Pearson

MECHANICAL, CIVIL, CHEMICAL AND CORE ENGINEERING

CATALOUGE 2018

About Pearson

Pearson is the world's learning company, with presence across 70 countries worldwide. Our unique insights and world-class expertise comes from a long history of working closely with renowned teachers, authors and thought leaders, as a result of which, we have emerged as the preferred choice for millions of teachers and learners across the world.

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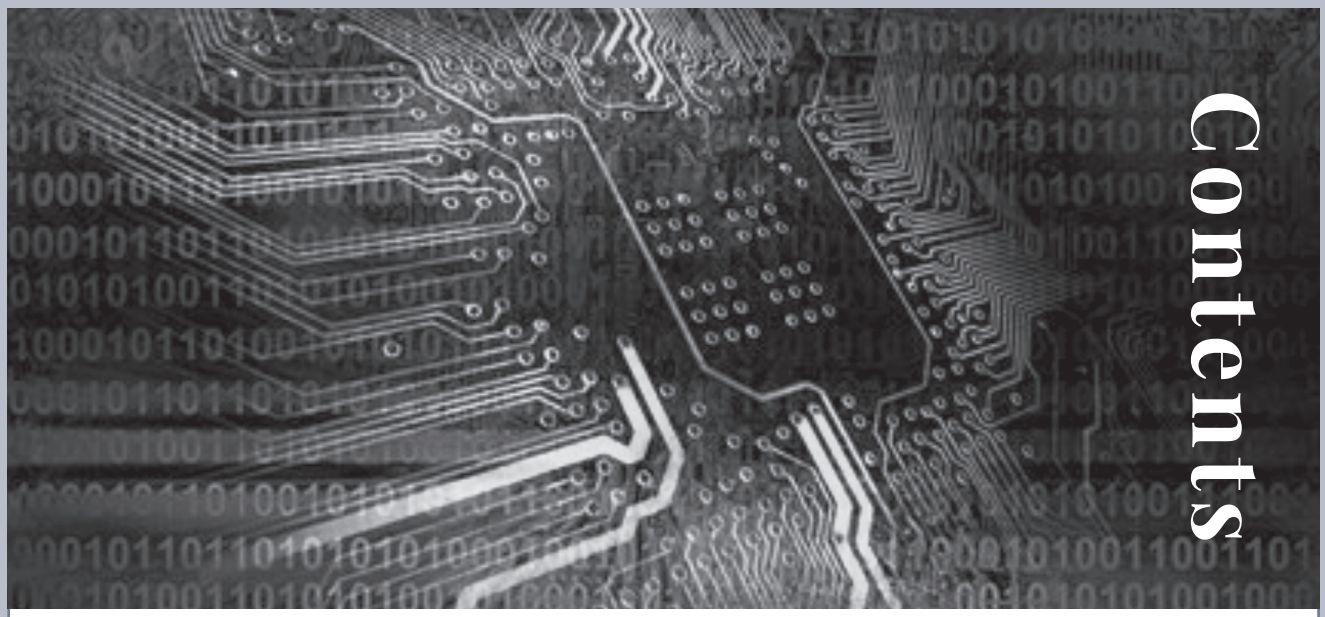
Your feedback plays a critical role in the evolution of our products and you can contact us – reachus@pearson.com. *We look forward to it.*



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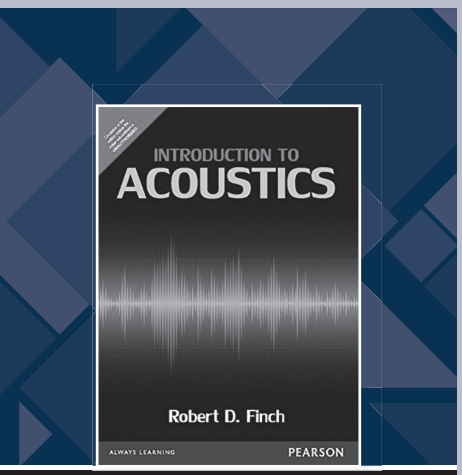

ISBN: 9789332571785

Introduction to Acoustics, 1/e

Robert D. Finch

672 | © 2016

ABOUT THE BOOK

For senior undergraduate or graduate-level courses in Industrial Noise Acoustics.

Focusing on the systems and engineering aspects of acoustics, this text emphasizes the importance of speech and hearing in our lives. Finch emphasizes real-world applications while combining principles from both electrical and mechanical engineering, along with instrumentation and basic measurement techniques. From vibrations and linear systems to noise control and acoustic systems, the text encompasses both simple and complex real world applications.

FEATURES

- **Systems Theory—**Organized from simple to complex, enabling students to apply concepts and explore issues more intensively.
- **Mathematical Treatment—**Offers detailed illustrations and explanations, thus reinforcing the importance of having a solid mathematical grasp of each topic.
- **Problems—**Examines key concepts of real life situations, applying theories and enhancing knowledge.
- **Emphasis on the Unity of Knowledge—**Features examples in music, speech, hearing, architecture, and other recent developments in order to attract a wide range of students.
- **Flexible presentation—**Although the book is aimed towards senior- to graduate-level engineering students, it is also a handy reference for practicing engineers.

CONTENTS

1. Vibration
2. Linear Systems
3. Waves in Fluids
4. Pipes and Horns
5. Audio Frequency Generators
6. Sensors
7. Piezoelectric Transducers
8. Instrumentation and Signal Processing
9. Basic Acoustic Measurements
10. Plane Waves in Large Enclosures
11. Series Solutions and Scattering
12. Vibration of Structural Elements
13. Propagation in Solids
14. Attenuation, Absorption and Damping
15. Nonlinear Acoustics
16. Noise Control
17. Acoustic Systems

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ISBN: 9789332505759

Basic Mechanical Engineering, 2/e

Pravin Kumar

656 | © 2018

ABOUT THE BOOK

The text covers the entire gamut of topics on the basic mechanical engineering concepts that are required to be learnt as a pre-requisite to any undergraduate engineering course. The book is divided into three parts - Thermal Engineering (Part I), Mechanics and Machines (Part II), and Manufacturing Science (Part III).

The book lays emphasis on explaining the logic and physics of critical problems to develop analytical skills in students.

FEATURES

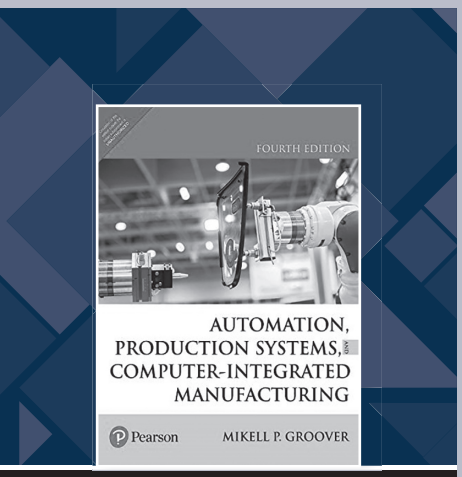
- Highly illustrated to facilitate easy and fast learning.
- Coverage of important topics such as power plants, non-conventional energy resources, turbines, NC, CNC AND DNC machines and con-conventional machining processes.
- 250+ Solved problems.
- 460+ MCQs.
- 120+ Practice problems.
- 270+ Review Questions.
- Important formulae summarized at the end of each chapter.

CONTENTS

1. Concepts of Thermodynamics and Properties of gases
2. Fuel and Combustion
3. Power Plant Engineering and sources of energy
4. Properties of Steam and Steam Generators
5. Steam Engine, Steam and Gas Turbines
6. Internal Combustion Engines
7. Introduction to Heat Transfer
8. Refrigeration and Air Conditioning
9. Fluid Mechanics and Hydraulic Machines
10. Air Compressors
11. Centroid and Moment of Inertia
12. Stress and Strain
13. Lifting Machines
14. Flywheel and Governor
15. Power Transmission Devices
16. Machine Elements
17. Engineering Materials
18. Mechanical Measurement
19. Machine Tools
20. Casting and Welding
21. Mechanical Working of Metals, Sheet Metal Work, and Powder Metallurgy
22. Robotics and Automation
23. Heat Treatment

ABOUT THE AUTHOR(S)

Pravin Kumar obtained his Ph.D. from IIT Delhi and M.Tech. from IIT (BHU), Varanasi. Presently, he is working as an assistant professor in the Department of Mechanical Engineering, Delhi Technological University (Formerly known as Delhi College of Engineering). He has more than 15 years of experience in teaching and research. He has been teaching Basic Mechanical Engineering and Mechanical Technology for several years. He has also authored a book on Engineering Economics and Industrial Engineering and Management. He has published more than 20 research papers in national and international journals and conferences.



ISBN: 9789332572492

Automation, Production Systems, and Computer-Integrated Manufacturing, 4/e

Mikell P. Groover

816 | © **2016**

ABOUT THE BOOK

Automation, Production Systems, and Computer-Integrated Manufacturing provides the most advanced, comprehensive, and balanced coverage of the subject of any text on the market. It covers all the major cutting-edge technologies of production automation and material handling, and how these technologies are used to construct modern manufacturing systems. It is appropriate for advanced undergraduate/graduate-level courses in Automation, Production Systems, and Computer-Integrated Manufacturing.

FEATURES

- A quantitative approach provides numerous equations and example problems for instructors who want to include analytical and quantitative material in their courses.
- "What the Equations Tell Us" statements follow the mathematical derivations and engineering equations.
- These statements list the practical meanings of the equations and guidelines regarding applications.

NEW TO THIS EDITION:

- Two new robot configurations have been added in Chapter 8.
- A section on programmable automation controllers has been included in Chapter 9.
- The section on AGVS technologies has been updated in Chapter 10.
- The organization of the text has been substantially revised in Chapter 18 with a new section on performance metrics in cell operations.

CONTENTS

1. Introduction

Part I: Overview of Manufacturing

2. Manufacturing Operations
3. Manufacturing Metrics and Economics

Appendix 3A: Averaging Formulas for Equation (3.20)

Part II: Automation and Control Technologies

4. Introduction to Automation
5. Industrial Control Systems
6. Hardware Components for Automation and Process Control
7. Computer Numerical Control

Appendix 7A: Coding for Manual Part Programming

8. Industrial Robotics
9. Discrete Control and Programmable Logic Controllers

Part III: Material Handling and Identification

10. Material Transport Systems
11. Storage Systems
12. Automatic Identification and Data Capture

Part IV: Manufacturing Systems

13. Overview of Manufacturing Systems
14. Single-Station Manufacturing Cells
15. Manual Assembly Lines

Appendix 15A: Batch-Model and Mixed-Model Lines

16. Automated Production Lines

Appendix 16A: Transfer Lines with Internal Storage

17. Automated Assembly Systems
18. Group Technology and Cellular Manufacturing

Appendix 18A: Opitz Parts Classification and Coding System

19. Flexible Manufacturing Cells and Systems

Part V: Quality Control Systems

20. Quality Programs for Manufacturing

Appendix 20A: The Six Sigma DMAIC Procedure

21. Inspection Principles and Practices
22. Inspection Technologies

Appendix 22A: Geometric Feature Construction

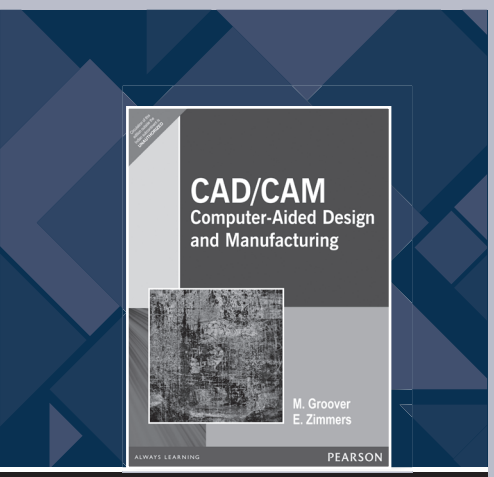
Part VI: Manufacturing Support Systems

23. Product Design and CAD/CAM in the Production System
24. Process Planning and Concurrent Engineering
25. Production Planning and Control Systems
26. Just-In-Time and Lean Production

Appendix: Answers to Selected Problems

ABOUT THE AUTHOR(S)

Mikell P. Groover is Professor Emeritus of Industrial and Systems Engineering at Lehigh University, where he taught and did research for 44 years. He received his B.A. in Arts and Science (1961), B.S. in Mechanical Engineering (1962), M.S. in Industrial Engineering (1966), and Ph.D. (1969), all from Lehigh. His industrial experience includes several years as a manufacturing engineer before embarking on graduate studies at Lehigh.



ISBN: 9788177584165

CAD/CAM: Computer-Aided Design and Manufacturing

M. Groover | E. Zimmers

512 | © 2003

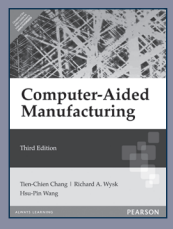
ABOUT THE BOOK

This is a comprehensive survey of the technical topics relating to CAD/CAM including interactive computer graphics, numerical control, computer process control, robotics, group technology, computer integrated production management, and flexible manufacturing systems.This successful book has been designed as a textbook for college course and industry continuing education course in CAD/CAM, as well as for engineers, computer specialists and others who wish to learn about the technology and applications of CAD/CAM.

