever your conditions throughout the e-book and printed people. Beside that this Thermal Science (Mechanical Engineering) forcing you to have an enormous of experience like rich vocabulary, giving you demo of critical thinking that could it useful in your day action. So , let's have it and enjoy reading.

Ronald Tanaka:

This Thermal Science (Mechanical Engineering) is completely new way for you who has interest to look for some information since it relief your hunger details. Getting deeper you on it getting knowledge more you know otherwise you who still having bit of digest in reading this Thermal Science (Mechanical Engineering) can be the light food for you because the information inside this particular book is easy to get by anyone. These books create itself in the form that is reachable by anyone, sure I mean in the e-book web form. People who think that in e-book form make them feel drowsy even dizzy this publication is the answer. So there is not any in reading a publication especially this one. You can find what you are looking for. It should be here for an individual. So , don't miss it! Just read this e-book type for your better life as well as knowledge.

Read Thermal Science (Mechanical Engineering) By Erian A. Baskharone for online ebook

Thermal Science (Mechanical Engineering) By Erian A. Baskharone Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Thermal Science (Mechanical Engineering) By Erian A. Baskharone books to read online.

Online Thermal Science (Mechanical Engineering) By Erian A. Baskharone ebook PDF download

Thermal Science (Mechanical Engineering) By Erian A. Baskharone Doc

Thermal Science (Mechanical Engineering) By Erian A. Baskharone Mobipocket

Thermal Science (Mechanical Engineering) By Erian A. Baskharone EPub

63UK2XQON41: Thermal Science (Mechanical Engineering) By Erian A. Baskharone