CONTENTS

1. Computers, the Foundation of Cad/Cam
2. Computer-Aided Design
3. Numerical Control, the Beginnings of CAM
4. Industrial Robots
5. Group Technology and Process Planning
6. Computer-Integrated Production Management Systems
7. Computer Control
8. Cad/Cam Implementation

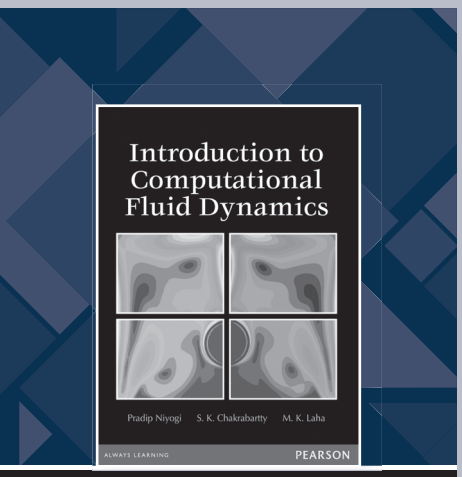
ALSO AVAILABLE



Computer-Aided Manufacturing, 3/e

ISBN: 9788131721643

Pages: 684



ISBN: 9788177587647

Introduction to Computational Fluid Dynamics

Pradip Niyogi | S. K. Chakrabartty | M.K. Laha

600 | © 2006

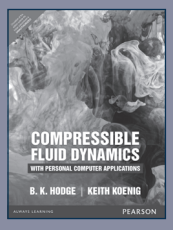
ABOUT THE BOOK

Introduction to Computational Fluid Dynamics is a self-contained introduction to a new subject, arising through the amalgamation of classical fluid dynamics and numerical analysis supported by powerful computers. Written in the style of a text book for advanced level B.Tech, M.Tech and M.Sc. students of various science and engineering disciplines. It introduces the reader to finite-difference and finite-volume methods for studying and analyzing linear and non-linear problems of fluid flow governed by inviscid incompressible and compressible Euler equations as also incompressible and compressible viscous flows governed by boundary-layer and Navier-Stokes equations. Simple turbulence modeling have been presented.

FEATURES

- It is a first course written with the specific background of Indian students in mind, that prepares the student with necessary prerequisites and mathematical foundation.
- It covers the basic concepts of the more important and useful finite-difference and finite-volume methods needed in the application areas of CFD.
- Illustrative computer programs have been provided.
- Illustrative Case Studies have been provided.

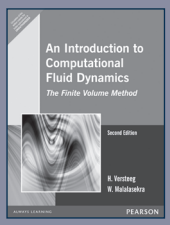
➦ ALSO AVAILABLE...



Compressible Fluid Dynamics

ISBN: 9789332559455

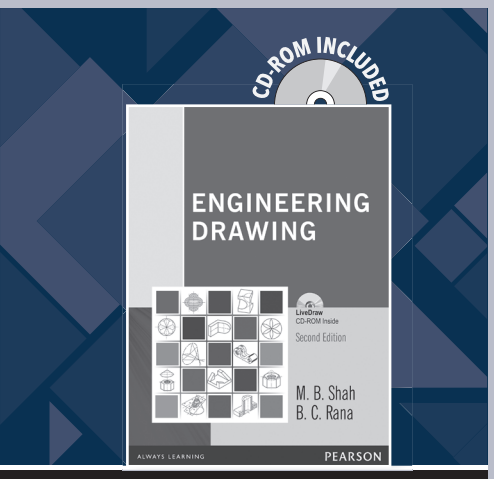
Pages: 648



An Introduction to Computational Fluid Dynamics: The Finite Volume Method, 2/e

ISBN: 9788131720486

Pages: 518



ISBN: 9788131710562

Engineering Drawing, 2/e

M. B. Shah | B. C. Rana

580 | © 2009

ABOUT THE BOOK

Engineering Drawing, 2e continues to cover all the fundamental topics of the field, while maintaining its unique focus on the logic behind each concept and method. Based on extensive market research and reviews of the first edition, this edition includes a new chapter on scales, the latest version of AutoCAD, and new pedagogy.

FEATURES

- Learning goals through Objectives.
- Overview of the chapter through Introduction.
- Recap of concepts through solved examples.
- Comes with Live Draw CD.

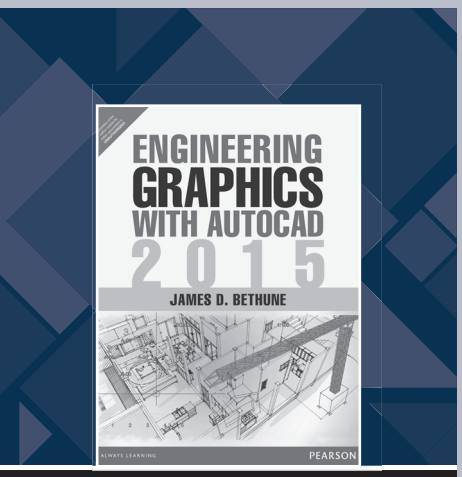
CONTENTS

1. Basics of Engineering Drawing
2. Symbolic Lines and Lettering
3. Geometrical Constructions, Loci and Engineering Plane Curves
4. Scales
5. Projections of Points and Lines
6. Projections on Auxiliary Reference Planes
7. Projections of Planes
8. Projections of Solids
9. Sections of Solids
10. Intersection of Surfaces
11. Development of Surfaces
12. Multiview Orthographic Projections
13. Sectional Views
14. Dimensioning
15. Auxiliary Views
16. Reading Orthographic Projections
17. Isometric Projections
18. Oblique Parallel Projections and Perspective Projections
19. Threaded Fasteners
20. Riveted and Welded Joints
21. Computer-aided Drafting

ABOUT THE AUTHOR(S)

M. B. Shah is a professor of mechanical engineering and the principal of Shah and Anchor Kutchhi Engineering College, Mumbai.

B. C. Rana was an assistant professor at Veermata Jijabai Technological Institute.



ISBN: 9789332549340

Engineering Graphics with AutoCAD 2015

James D. Bethune

884 | © 2015

ABOUT THE BOOK

Engineering Graphics with AutoCAD 2015 teaches students technical drawing using AutoCAD 2015 as its drawing instrument, complying with ANSI standards. Taking a step-by-step approach, it encourages students to work at their own pace and uses sample problems and illustrations to guide them through the powerful features of this drawing program. Nearly 150 exercise problems provide instructors with a variety of assignment material and students with an opportunity to develop their creativity and problem-solving capabilities. This book includes the following features:

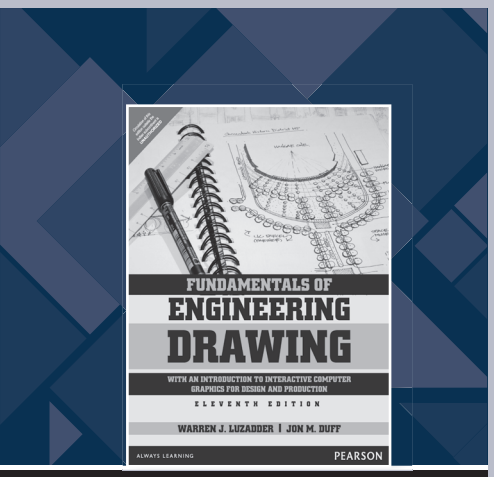
- **Step-by-step** format throughout the text allows students to work directly from the text to the screen and provides an excellent reference during and after the course.
- **Covers the latest** in dynamic blocks, user interface improvements, and productivity enhancements.
- Exercise, sample problems and projects appear in each chapter, providing examples of software capabilities and giving students an opportunity to apply their own knowledge to realistic design situations. Includes examples of how to create an animated assembly, apply dimension to a drawing, calculate shear and bending values, and more!
- **ANSI standards** are discussed when appropriate, introducing students to the appropriate techniques and national standards.
- **Illustrations and sample problems** provided in every chapter, supporting the step-by-step approach by illustrating how to use AutoCAD 2015 and its features to solve various design problems.

FEATURES

- Uses an easy-to-follow, step-by-step system of teaching, with complete chapter coverage on such areas as:
  - AutoCAD's Draw and Modify toolbars and other commands needed to set up and start drawings.
  - **Tolerancing**—Drawing dimensions and tolerances; using geometric tolerances with an explanation of how AutoCAD 2002 can be used to create geometric tolerance symbols directly from dialog boxes and more.
  - AutoCAD's 3D commands and coordinate system definitions.
  - A solid modeling approach to Descriptive Geometry, with discussions on the true lengths of lines and shapes of planes, point and plane locations, and properties between lines and planes.
  - Equips users with fundamental engineering graphics skills within the context of using AutoCAD, yielding students with solid skills into the workplace.

CONTENTS

1. Getting Started
2. Fundamentals of 2D Construction
3. Advanced Commands
4. Sketching
5. Orthographic Views
6. Sectional Views
7. Auxiliary Views
8. Dimensioning
9. Tolerancing
10. Geometric Tolerances
11. Threads and Fasteners
12. Working Drawings
13. Gears, Bearings, and Cams
14. Fundamentals of 3D Drawing
15. Modeling Standards and Reference Tables
16. Index
17. Projects (online)



ISBN: 9789332549982

Fundamentals of Engineering Drawing , 11/e

Warren J. Luzadder | Jon M. Duff

704 | © 2015

ABOUT THE BOOK

This volume presents a solid fundamental treatment of engineering graphics, geometry, and modeling suitable for engineers and technologists. It reflects the most modern drafting procedures—from the fundamentals (for the beginner), to techniques and practices of drawing in specialized fields. This revision enhances understanding of graphics fundamentals in the era of computer-aided design to better prepare students to use CADD software effectively.

FEATURES

- The Eleventh Edition elaborates on integration of computer graphics through six additional chapters of basic fundamentals; provides two sets of problems to test and reinforce readers' understanding of material; stresses the ability to manipulate three-dimensional geometry— whether on the surface of a drawing or as a solid computer model; and highlights popular CADD products and integrates CADD into each chapter as it naturally occurs.
- The authors cover all topics basic to the preparation of working drawings for both products and systems—e.g., multiview drawing and freehand sketching, spatial geometry, and design and dimensioning practices; and make extensive use of step-by-step illustrations.

CONTENTS

1. Introduction.
2. Drawing Instruments, Computer Drafting Equipment, and Techniques
3. Engineering Geometry
4. The Representation of Space Relationships: Two and Three Dimension
5. Multiview Representation for Design and Product Development
6. Freehand Sketching for Visualization and Communication
7. Sectional Views
8. Auxiliary Views
9. Basic Spatial Geometry for Design and Analysis
10. Developments and Intersections
11. Pictorial Presentation
12. The Design Process and Graphics
13. Dimensions, Notes, Limits, and Geometric Tolerances
14. Fastening and Connecting Methods for Assembly
15. Shop Processes and Tool Drawings
16. Production Drawings and Process Models
17. Computer-Aided Design and Drafting
18. Numerically Controlled Machine Tools and Robots
19. Graphic Methods for Engineering Communication and Computation
20. Graphical Mathematics
21. Design and Selection of Machine Elements: Gears, Cans, Linkages, Springs, and Bearings
22. Electronic Drawings
23. Structural Drawings
24. Topographic and Engineering Map Drawings

ISBN: 9789332543560

Industrial Engineering and Management

Pravin Kumar

672 | © 2015

ABOUT THE BOOK

The book has been designed for undergraduate students studying Mechanical Engineering or Industrial Engineering. It discusses various concepts and provides practical knowledge related to the area of ***Industrial Engineering and Management.*** The book lucidly covers Project Management, Quality Management, Costing etc. in detail to develop the required skills among the students.

FEATURES

- Exclusive coverage on quality systems including SQC, six-sigma and ISO 9000.
- A separate chapter on Aggregate Planning and Inventory Control.
- Detailed emphasis on Cost Accounting and Depreciation, Linear Programming and Transportation Problems.
- Extensive Pedagogy.
  - 350+ Figures and Illustrations.
  - 100+ Solved Questions.
  - 300+ Unsolved Questions.
  - 350+ MCQs.

CONTENTS

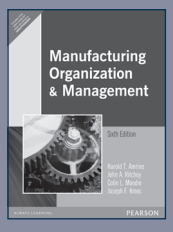
Part I – Industrial Engineering

1. Industrial Engineering and Production Management
2. Facility Location and Layout
3. Demand Forecasting
4. Aggregate Planning
5. Capacity and Material Requirement Planning
6. Inventory Control
7. Product Design and Development
8. Manufacturing Systems
9. Material Handling
10. Production Planning and Control
11. Work Study and Ergonomics
12. Reliability and Maintenance Engineering
13. Cost Accounting and Depreciation
14. Time Value Money and Replacement Analysis
15. Value Engineering
16. Linear Programming and Transportation Problems
17. Assignment and Sequencing Problems
18. Waiting Line Theory

Part II – Production and Operations Management

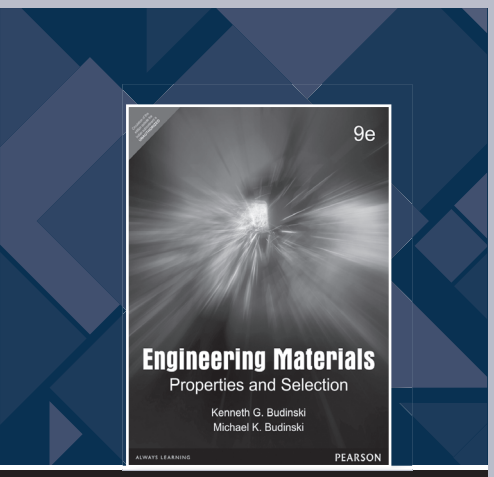
19. Principles of Management
20. Organization Design and Structure
21. Project Management
22. Total quality Management
23. SQC, Six Sigma and ISO 9000
24. Supply Chain and Logistics Management
25. Statistical Quality Control
26. Decision Making

ALSO AVAILABLE



Manufacturing organization & management, 6/e

ISBN: 9788177582758
Pages: 640



ISBN: 9789332574045

Engineering Materials : Properties and Selection, 9/e

Kenneth G. Budinski | Michael K. Budinski

784 | © 2016

ABOUT THE BOOK

This introductory text covers theory and industry-standard ion practices, providing students with the working knowledge to make an informed ion of materials for engineering applications and to correctly specify materials on drawings and purchasing documents. Encompassing all significant material systems—metals, ceramics, plastics, and composites—this text incorporates the most up-to-date information

FEATURES

- Features the latest cost and usage data to reflect current worldwide conditions, materials, engineering theories, and practices.
- Recommends a repertoire of materials that meet most design needs.
- Includes critical concepts sections that outline the key concepts of each chapter and give students an opportunity to assess their understanding.
- Unique selection information, developed by the authors, offers students a fresh approach to traditional topics and provides the most timely, complete and accurate coverage of the most recent developments.
- Focuses on the properties of industry-standard materials, teaching students how to specify these materials on engineering drawings and documents.

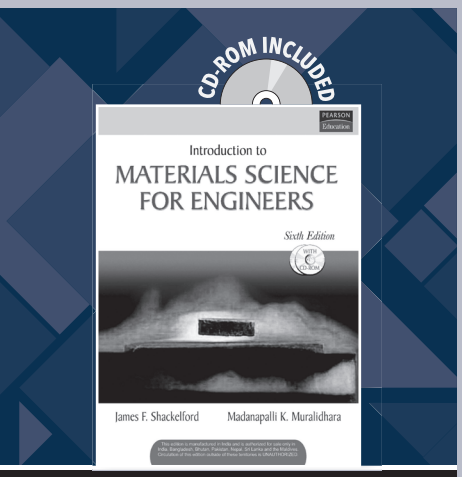
CONTENTS

1. The Importance of Engineering Materials
2. Forming Engineering Materials from the Elements
3. The Role of Chemical and Physical Properties in Engineering Materials
4. The Role of Mechanical Properties in Engineering Materials
5. The Role of Tribology in Engineering Materials
6. The Role of Corrosion in Engineering Materials
7. Principles of Polymeric Materials
8. Polymer Families
9. Plastic and Polymer Composite Fabrication Processes
10. Selection of Plastic/Polymeric Materials
11. Ceramics, Cermets, Glass, and Carbon Products
12. Steel Products
13. Heat Treatment of Steels
14. Carbon and Alloy Steels
15. Tool Steels
16. Stainless Steels
17. Cast Iron, Cast Steel, and Powder Metallurgy Materials
18. Copper and Its Alloys
19. Aluminum and Its Alloys
20. Nickel, Zinc, Titanium,Magnesium, and Special Use Metals
21. Surface Engineering
22. Nanomaterials
23. The Methodology of Material Selection

ABOUT THE AUTHOR(S)

Kenneth G. Budinski

Michael K. Budinski



ISBN: 9788131700907

Introduction to Materials Science for Engineers, 6/e

James F. Shackelford | Madanapalli K. Muralidhara

800 | © 2006

ABOUT THE BOOK

This text provides a balanced and current treatment of the full spectrum of engineering materials, covering all the physical properties, applications and relevant properties associated with the subject. It explores all the major categories of materials while offering detailed examinations of a wide range of new materials with high-tech applications.

FEATURES

- Numerous examples and homework problems.
- Coverage of modern-materials science topics.
- Interactive materials-science for engineers CD ROMS.
- Robust supplement package for both instructors and students.

CONTENTS

1. Materials for Engineering

Part I. The Fundamentals

2. Atomic Bonding
3. Crystalline Structure—Perfection
4. Crystal Defects and Noncrystalline Structure—Imperfection
5. Diffusion
6. Mechanical Behavior
7. Thermal Behavior
8. Failure Analysis and Prevention
9. Phase Diagrams—Equilibrium Microstructural Development
10. Kinetics—Heat Treatment

Part II. The Structural Materials

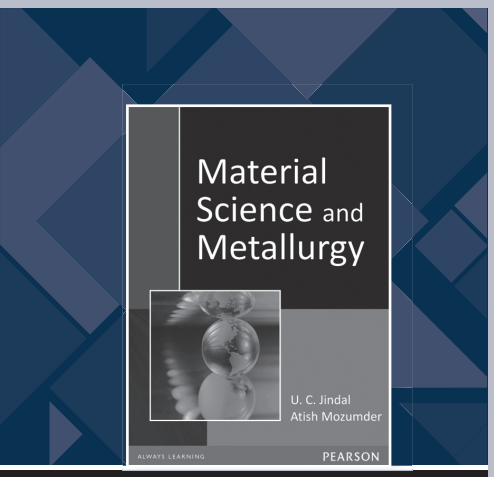
11. Metals
12. Ceramics and Glasses
13. Polymers
14. Composites

Part III. The Electronic, Optical, and Magnetic Materials

15. Electrical Behavior
16. Optical Behavior
17. Semiconductor Materials
18. Magnetic Materials

Part IV. Materials in Engineering Design

19. Environmental Degradation
20. Materials Selection



ISBN: 9788131759110

Material Science and Metallurgy

U C Jindal | Atish Mozumder

552 | © 2011

ABOUT THE BOOK

The book is presented in 20 chapters. The language used is user friendly and diagrams are giving the clear view and concept. Solved problems, multiple choice questions and review questions are also integral part of the book.

FEATURES

- A separate chapter highlighting various concepts and applications related to thermal properties and wear of materials.
- Exclusive coverage of different types of processes incorporated during heat treatment of steels.

CONTENTS

1. Atomic Structure
2. Atomic Bonding and Crystal
3. Imperfections in Solids
4. Plastic Deformation in Crystalline Materials
5. Mechanical Properties
6. Diffusion
7. Phase Diagrams
8. Phase Transformations
9. Heat Treatment of Steels
10. Metals and Alloys
11. Organic Materials
12. Ceramic Materials
13. Composite Materials
14. Wears of Materials
15. Corrosion and Oxidation
16. Thermal Properties
17. Electrical Conductivity and Insulating Properties
18. Semiconductors
19. Dielectric Properties
20. Magnetic Properties

ABOUT THE AUTHOR(S)

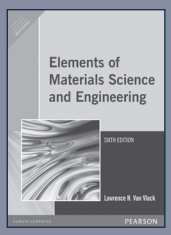
Dr. U. C. Jindal is former Professor and Head of the Department of Mechanical Engineering, Delhi College of Engineering. For the last 45 years Dr Jindal has been involved in teaching, research and development activities in the mechanics group of subjects – engineering mechanics, strength of materials, machine design, theory of machines and materials science.

➦ ALSO AVAILABLE...

Material Science and Metallurgy

ISBN: 9788131761625

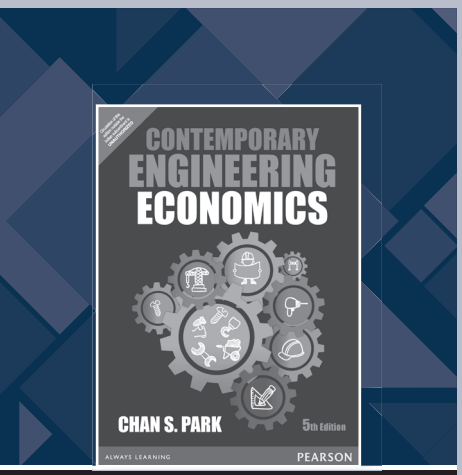
Pages: 284



Elements of Material Science and Engineering, 6/e

ISBN: 9788131706008

Pages: 620



ISBN: 9789332550148

Contemporary Engineering Economics, 5/e

Chan S. Park

900 | © **2015**

ABOUT THE BOOK

Contemporary Engineering Economics is intended for undergraduate engineering students taking introductory engineering economics while appealing to the full range of engineering disciplines for which this course is often required: industrial, civil, mechanical, electrical, computer, aerospace, chemical, and manufacturing engineering, as well as engineering technology.

This edition has been thoroughly revised and updated while continuing to adopt a contemporary approach to the subject, and teaching, of engineering economics. This text aims not only to build a sound and comprehensive coverage of engineering economics, but also to address key educational challenges, such as student difficulty in developing the analytical skills required to make informed financial decisions.

FEATURES

- A wide range of chapter openers, examples, homework problems, and case studies drawn from all Engineering disciplines.
- Chapter opening vignettes reflect the important segments of global economy in terms of variety and scope of business as well.
- Excel spreadsheet modeling techniques are incorporated into various economic decision problems to provide many "what-if" solutions to key decision problems.
- FE Review problems by chapter.

CONTENTS

Part 1 basics of financial decisions 1

1. Engineering Economic Decisions
2. Accounting and Financial Decision-Making
3. Interest Rate and Economic Equivalence
4. Understanding Money and Its Management

Part 2 evaluation of business and engineering assets 207

5. Present-Worth Analysis
6. Annual Equivalent-Worth Analysis
7. Rate-of-Return Analysis

Part 3 analysis of project cash flows

8. Cost Concepts Relevant to Decision Making
9. Depreciation and Corporate Taxes
10. Developing Project Cash Flows

Part 4 handling risk and uncertainty

11. Inflation and Its Impact on Project Cash Flows
12. Project Risk and Uncertainty
13. Real-Options Analysis
14. Replacement Decisions
15. Capital-Budgeting Decisions

ISBN: 9788131734421

Engineering Economy, 14/e

William G. Sullivan | Elin M. Wicks | C. Patrick Koelling

696 | © 2010

ABOUT THE BOOK

Used by engineering students worldwide, this best-selling text provides a sound understanding of the principles, basic concepts, and methodology of engineering economy. Built upon the rich and time-tested teaching materials of earlier editions, it is extensively revised and updated to reflect current trends and issues, with an emphasis on the economics of engineering design throughout. It provides one of the most complete and up-to-date studies of this vitally important field.

FEATURES

- Case studies with end-of-chapter questions encourage writing and critical thinking.
- Fundamentals of Engineering Exam multiple-choice questions appear at the end of each chapter.
- Spreadsheets are integrated throughout the text. In particular, many examples include handworked and computer solutions (with spreadsheets) so that students can see both techniques side by side.
- Cost estimating is further emphasized in the text.
- An expanded treatment of the economic aspects of engineering design is featured.

CONTENTS

1. Introduction to Engineering Economy
2. Cost Concepts and Design Economics
3. Cost-Estimation Techniques
4. The Time Value of Money
5. Evaluating a Single Project
6. Comparison and Selection among Alternatives
7. Depreciation and Income Taxes
8. Price Changes and Exchange Rates
9. Replacement Analysis
10. Evaluating Projects with the Benefit-Cost Ratio Method
11. Breakeven and Sensitivity Analysis
12. Probabilistic Risk Analysis
13. The Capital Budgeting Process
14. Decision Making Considering Multiattributes

ISBN: 9789332585508

Engineering Mechanics – Statics and Dynamics

S K Sinha

848 | © 2017

ABOUT THE BOOK

Engineering Mechanics – Statics and Dynamics - has been suitably designed to meet student's requirements. The book is aimed to be a self-tutor to the students which will help them to enhance their knowledge without any external reference. is at building clear concepts and thereby be able to solve problems a problem, rather be able to solve all similar problems.

FEATURES

- Easy to understand and lucid language.
- Excellent Pedagogy including questions from previous year question papers of Indian universities.
- Step-by-step methodology provided for solved examples.
- 600 solved examples to be provided in the book.

CONTENTS

1. Basic Principles
2. Force Systems and Resultants
3. Equilibrium
4. Friction
5. Belt and Rope Drives
6. Beams
7. Truss
8. Centroid
9. Moment of Inertia of Areas
10. Moment of Inertia of Masses
11. Simple Lifting Machines
12. Virtual-work Method
13. Kinematics of Particles
14. Motion with Constant Acceleration
15. Projectile
16. Kinetics of Particles
17. Work, Energy and Power of Particles
18. Impulse and Momentum
19. Impact of Elastic Bodies
20. Kinematics of Rigid Bodies
21. Kinetics of Rigid Bodies
22. Mechanical Vibrations and simple Harmonic Motion

ABOUT THE AUTHOR(S)

Professor Sanjay Kumar Sinha is a graduate in M.Tech with Ph.D in Mechanical Engineering from IIT, Kanpur. Presently he is associated with Department of Mechanical Engineering at IIT (Banaras Hindu University), Varanasi.
He has over 22 years of invaluable experience in teaching Engineering Mechanics to students and this book is the outcome of his great knowledge in this subject. He has also published number of research papers for national and international journals as well as conferences. He is also on the expert panel of Public Service Commission of several states, as well as at AICTE (All India Council of Technical Education).

ISBN: 9789332584747

Engineering Mechanics: Statics & Dyanamics in SI Units, 14/e

R. C. Hibbeler

1330 | © 2017

ABOUT THE BOOK

Engineering Mechanics: Statics & Dynamics excels in providing a clear and thorough presentation of the theory and application of engineering mechanics. Engineering Mechanics empowers students to succeed by drawing upon Prof. Hibbeler's everyday classroom experience and his knowledge of how students learn. This text is shaped by the comments and suggestions of hundreds of reviewers in the teaching profession, as well as many of the author's students.

FEATURES

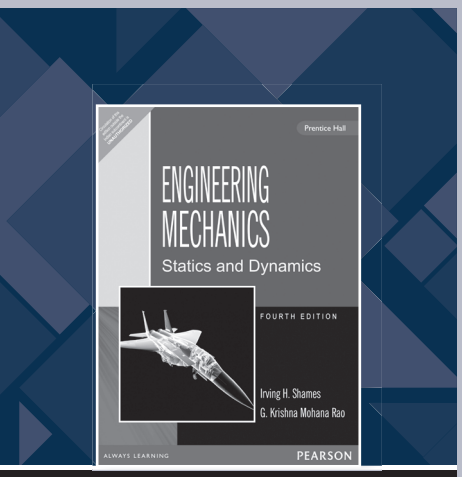
- NEW! Preliminary Problems are designed to test students' conceptual understanding of the theory and are placed throughout the text before the Fundamentals Problems. Preliminary Problems solutions require little or no calculation and are intended to help students develop a basic understanding of the concepts before they are applied numerically.
- Each chapter is organized into well-defined sections that contain an explanation of specific topics, illustrative example problems, and at the end of the chapter, a set of relevant homework problems.
- Fundamental Problems, selectively located after the example problems, offer students simple applications of the concepts and therefore provide them with the chance to develop their problem-solving skills before attempting to solve any of the standard problems that follow.
- Photos placed throughout the text show how the principles of fluid mechanics apply to real-world situations.

CONTENTS

1. General Principles
2. Force Vectors
3. Equilibrium of a Particle
4. Force System Resultants
5. Equilibrium of a Rigid Body
6. Structural Analysis
7. Internal Forces
8. Friction
9. Center of Gravity and Centroid
10. Moments of Inertia
11. Virtual Work
12. Kinematics of a Particle
13. Kinetics of a Particle: Force and Acceleration
14. Kinetics of a Particle: Work and Energy
15. Kinetics of a Particle: Impulse and Momentum
16. Planar Kinematics of a Rigid Body
17. Planar Kinetics of a Rigid Body: Force and Acceleration
18. Planar Kinetics of a Rigid Body: Work and Energy
19. Planar Kinetics of a Rigid Body: Impulse and Momentum

ABOUT THE AUTHOR(S)

R C Hibbeler currently teaches both civil and mechanical engineering courses at the University of Louisiana, Lafayette. In the past he has taught at the University of Illinois at Urbana, Youngstown State University, Illinois Institute of Technology, and Union College.



ISBN: 9788177581232

Engineering Mechanics – Statics and Dynamics

Irving H. Shames | G. Krishna Mohana Rao

864 | © 2005

ABOUT THE BOOK

This book is designed to provide a mature, in-depth treatment of engineering mechanics at the undergraduate level and to offer continuity with, and a smooth transition to, upper-level courses. This text focuses on developing a solid understanding of basic principles rather than rote learning of specific methodologies.

FEATURES

- Offers an approach that improves continuity and provides a smooth transition to upper-level courses in other engineering sciences.
- Provides in-depth coverage of Screw Jack and Compound Pendulum.

CONTENTS

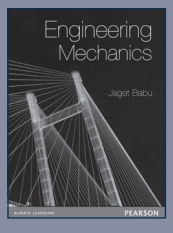
Part Opener I (Statics)

1. Fundamentals of Mechanics
2. Elements of Vector Algebra
3. Systems of forces
4. Equivalent Force Systems
5. Equations of Equilibrium
6. Friction Forces
7. Properties of Surfaces
8. Moments and Products of Inertia
16. Vibrations

Part Opener II (Dynamics)

9. Kinematics of a Particle-Simple Relative Motion
10. Particle Dynamics
11. Energy Methods for Particles
12. Methods of Momentum for Particles
13. Kinematics of Rigid Bodies: Relative Motion
14. Kinetics of Plane Motion of Rigid Bodies
15. Energy and Impulse-Momentum Methods for Rigid Bodies

➦ ALSO AVAILABLE...



Engineering Mechanics

ISBN: 9788131770504

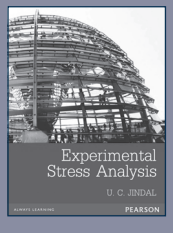
Pages: 948

Engineering Mechanics

ISBN: 9788131732229

Pages: 624

EXPERIMENTAL STRESS ANALYSIS AVAILABLE TITLE



Experimental Stress Analysis

ISBN: 9788131759103

Pages: 422

ISBN: 9789332551824

Introduction to Finite Elements in Engineering, 4/e

Tirupathi R. Chandrupatla | Ashok D. Belegundu

448 | © 2015

ABOUT THE BOOK

Introduction to Finite Engineering is ideal for senior undergraduate and first-year graduate students and also as a learning resource to practicing engineers.

This book provides an integrated approach to finite element methodologies. The development of finite element theory is combined with examples and exercises involving engineering applications. The steps used in the development of the theory are implemented in complete, self-contained computer programs. While the strategy and philosophy of the previous editions has been retained, the Fourth Edition has been updated and improved to include new material on additional topics.

FEATURES

- **Deep, comprehensive treatment of theory—**Reveals several different aspects of finite elements analysis development.
- Provides the needed steps toward clear understanding, presentation, and computer implementation.
- **Practical engineering situations—**Presented as both examples and exercises.
- Brings the students more real-life situations and enables professors to discuss and assign real engineering problems.
- **Integration of over 250 illustrations throughout the text—**Provide visual representations of principles and practices discussed.
- Helps the student understand the presentation and helps the professors in their presentations.
- Emphasis on problem formulation and modeling in each chapter.
- Helps students develop a firm understanding of these critical skills.
- Theory and computer programs for preprocessing and postprocessing.
- Allows professors to assign large problems and students to prepare and display data efficiently.

CONTENTS

1. Fundamental Concepts
2. Matrix Algebra And Gaussian Elimination
3. One-Dimensional Problems
4. Trusses
5. Beams And Frames
6. Two-Dimensional Problems Using Constant Strain Triangles
7. Axisymmetric Solids Subjected To Axisymmetric Loading
8. Two-Dimensional Isoparametric Elements And Numerical Integration
9. Three-Dimensional Problems In Stress Analysis
10. Scalar Field Problems
11. Dynamic Considerations
12. Preprocessing And Postprocessing

ISBN: 9788131724644

Finite Element Method with Applications in Engineering

Y. M. Desai | T. I. Eldho | A. H. Shah

492 | © 2011

ABOUT THE BOOK

This book presents a practical understanding of the finite element method with a variety of engineering applications that will aid students, teachers, practicing engineers and researchers. It begins with an introduction to the mathematical modeling of engineering problems and approximate methods of analysis. It then introduces the different approaches in FEM such as direct approach, principle of virtual work, variational principle and method of weighted residual.

FEATURES

- Separate chapters are devoted to basic mathematical modeling, approximate method of analysis, introduction and different approaches to FEM.
- Comprehensive coverage of FEM interpolation functions.
- Finite element analysis for various problems in 1D, 2D and 3D.

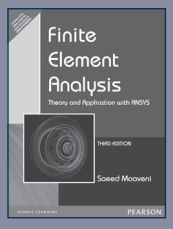
CONTENTS

1. Introduction
2. Approximate Methods of Analysis
3. Finite Element Method—An Introduction
4. Different Approaches in FEM
5. Finite Elements and Interpolation Functions
6. One-Dimensional Finite Element Analysis
7. Two-Dimensional Finite Element Analysis
8. Three-Dimensional Finite Element Analysis
9. Computer Implementation of FEM
10. Further Applications of Finite Element Method

ABOUT THE AUTHOR(S)

Y. M. Desai and **T. I. Eldho** are professors in department of civil engineering at Indian Institute of Technology Bombay and **A. H. Shah** is a professor in Department of Civil Engineering at the University of Manitoba, CANADA.

ALSO AVAILABLE



Finite Element Analysis-Theory and Application with ANSYS, 3/e

ISBN: 9788131760642

Pages: 880

ISBN: 9789332547018

Fluid Mechanics in SI Units

R C Hibbeler

864 | © **2017**

ABOUT THE BOOK

Pearson introduces yet another textbook from Professor R. C. Hibbeler – Fluid Mechanics in SI Units – which continues the author's commitment to empower students to master the subject. Professor Hibbeler's concise writing style, countless examples, and stunning photorealistic figures – all shaped by the comments and suggestions of hundreds of colleagues and students – help students visualize and master difficult concepts.

Fluid Mechanics in SI Units provides a comprehensive and well-illustrated introduction to the theory and application of Fluid Mechanics. The book uses all the hallmark features of Professor Hibbeler's other textbooks that are so popular among the users.

FEATURES

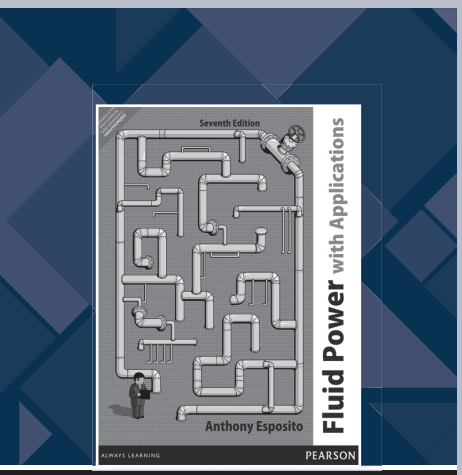
- Each chapter is organized into well-defined sections that contain an explanation of specific topics, illustrative example problems, and at the end of the chapter, a set of relevant homework problems.
- Fundamental Problems, selectively located after the example problems, offer students simple applications of the concepts and therefore provide them with the chance to developtheir problem-solving skills before attempting to solve any of the standard problems that follow.
- Photos placed throughout the text show how the principles of fluid mechanics apply to real-world situations.

CONTENTS

1. Fundamental Concepts
2. Fluid Statics
3. Kinematics of Fluid Motion
4. Conservation of Mass
5. Work and Energy of Moving Fluids
6. Fluid Momentum
7. Differential Fluid Flow
8. Dimensional Analysis and Similitude
9. Viscous Flow within Enclosed Surfaces
10. Analysis and Design for Pipe Flow
11. Viscous Flow over External Surfaces
12. Open-Channel Flow
13. Compressible Flow
14. Turbomachines

ABOUT THE AUTHOR(S)

R C Hibbeler currently teaches both civil and mechanical engineering courses at the University of Louisiana, Lafayette. In the past he has taught at the University of Illinois at Urbana, Youngstown State University, Illinois Institute of Technology, and Union College.



ISBN: 9789332518544

Fluid Power with Applications, 7/e

Anthony Esposito

652 | © 2013

ABOUT THE BOOK

Fluid Power with Applications, Seventh Edition presents broad coverage of fluid power technology in a readable and understandable fashion. An extensive array of industrial applications is provided to motivate and stimulate students' interest in the field. Balancing theory and applications, this text is updated to reflect current technology it focuses on the design, analysis, operation, and maintenance of fluid power systems.

FEATURES

- Clear presentation. Presents broad coverage of material in a readable and understandable fashion. Enables instructors to rely on the text to provide much of the basic learning. Enables students to more effectively use their instructor's class time.
- Extensive use of industry-provided cutaway drawings and illustrations. Gives students a better understanding of the operation of fluid power components and systems in a real-world context.
- Ideal balance of theory and applications. Provides students with an excellent foundation for understanding the changes that take place in methodology in the field.
- Boolean Algebra with electric ladder diagrams. Combines both in presenting the material on electrical controls. Allows students to better understand how electrical currents control the operation of fluid power systems.

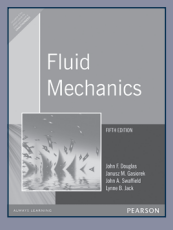
CONTENTS

1. Introduction to Fluid Power
2. Physical Properties of Hydraulic Fluids
3. Energy and Power in Hydraulic Systems
4. Frictional Losses in Hydraulic Pipelines
5. Hydraulic Pumps
6. Hydraulic Cylinders and Cushioning Devices
7. Hydraulic Motors
8. Hydraulic Valves
9. Hydraulic Circuit Design and Analysis.
10. Hydraulic Conductors and Fittings.
11. Ancillary Hydraulic Devices.
12. Maintenance of Hydraulic Systems.
13. Pneumatics: Air Preparation and Components.
14. Pneumatics: Circuits and Applications.
15. Basic Electrical Controls for Fluid Power Circuits.
16. Fluid Logic Control Systems.
17. Advanced Electrical Controls for Fluid Power Systems.
18. Automation Studio Computer Software

ABOUT THE AUTHOR(S)

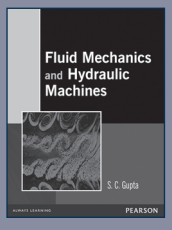
Anthony Esposito was born on October 4, 1934 in Schenectady, NY. His family moved to Saratoga Springs, NY in 1948. He graduated from Saratoga Springs High School in 1953. In 1957 he received a Bachelors Degree in Mechanical Engineering from Union College in Schenectady. He was employed at General Electric Company as a design engineer in Cincinnati from 1957 to 1961 and a control systems engineer in Schenectady from 1961 to 1965.

➦ ALSO AVAILABLE...



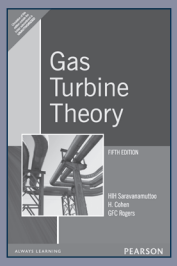
Fluid Mechanics, 5/e

ISBN: 9788131721407
Pages: 992



Fluid Mechanics and Hydraulic Machines

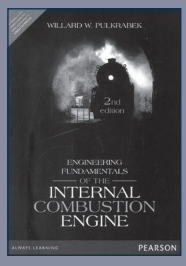
ISBN: 9788177583649
Pages: 596



Gas Turbine Theory, 5/e

ISBN: 9788177589023

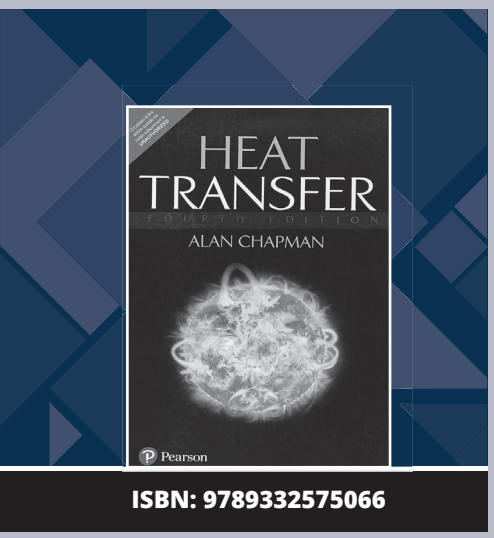
Pages: 508



Engineering Fundamentals of the Internal Combustion Engine, 2/e

ISBN: 9789332549494

Pages: 496



ISBN: 9789332575066

Heat Transfer, 4/e

Alan Chapman

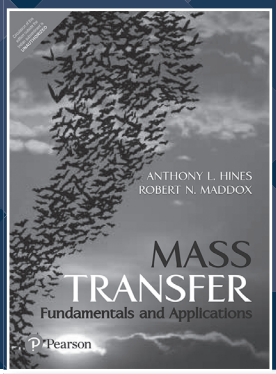
624 | © **2016**

ABOUT THE BOOK

This test on heat transfer offers basic graduate engineering students a solid foundation in the subjects of conduction, convection, radiation, and phase-change, in addition to the related topic of heat transfer. It presents the fundamental concepts in a fairly rigorous manner, while showing how to analytically obtained facts can be applied with meaningful results to a real physical problem.

FEATURES

- Worked out examples are included throughout the work and numerous problems for student exercises are supplied with most chapters.
- The solution of problems involving the combined modes of conduction, convection and radiation has been discussed in detail.
- Appendix material is provided on certain mathematical techniques of heat conduction.
- Modern applications such as space radiators, heat pipes and solar collectors are explained in detail.



ISBN: 9789332574069

Mass Transfer, 1/e

Anthony L. Hines

560 | © **2016**

ABOUT THE BOOK

A thorough introduction to the fundamentals and applications of microscopic and macroscopic mass transfer.

FEATURES

- Combines coverage of microscopic diffusional processes and macroscopic separation methods into a single volume.
- **Gives mathematical methods for solving partial differential equations of diffusion**—including the use of the Method of Weighted residuals.
- **Discusses multicomponent separations**—including a short-cut and tray-by-tray methods.
- Considers both equilibrium adsorption and adsorption in packed towers as well as methods for designing packed adsorbers.
- Provides 240 illustrations.

CONTENTS

1. Mass Transfer Fundamentals
2. Diffusion Coefficients
3. Formulation of Mass Transfer Models
4. Partial Differential Equations of Diffusion
5. Mass Transfer Coefficients
6. Convective Mass Transfer
7. Phase Equilibrium
8. Adsorption
9. Binary Distillation
10. Multicomponent Distillation
11. Extraction
12. Mass Transfer in Continuous Differential Contactors
13. Design of Staged Columns
14. Adsorption

Appendix A: Viscosity of Gases and Liquids
Appendix B: Equilibrium Data
Appendix C: Equilibrium K-Values
Appendix D: Enthalpy Data
Appendix E: Unit Conversion Factors and Constants

ABOUT THE AUTHOR(S)

Anthony L. Hines, Oklahoma St. University
Robert N. Maddox, Oklahoma St. University

ISBN: TBA

Heat Transfer, 2/e

Amit Pal | **Shahank Mohan**

736 | © **2018**

ABOUT THE BOOK

The book has been designed for undergraduate students studying Mechanical Engineering. It discusses various concepts and provides practical knowledge related to the area of Heat and Mass Transfer. The book lucidly covers Conduction, Convection, Mass Transfer, etc. in detail to develop the required skills among the students.

FEATURES

- Easy to understand and lucid language.
- Dedicated chapters on Dimensional
- Analysis and Heat Exchangers.

- Detailed emphasis on Steady State Conduction, Conduction with Heat Generation & Transient Conduction.
- Step-by-step methodology provided for solved examples.
- 400+ solved examples to be provided in the book.

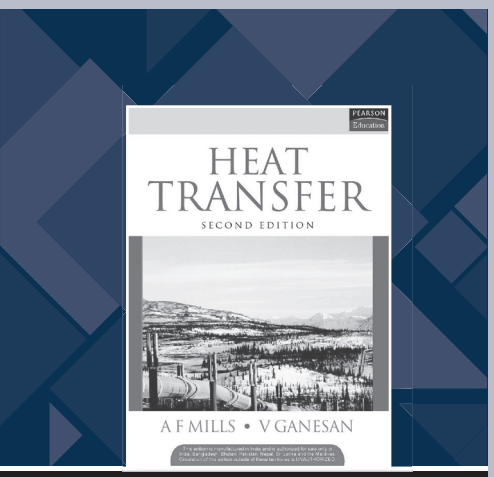
CONTENTS

1. Basic Concepts
2. Steady State Conduction
3. Conduction with Heat Generation & Transient Conduction
4. Heat Transfer Through Extended Surfaces
5. Dimensional Analysis
6. Hydrodynamic and Thermal Boundary Layer
7. Forced Convection
8. Natural (Free) Convection
9. Boiling and Condensation
10. Heat Exchangers
11. Radiation: Processes and Properties
12. Radiation Exchange Between Surfaces Transfer
13. Mass Transfer

ABOUT THE AUTHOR

Amit Pal is presently Associate Professor Delhi Technological University, Delhi.

Shahank Mohan has completed his M Tech from Delhi Technological University, Delhi and is currently providing GATE coaching to young aspirants.



ISBN: 9788131727133

Heat Transfer, 2/e

A F Mills | V Ganesan

900 | © 2009

ABOUT THE BOOK

Heat Transfer is a core paper for the undergraduate Mechanical Engineering students in their third year. This book first emphasizes the basic concepts of heat transfer and then gradually leads students to advanced topics. The book offers a right blend of design principles, basic mathematical concepts and current technologies.

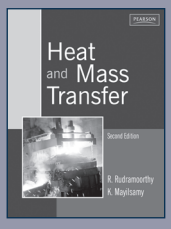
FEATURES

- Material arranged so that the simplest concepts are presented first.
- Current material on refrigerants and updated exercises and property tables with R-22 and R-134a
- Design principles are fully integrated including thermal hydraulic design of exchangers and economic considerations

CONTENTS

1. Elementary Heat Transfer
2. Steady One Dimensional Heat Conduction
3. Multidimensional and Unsteady Conduction
4. Convection Fundamentals and Correlations
5. Convection Analysis
6. Thermal Radiation
7. Condensation, Evaporation and Boiling
8. Heat Exchangers
9. Mass Transfer

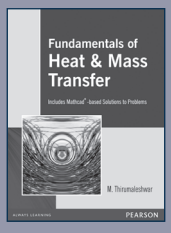
ALSO AVAILABLE



Heat and Mass Transfer

ISBN: 9788131733837

Pages: 472



Fundamentals of Heat and Mass Transfer

ISBN: 9788177585193

Pages: 800

ISBN: 9788131716595

Machine Design

U. C. Jindal

892 | © 2010

ABOUT THE BOOK

Machine Design is a text on the design of machine elements for the engineering undergraduates of mechanical/production/industrial disciplines. The book provides a comprehensive survey of machine elements and their analytical design methods. Besides explaining the fundamentals of the tools and techniques necessary to facilitate design calculations, the text includes extensive data on various aspects of machine elements, manufacturing considerations and materials. The extensive pedagogical features make the text student friendly and provide pointers for fast recapitulation.

FEATURES

- Chapter Objectives set the lesson plan for students and instructors by providing precise information on the chapter.
- An excellent selection of more than 300 solved problems which go much beyond the simple formulae substitution examples.
- More than 600 detailed line diagrams of machine parts to enable visualization and elucidation of the concepts.

CONTENTS

1. General Topics
2. Joints
3. Power Transmission
4. Friction Drive
5. Gear Drive
6. Miscellaneous Topics

ISBN: 9788131705339

Machine Design: An Integrated Approach, 2/e

Robert L. Norton

1114 | © 2006

ABOUT THE BOOK

A thorough and comprehensive textbook dealing with machine design that emphasizes both failure theory and analysis as well as emphasizing the synthesis and design aspects of machine elements. The book points out the commonality of the analytical approaches needed to design a wide variety of elements and emphasizes the use of computer-aided engineering as an approach to the design and analysis of these classes of problems.

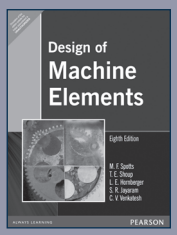
FEATURES

- The text has been made independent of any software package.
- All examples and case studies have been redone, and some expanded to make their presentations more detailed.
- The numbers of problems has been increased by roughly 25%.
- Some sections of the text have included augmented figures, discussion or explanation.

CONTENTS

1. Introduction to Design
2. Materials and Process
3. Load Determination
4. Stress, Strain, and Deflection
5. Static Failure Theories
6. Fatigue Failure Theories
7. Surface Failure
8. Design Case Studies
9. Shafts, Keys, and Couplings
10. Bearings and Lubrication
11. Spur Gears
12. Helical, Bevel, and Worm Gears
13. Spring Design
14. Screws and Fasteners
15. Clutches and Brakes

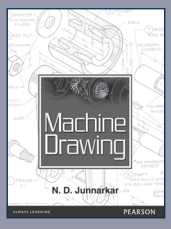
ALSO AVAILABLE



Design of Machine Elements, 8/e

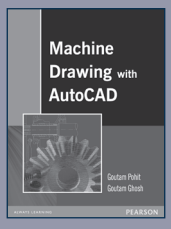
ISBN: 9788177584219
Pages: 680

MACHINE DRAWING AVAILABLE TITLES



Machine Drawing

ISBN: 9788131706787
Pages: 552



Machine Drawing with AutoCAD

ISBN: 9788131706770
Pages: 496

ISBN: 9788131705667

Manufacturing Processes for Engineering Materials, 5/e

Serope Kalpakjian | Steven R. Schmid

1040 | © 2009

ABOUT THE BOOK

This comprehensive, up-to-date text has balanced coverage of the fundamentals of materials and processes, its analytical approaches, and its applications in manufacturing engineering. Students using this text will be able to properly assess the capabilities, limitations, and potential of manufacturing processes and their competitive aspects.

FEATURES

- Core Features to Manufacturing Processes for Engineering Materials.
- Demonstrates to students the relevance of the material with real-world examples.
- Allows students to easily grasp the often complex subject matter presented.

CONTENTS

1. Fundamentals of the Mechanical Behavior of Materials
2. Structure and Manufacturing Properties of Metals
3. Surfaces, Tribology, Dimensional Characteristics, Inspection, and Product Quality Assurance
4. Metal-Casting Processes and Equipment; Heat Treatment
5. Bulk Deformation Processes
6. Sheet-Metal Forming Processes
7. Material-Removal Processes: Cutting
8. Material-Removal Processes: Abrasive, Chemical, Electrical, and High-Energy Beams
9. Properties and Processing of Polymers and Reinforced Plastics; Rapid Prototyping and Rapid Tooling
10. Properties and Processing of Metal Powders, Ceramics, Glasses, Composites, and Superconductors
11. Joining and Fastening Processes
12. Fabrication of Microelectronic, Micromechanical, and Microelectromechanical Devices; Nanomanufacturing
13. Automation of Manufacturing Processes and Operations
14. Computer-Integrated Manufacturing Systems
15. Product Design and Manufacturing in a Global Competitive Environment

ISBN: 9788131705667

Manufacturing Engineering & Technology (SI Units), 7/e

Serope Kalpakjian | Steven R. Schmid

COMING SOON

1164 | © 2018

ABOUT THE BOOK

The book continues to address the various challenges and issues in modern manufacturing processes and operations, ranging from traditional topics such as casting, forming, machining, and joining processes, to advanced topics such as the fabrication of microelectronic devices and microelectromechanical systems and nanomanufacturing. The book provides numerous examples and case studies, as well as comprehensive and up-to-date coverage of all topics relevant to modern manufacturing, as a solid background for students as well as for professionals.

FEATURES

- An excellent overview of manufacturing concepts is provided with a balance of relevant fundamentals and real-world practices.
- Coverage of the latest technological advances, like rapid prototyping, the most dramatic change in manufacturing in recent years. Also includes coverage of nanofabrication, rapid tooling, and semisolid metalworking (Chapter 20) making this one of the most up-to-date texts available.
- Lists and process comparisons give students a through look at manufacturing processes and operations. The chapters on specific groups of manufacturing processes and operations feature lists of typical parts produced by the processes described in the chapter, as well as a list of competing and alternative processes to produce the same types of parts.
- Four kinds of end-of-chapter problems help reinforce concepts in each chapter: Review Questions; Qualitative Problems; Quantitative Problems; and Synthesis, Design, and Projects.
- Comprehensive bibliographies are far more complete than any other manufacturing textbooks

CONTENTS

1. The Structure Of Metals
2. Mechanical Behavior, Testing, and Manufacturing Properties of Materials
3. Physical Properties of Materials
4. Metal Alloys: Their Structure and Strengthening by Heat Treatment
5. Ferrous Metals and Alloys: Production, General Properties, and Applications
6. Nonferrous Metals and Alloys: Production, General Properties, and Applications
7. Polymers: Structure, General Properties, and Applications
8. Ceramics, Glass, Graphite, Diamond, and Nanomaterials: Structure, General Properties, and Applications
9. Composite Materials: Structure, General Properties, and Applications
10. Fundamentals of Metal Casting
11. Metal-casting Processes and Equipment
12. Metal Casting: Design, Materials, and Economics
13. Metal-rolling Processes and Equipment
14. Metal-forging Processes and Equipment
15. Metal Extrusion and Drawing Processes and Equipment
16. Sheet-metal Forming Processes and Equipment
17. Powder Metal Processes and Equipment
18. Ceramics, Glasses, and Superconductors: Processing and Equipment
19. Plastics and Composite Materials: Forming and Shaping
20. Rapid-prototyping Processes and Operations
21. Fundamentals of Machining
22. Cutting-tool Materials and Cutting Fluids
23. Machining Processes: Turning and Hole Making
24. Machining Processes: Milling, Broaching, Sawing, Filing, and Gear Manufacturing
25. Machining Centers, Machine-Tool Structures, and Machining Economics
26. Abrasive Machining and Finishing Operations
27. Advanced Machining Processes and Equipment
28. Fabrication of Microelectronic Devices
29. Fabrication of Microelectromechanical Devices and Systems and Nanoscale Manufacturing
30. Fusion Welding Processes
31. Solid-State Welding Processes
32. Brazing, Soldering, Adhesive-bonding, and Mechanical Fastening Processes
33. Surface Roughness and Measurement; Friction, Wear, and Lubrication
34. Surface Treatments, Coatings, and Cleaning

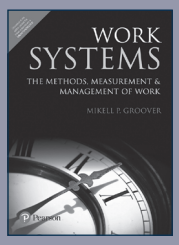
35. Engineering Metrology and Instrumentation
36. Quality Assurance, Testing and Inspection
37. Automation of Manufacturing Processes and Operations
38. Computer-aided Manufacturing
39. Computer-integrated Manufacturing Systems
40. Product Design and Manufacturing in a Competitive Environment

ABOUT THE AUTHOR(S)

Serope Kalpakjian is a professor emeritus of mechanical and materials engineering at the Illinois Institute of Technology, Chicago. He is the author of Mechanical Processing of Materials (Van Nostrand, 1967) and co-author of Lubricants and Lubrication in Metalworking Operations (with E.S. Nachtman, Dekker, 1985). Both of the first editions of his books Manufacturing Processes for Engineering Materials (Addison- Wesley, 1984) and Manufacturing Engineering and Technology (Addison-Wesley, 1989) have received the M. Eugene Merchant Manufacturing Textbook Award of SME. He is the author of numerous technical papers and articles in professional journals, handbooks, and encyclopedias; and has edited several conference proceedings.

Steven R. Schmid is an associate professor in the Department of Aerospace and Mechanical Engineering at the University of Notre Dame, where he teaches and conducts research in the general areas of manufacturing, machine design, and tribology. He received his bachelor's degree in mechanical engineering from the Illinois Institute of Technology (with Honors) and master's and Ph.D. degrees, both in mechanical engineering, from Northwestern University. He has received numerous awards, including the John T. Parsons Award from SME (2000), the Newkirk Award from ASME (2000), the Kaneb Center Teaching Award (2000 and 2003), and the Ruth and Joel Spira Award for Excellence in Teaching (2005). He is also the recipient of a National Science Foundation CAREERS Award (1996) and an ALCOA Foundation Award (1994).

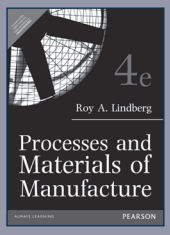
➦ ALSO AVAILABLE...



Work Systems: The Methods, Measurement & Management of Work, 1/e

ISBN: 9789332581241

Pages: 744



Processes and Materials of Manufacture, 4/e

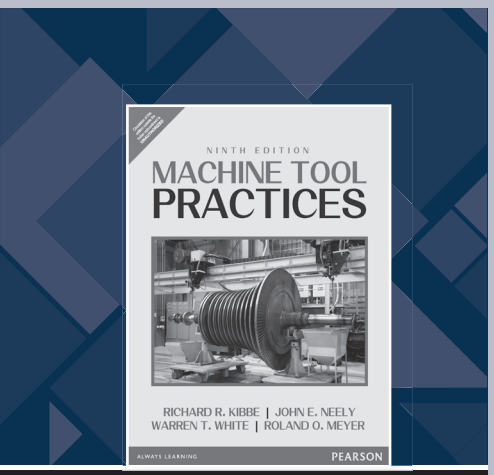
ISBN: 9789332556973

Pages: 878

Manufacturing Technology: Theory and Problems, 2/e

ISBN: 9788131722275

Pages: 372



ISBN: 9789332550032

Machine Tool Practices, 9/e

Richard R. Kibbe | John E. Neely | Warren T. White | Roland O. Meyer

820 | © 2015

ABOUT THE BOOK

This text was developed to provide a richly illustrated, intensely visual treatment of basic machine tool technology and related subjects, including measurement and tools, reading drawings, mechanical hardware, hand tools, metallurgy, and the essentials of CNC. Covering introductory through advanced topics, Machine Tool Practices is formatted so that it may be used in a traditional lab-lecture program or a self-paced program. The book is divided into major sections that contain many instructional units. Each unit contains listed objectives, self tests with answers, and boxed material covering shop tips, safety, and new technologies.

FEATURES

- NEW TO THIS EDITION.
- Heavily illustrated throughout including 80% new artwork in this edition!
  - 600 new photos!
  - 1,500 revised line drawings!
- Expanded/Updated CNC content.
- Additional CAM coverage.
- HALLMARK FEATURES.
- Comprehensive approach presents the major core subject areas needed by today's machinists.
- Includes hundreds of photos of actual machining operations.
- Graphic explanations highlight important concepts and common errors and difficulties encountered by machinists.
- Many units are designed around specific projects that provide performance experience for the student.
- Self tests at the end of most units help students evaluate their own progress and understanding of the text material.

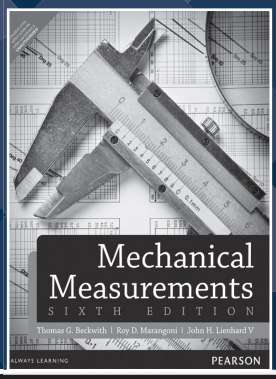
ABOUT THE AUTHOR(S)

Richard R. Kibbe served his apprenticeship in the shipbuilding industry and was graduated as a journeyman marine machinist. He holds an Associate in Arts degree in applied arts from Yuba Community College with an emphasis in machine tool technology. He also holds Bachelor's and Master's degrees from the California State University with an emphasis in machine tool manufacturing technology.

Roland O. Meyer spent the first 20 years of his career in the metal-working industry as a tool and die maker, machinist and worked in machine design and manufacturing. He completed his apprenticeship as a tool and die maker at Siemens in Germany and continued there as a journeyman building progressive punching dies.

John E. Neely grew up in the Pacific Northwest and entered the Army to serve in World War II. The life John E. Neely is characterized by hard work, a variety of successes, and mentoring many others who became a part of his life.

Warren White apprenticed as an Optical Instrument Maker with Land-Air, Inc. After military service with the Army Air Defense Board he obtained a graduate degree in Psychology at Clark University. His interest in both learning theory and machine tools led to employment at Foothill College in the Engineering Department.



ISBN: 9789332518520

Mechanical Measurements, 6/e

Thomas G. Beckwith | Roy D. Marangoni | John H. Lienhard V

762 | © 2013

ABOUT THE BOOK

This much-anticipated revision to the definitive mechanical measurements text continues to set the standard. Emphasizing precision and clarity, the authors cover fundamental issues common to all areas of measurement in Part One, then present individual chapters on applied areas of measurement in Part Two. The text's modular format makes it accessible to undergraduate students of most engineering disciplines, particularly mechanical engineering, aerospace engineering, and engineering technology.

FEATURES

- Flexible presentation – Fits several different course formats and accommodates a wide variety of skill levels.
- **Separate areas of applied measurements** – Help students see the relevance of mechanical measurement to their own field of interest and offer motivation by addressing real-world measurement problems.

CONTENTS

Part I: Fundamentals of Mechanical Measurement

1. The Process of Measurement: An Overview
2. Standards and Dimensional Units of Measurement
3. Assessing and Presenting Experimental Data
4. The Analog Measurand: Time-Dependent Characteristics
5. The Response of Measuring Systems
6. Sensors
7. Signal Conditioning
8. Digital Techniques in Mechanical Measurements
9. Readout and Data Processing

Part II: Applied Mechanical Measurements

10. Measurement of Count, EPUT, Time Interval, and Frequency Measurement of Count, Events per Unit Time, Time Interval, and Frequency
11. Displacement and Dimensional Measurement
12. Strain and Stress: Measurement and Analysis
13. Measurement of Force and Torque
14. Measurement of Pressure
15. Measurement of Fluid Flow
16. Temperature Measurements
17. Measurement of Motion
18. Acoustical Measurements

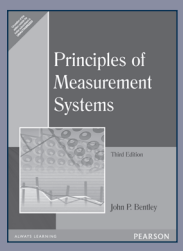
ABOUT THE AUTHOR(S)

Thomas G. Beckwith, University of Pittsburgh

Roy D. Marangoni, University of Pittsburgh

John H. Lienhard, V, Massachusetts Institute of Technology Mechanical Engineering

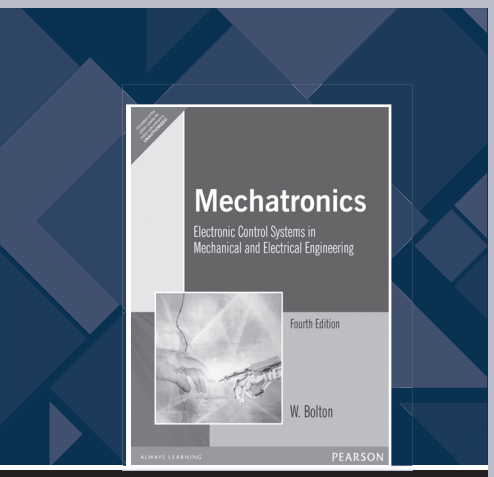
ALSO AVAILABLE



Principles of Measurement Systems, 3/e

ISBN: 9788131701829

Pages: 480



ISBN: 9788131732533

Mechatronics: Electronic Control Systems in Mechanical and Electrical Engineering, 4/e

W. Bolton

604 | © 2010

ABOUT THE BOOK

This text gives a clear and comprehensive introduction to the area of Mechatronics. It is practical and applied, giving a solid understanding of the key skills and inter-disciplinary approach required to successfully design Mechatronic systems. Plenty of case-studies, and use of models for mechatronic systems, help give a real-world context, whilst self-test questions and exercises help test understanding.

FEATURES

- Comprehensive coverage.
- Practical and applied approach.
- End of chapter exercises help test understanding.
- Numerous case-studies provide a 'real-world' context.
- New chapter introduces Artificial Intelligence.
- New four-part structure groups key themes with a consolidating and integrating final chapter.
- Even more case studies to put the theory into context and boost your understanding.
- Even more use of models for mechatronic systems.
- End of chapter exercises to help test your learning.

CONTENTS

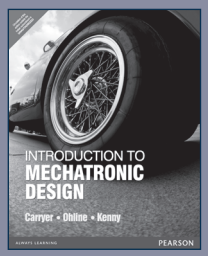
1. Sensors and signal conditioning
2. Actuation
3. System models
4. Microprocessor systems
5. Conclusion

➦ ALSO AVAILABLE...

Mechatronics: Mechanical System Interfacing, 1/e

ISBN: 9789332559554

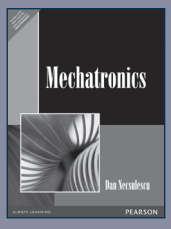
Pages: 256



Introduction to Mechatronic Design

ISBN: 9788131788257

Pages: 808



Mechatronics

ISBN: 9788177585407

Pages: 320

ISBN: 9788131764756

Foundations of MEMS, 2/e

Chang Liu

576 | © 2011

ABOUT THE BOOK

Foundations of MEMS is an entry-level text designed to systematically teach the specifics of MEMS to an interdisciplinary audience. Liu discusses designs, materials, and fabrication issues related to the MEMS field by employing concepts from both the electrical and mechanical engineering domains and by incorporating evolving microfabrication technology—all in a time-efficient and methodical manner. A wealth of examples and problems solidify students' understanding of abstract concepts and provide ample opportunities for practicing critical thinking.

FEATURES

Concise background information from several engineering domains:

- Makes students conversant with unfamiliar concepts and practices that are needed to solve MEMS problems.
- Presents exciting new opportunities for a student and practitioner of MEMS to become involved in specific application domains, such as bioengineering, chemistry, nanotechnology, optical engineering, power and energy, and wireless communication.
- Systematic teaching of materials, design, and fabrication issues, in an ascending and widening spiral introduces topics in an ordered and logical progression.
- Critical-thinking challenges foster a deeper understanding of the subject matter and show students how to think like engineers.
- Extensive examples and homework problems help teachers explain difficult concepts and assist students in practicing these concepts.
- Current data and up-to-date materials keep students and researchers abreast of the latest technologies.

ABOUT THE AUTHOR(S)

Chang Liu received his M.S. and Ph.D. degrees from the California Institute of Technology in 1991 and 1995, respectively. His Ph.D. thesis was titled Micromachined sensors and actuators for fluid mechanics applications. In January 1996, he joined the Microelectronics Laboratory of the University of Illinois as a postdoctoral researcher. In January 1997, he became an assistant professor with major appointment in the Electrical and Computer Engineering Department and joint appointment in the Mechanical and Industrial Engineering Department. In 2003, he was promoted to the rank of Associate Professor with tenure. In 2007, Chang Liu joined Northwestern University (Evanston, Illinois) as a full professor of engineering. He established the MedX Laboratory to conduct advanced engineering research for medicine and health care.

ISBN: 9789332526471

Operations Research, 2/e

A. M. Natarajan | P. Balasubramani | A. Tamilarasi

744 | © 2014

ABOUT THE BOOK

Operations research is the study of optimization techniques. Designed to cater to the syllabi requirements of Indian universities, this book on operations research reinforces the concepts discussed in each chapter with solved problems. A unique feature of this book is that with its focus on coherence and clarity, it hand-holds students through the solutions, each step of the way.

FEATURES

- Graphical solution to linear programming problems discussed by means of appropriate examples.
- Economic interpretation of dual variables explained and various computational techniques elucidated.
- Applications of the simulation model in practical business problems illustrated.
- Detailed analysis of the critical path method (CPM) and the project evaluation review technique (PERT).
- Non-linear programming problems, quadratic programming and separable programming highlighted along with their applications.

CONTENTS

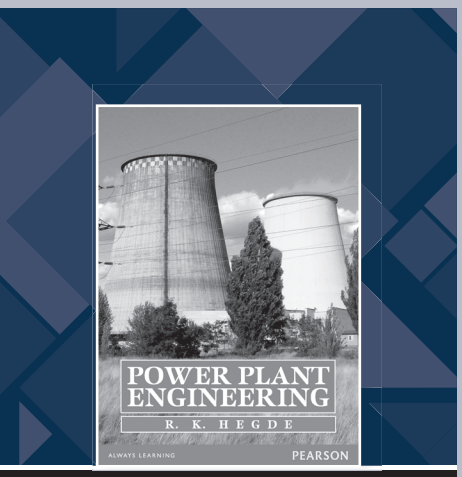
1. Basics of Operations Research
2. Linear Programming Problem (LPP)
3. Advanced Topics in Linear Programming
4. The Transportation Problem
5. Assignment Problem
6. Dynamic Programming
7. Decision Theory and Introduction to Quantitative Methods
8. Theory of Games
9. Sequencing Models
10. Replacement Models
11. Inventory Models
12. Queuing Models
13. Network Models
14. 14 Simulation
15. 15 Non-Linear Programming

ALSO AVAILABLE

Operations Research: An Introduction

ISBN: 9788131799345

Pages: 525



ISBN: 9789332534100

Power Plant Engineering

R. K. Hegde

912 | © 2015

ABOUT THE BOOK

Power Plant Engineering has been written to cater to the needs of budding mechanical engineers in their undergraduate study. Supplemented by clear illustrations and solved examples, the book provides a comprehensive coverage of topics at the required depth to students gain a firm foothold in the subject.

FEATURES

- Information on contemporary topics in power plant technology such as super critical boiler technology.
- Practical approach to delineate complex topics with visual aids and representational schemes.
- Exhaustive coverage of power generation from non-conventional sources of energy.
- Ample solved examples, multiple-choice and exercise questions for practice.

CONTENTS

1. Introduction to Power Plants
2. Fuels and Combustion
3. Fuel-Handling Systems
4. Steam Power Plant
5. Steam Generator
6. Fluidized Bed Combustion
7. Draught System
8. Feed Water Treatment
9. Flow Through Nozzles
10. Steam Turbines
11. Steam Condenser and Circulating Water Systems
12. Gas Turbine Power Plant
13. Diesel Engine Power Plant
14. Power from Non-Conventional Sources
15. Hydroelectric Power Plant
16. Nuclear Power Plants
17. Power Plant Economics
18. Environmental Aspects of Power Station
19. Instrumentation and Equipments in Power Station

ABOUT THE AUTHOR(S)

R. K. Hegde is Professor, Department of Mechanical Engineering in Srinivas Institute of Technology, Mangalore, Karnataka. The author has more than 20 years of rich industrial and academic experience. Earlier he was involved in power plant operation and maintenance, handling high pressure FBC boilers, Babcock–Wilcox boilers, turbines and pumps. He worked in a power plant in maintenance and is also an authorized boiler operation engineer.

ISBN: 9788177588217

Product Design

Kevin Otto | Kristin Wood

1088 | © 2006

ABOUT THE BOOK

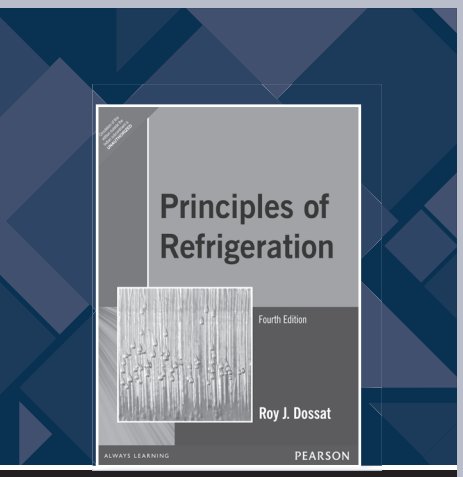
Product Design presents an in-depth study of structured design processes and methods. Its fundamental approach is that of reverse engineering and teardowns, which present a new paradigm for design instruction. This permits a modern learning cycle of experience, hypothesis, understanding, and then execution. Otto and wood bring students concrete experiences with hands-on products, applications of contemporary technologies, and much more.

FEATURES

- **Fundamental approach—**A systematic and methods-based strategy to product development.
- Students see good design before they attempt design.
- Concrete experiences with hands-on products.

CONTENTS

1. Journeys in Product Development
2. Product Development Process Tools
3. Scoping Product Developments: Technical and Business Concerns
4. Understanding Customer Needs
5. Establishing Product Function
6. Product Teardown and Experimentation
7. Benchmarking and Establishing Engineering Specifications
8. Product Portfolios and Portfolio Architecture
9. Product Architecture
10. Generating Concepts
11. Concept Selection
12. Concept Embodiment
13. Modeling of Product Metrics
14. Design for Manufacture and Assembly
15. Design for the Environment
16. Analytical and Numerical Model Solutions
17. Physical Prototypes
18. Physical Models and Experimentation
19. Design for Robustness



ISBN: 9788177588811

Principles of Refrigeration, 4/e

Roy J. Dossat

512 | © **2006**

ABOUT THE BOOK

Classic presentation of the principles, applications, and design of refrigeration systems and equipment. No special background in thermodynamics, physics, or calculus is required, as the essential concepts are reviewed in the first five chapters.

CONTENTS

1. Pressure, Work, Power, Energy
2. Matter, Internal Energy, Heat, Temperature
3. Ideal Gas Processes
4. Saturated and Superheated Vapors
5. Psychrometric Pro perties of Air
6. Refrigeration and the Vapor Compression Systems
7. Cycle Diagrams and the Simple Saturated Cycle
8. Actual Refrigerating Cycles
9. Survey of Refrigeration Applications
10. Cooling Load Calculations
11. Evaporators
12. Performance of Reciprocating Compressors
13. System Equilibrium and Cycling Controls
14. Condensers and Cooling Towers
15. Fluid Flow, Centrifugal Liquid Pumps, Water and Brine Piping
16. Refrigerants
17. Refrigerant Flow Controls
18. Compressor Construction and Lubrication
19. Refrigerant Piping and Accessories
20. Defrost Methods—Low Temperature, Multiple Temperature, and Absorption Refrigeration Systems
21. Electric Motors and Control Circuits

Pearson

ISBN: TBA

Air Conditioning Principles and Systems:
An energy approach, 4/e

COMING SOON

Edward G. Pita

552 | © 2018

ABOUT THE BOOK

For two-semester courses in Refrigeration and Air Conditioning, HVAC System Design, and Principles of Heating/Ventilating/AC/Refrigeration. Using a minimum of mathematics, this text explores the fundamental concepts of air conditioning and their application to systems—explaining all concepts in a clear, practical manner, and focusing on problems and examples typically encountered on the job. It covers the latest, yet practical methods of load calculations, psychometrics, system design, and equipment description and performance.

FEATURES

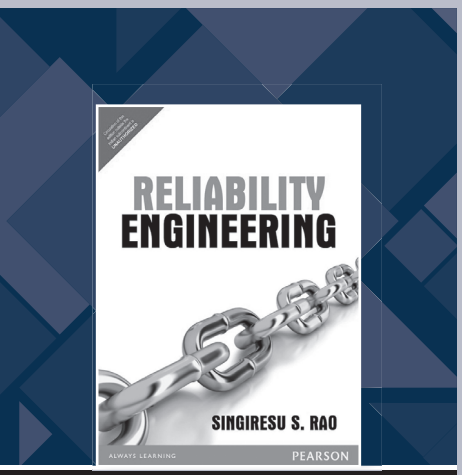
- Revised and added material throughout—Covers indoor air quality; air pollution from combustion; and the new environmental requirements on refrigerants.
- Use of the Internet for air conditioning work—Includes added explanations, examples, and problems throughout.
- Revised cooling load calculation data—Includes design weather data; appliance loads; and ventilation requirements.
- Coverage of HVAC equipment description, performance, selection and specifi cations.
- Underlying theme of energy utilization and conservation throughout.
- Describes energy codes and standards, and examines each topic from an energy conservation viewpoint—essential for all future work in the air conditioning fi eld.

CONTENTS

1. The Scope and Uses of Air Conditioning
2. Physical Principles
3. Heating Loads
4. Furnaces and Boilers
5. Hydronic Piping Systems and Terminal Units
6. Cooling Load Calculations
7. Psychrometrics
8. Fluid Flow in Piping and Ducts
9. Piping, Valves, Ducts, and Insulation
10. Fans and Air Distribution Devices
11. Centrifugal Pumps, Expansion Tanks, and Venting
12. Air Conditioning Systems and Equipment
13. Refrigeration Systems and Equipment
14. Automatic Controls
15. Energy Utilization and Conservation
16. Instrumentation, Testing, and Balancing
17. Planning and Designing the HVAC System
18. Solar Heating and Cooling Systems

ABOUT THE AUTHOR

Edward G. Pita is Professor Emeritus and Adjunct Professor in the Environmental Control Technology Department at New York City Technical College of the City University of New York. He received a B.S. degree from Purdue University, an M.S. degree from Columbia University, and a Ph.D. degree from the University of Maryland, all in mechanical engineering. He is a member of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).



ISBN: 9789332571075

Reliability Engineering, 1/e

Singiresu S. Rao

824 | © 2016

ABOUT THE BOOK

Reliability Engineering is intended for use as an introduction to reliability engineering, including the aspects analysis, design, testing, production and quality control of engineering components and systems. The book can be used for senior or dual-level courses on reliability.

Numerous analytical and numerical examples and problems are used to illustrate the principles and concepts. Expanded explanations of the fundamental concepts are given throughout the book, with emphasis on the physical significance of the ideas. The mathematical background necessary in the area of probability and statistics is covered briefly to make the presentation complete and self-contained. Solving probability and reliability problems using MATLAB and Excel is also presented."

FEATURES

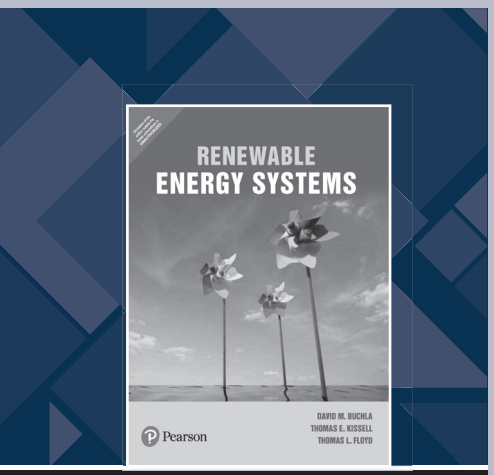
- More than 230 illustrative examples follow the presentation of most of the topics.
- More than 800 review questions to help readers in reviewing and testing their understanding of the text material.
- Nearly 50 examples are given to illustrate the use of Matlab and Excel for solving probability and reliability problems.
- Over 550 references to lead the reader to specialized and advanced literature.
- More than 500 problems to help readers in the application of the theory to practical problems.
- Biographical information about the mathematicians and scientists who contributed to the development of the theories of probability and reliability on chapter-opening pages.
- Answers to review questions are available on the companion website at www.pearsonhighered.com/rao.
- Computer programs for the reliability analysis and design of engineering systems are provided on the companion website.
- Solutions to selected problems are available for Instructors in the Solutions Manual, which can be located on the Instructor Resource Center website at www.pearsonhighered.com"

CONTENTS

1. Introduction
2. Basic Probability Theory
3. Random Variables and Probability Distributions
4. Extremal Distributions
5. Functions of Random Variables
6. Time-Dependent Reliability of Components and Systems
7. Modeling of Geometry, Material Strength, and Loads
8. Strength-Based Reliability
9. Design of Mechanical Components and Systems
10. Monte Carlo Simulation
11. Reliability-Based Optimum Design
12. Failure Modes, Event-Tree, and Fault-Tree Analyses
13. Reliability Testing
14. Quality Control and Reliability
15. Maintainability and Availability
16. Warranties,

ABOUT THE AUTHOR(S)

Dr. Singiresu S. Rao is a Professor in the Mechanical and Aerospace Engineering Department at the University of Miami College of Engineering.



ISBN: 9789332586826

Renewable Energy Systems, 1/e

David M. Buchla | Thomas E. Kissell | Thomas L. Floyd

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ABOUT THE BOOK

For courses in Introductory Renewable Systems, Environmental Studies, and Solar, Wind, and Geothermal Energy Renewable Energy Systems is an introductory text that offers broad coverage of all major renewable energy systems, resources, and related topics, such as wind turbines, solar energy, biomass, geothermal energy, water related power generation, fuel cells and generators. The text's teaching and learning package includes an Instructor's Manual and a set of PowerPoint slides that support the text with illustrations, additional examples, ed key terms, and a True/False quiz."

FEATURES

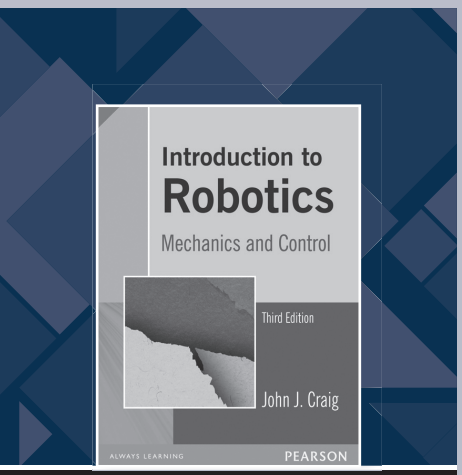
- Each chapter opens with an outline, objectives, key terms list, introduction, and companion website address, providing a clear roadmap to the chapter's content.
- Section openers give a brief overview of what each section within a chapter covers, giving readers an opportunity to reflect on what they just learned before moving on to the next concept.
- Key terms are highlighted throughout each chapter.
- Margin features throughout the book highlight interesting or historical information related to the topic being covered.
- Important formulas are numbered for reference and listed at the end of each chapter, offering readers a useful study tool.
- Each chapter closes with a summary and definition of key terms, which are also listed and defined in a glossary.
- A list of variables and meanings is provided at the end of the book.
- Applied practice:
  Special emphasis is given to topics that have applications in a range of renewable energy technologies, such as charge controllers/inverters, energy storage, and generators and the grid.
  Section checkups contain questions related to each section within a chapter. Answers to checkups are provided at the end of the chapter.
  Worked-out examples throughout the chapter help readers apply the concepts.
  A True/False quiz, multiple-choice questions, and question and problem sets at the end of each chapter offer ample opportunity for readers to practice what they have learned. Answers to the True/False quiz and multiple-choice questions are given at the end of the chapter.
  A suggested class discussion item at the end of each chapter offers even more opportunity for instructors and students to explore the use of renewable technologies and materials in the real world.
- Visually engaging:
  The text's full-color design helps to clearly illustrate concepts for readers and makes for a more engaging presentation of the chapter content.
  Abundant illustrations, many original and previously unpublished, help students understand the role of renewable energy technologies throughout the text."

CONTENTS

1. Energy Sources
2. Electrical Fundamentals
3. Solar Photovoltaics
4. Solar Energy Systems
5. Solar Tracking
6. The Charge Controller and Inverter
7. Wind Power Systems
8. Wind Turbine Control
9. Biomass Technologies
10. Geothermal Power Generation
11. Energy from Water
12. Fuel Cells
13. Generators
14. The Electrical Power Grid

ABOUT THE AUTHOR(S)

David M. Buchla, Thomas E. Kissell, Thomas L. Floyd



ISBN: 9788131718360

Introduction to Robotics: Mechanics and Control, 3/e

John J. Craig

408 | © 2008

ABOUT THE BOOK

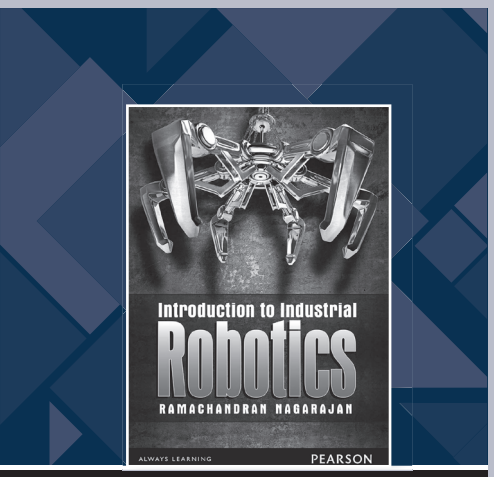
Since its original publication in 1986, Craig's ***Introduction to Robotics: Mechanics and Control*** has been the market's leading textbook used for teaching robotics at the university level. With perhaps one-half of the material from traditional mechanical engineering material, one-fourth control theoretical material, and one-fourth computer science, it covers rigid-body transformations, forward and inverse positional kinematics, velocities and Jacobians of linkages, dynamics, linear control, non-linear control, force control methodologies, mechanical design aspects, and programming of robots.

FEATURES

- **Chapter 1: Introduction has been enhanced to broaden the introductory presentation of the field of robotics—**Previews what is covered in the book.
- Real-world practicality with underlying theory presented.
- Large set of homework problems with a "difficulty grade" assigned.
- The most cited textbook on robotics in the field.
- "Programming Assignments" at the end of each chapter.

CONTENTS

1. Introduction
2. Spatial Transformations
3. Forward Kinematics
4. Inverse Kinematics
5. Velocities, Static Forces, and Jacobians
6. Dynamics
7. Trajectory Planning
8. Mechanical Design of Robots
9. Linear Control
10. Non-Linear Control
11. Force Control
12. Programming Languages and Systems
13. Simulation and Off-Line Programming



ISBN: 9789332544802

Introduction to Industrial Robotics, 1/e

Ramachandran Nagarajan

320 | © 2016

ABOUT THE BOOK

Robotics is the branch of technology that deals with the design, construction, operation, and application of robots. It is a subject offered to the students of mechanical engineering in their final year. This book is written to cover the needs of a budding engineer at the undergraduate level.

This book emphasizes on building the fundamental concepts along with necessary mathematical analysis and graphical representation. Numerical problems are also present for better understanding the topics.

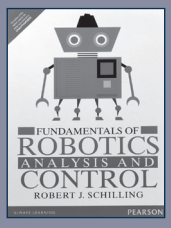
FEATURES

- A detailed listing of chronological development of Robots Technology.
- Composite transformation matrix , Object manipulations and wrist articulations are explained with detailed examples.
- Lucid coverage of grippers and tools with self explanatory figures.
- Detailed coverage of Robot applications in industries.

CONTENTS

1. Introduction to Robotics
2. Grippers and tools of Industrial robots
3. Coordinate transformation
4. Kinematics
5. Robot sensors
6. Robot control
7. Robot Programming and work cell
8. Robot Vision
9. Robot applications
10. Robot trajectory planning
11. Economic analysis of Robots
12. Artificial Intelligence
13. Robot Dynamics
14. FLC of Robot Joints
15. Medical applications of Robots
16. Helping the visually impaired for their autonomous navigation

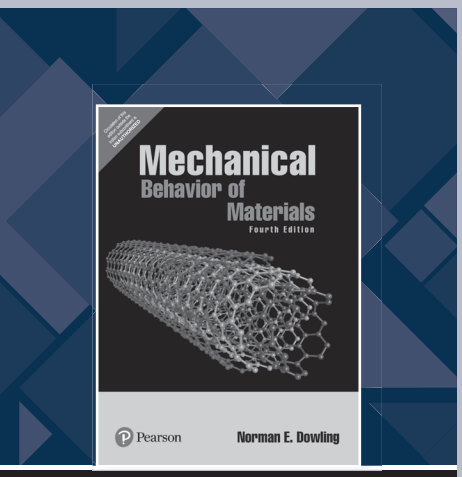
ALSO AVAILABLE



Fundamentals of Robotics: Analysis and Control

ISBN: 9789332555235

Pages: 448



ISBN: 9789332584785

Mechanical Behavior of Materials, 4/e

Norman E. Dowling

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ABOUT THE BOOK

For upper-level undergraduate engineering courses in Mechanical Behavior of Materials.

Mechanical Behavior of Materials, 4/e introduces the spectrum of mechanical behavior of materials, emphasizing practical engineering methods for testing structural materials to obtain their properties, and predicting their strength and life when used for machines, vehicles, and structures. With its logical treatment and ready-to-use format, it is ideal for upper-level undergraduate students who have completed elementary mechanics of materials courses.

FEATURES

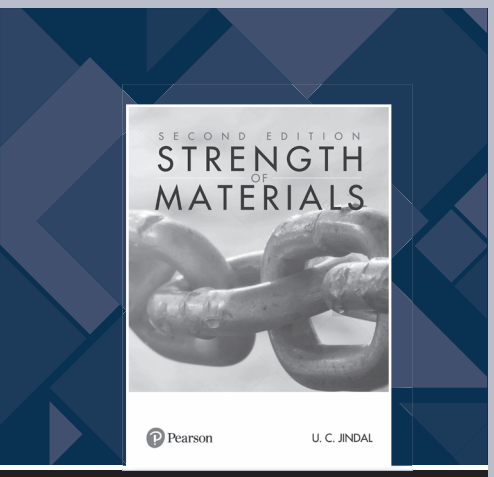
- **Comprehensive appendices**—Appendix A offers a concise summary of equations for calculating stresses and deflections for simple engineering components such as beams, shafts, and pressure vessels. Appendix B provides an introduction to statistical data analysis and variation in materials properties.
- **Comprehensive instructor resources—**Features text illustrations, Microsoft Excel® files for most of the example problems in the text, and solutions to end-of-chapter problems for which calculation or a difficult derivation is required.

CONTENTS

1. Introduction
2. Structure and Deformation in Materials
3. A Survey of Engineering Materials
4. Mechanical Testing: Tension Test and Other Basic Tests
5. Stress—Strain Relationships and Behavior
6. Review of Complex and Principal States of Stress and Strain
7. Yielding and Fracture under Combined Stresses
8. Fracture of Cracked Members
9. Fatigue of Materials: Introduction and Stress-Based Approach
10. Stress-Based Approach to Fatigue: Notched Members
11. Fatigue Crack Growth
12. Plastic Deformation Behavior and Models for Materials
13. Stress—Strain Analysis of Plastically Deforming Members
14. Strain-Based Approach to Fatigue Appendix A Review of Selected Topics from Mechanics of Materials
    Appendix B Statistical Variation in Materials Properties
15. Time-Dependent Behavior: Creep and Damping

ABOUT THE AUTHOR(S)

Norman E. Dowling earned his B.S. in civil engineering (structures) from Clemson University in Clemson, S.C., and his M.S. and Ph.D. in theoretical and applied mechanics from the University of Illinois in Urbana. An ASTM International member since 1972, Dowling serves on a number of E08 subcommittees and has recently been member-at-large of the E08 Executive Subcommittee. Professionally he has worked in the areas of fatigue, fracture, and deformation of engineering materials and components. Specific topics of interest include life prediction for irregular loading histories, plasticity effects on notches and in crack growth, and standard test methods for low cycle fatigue and for fatigue crack growth. He has also consulted on applications to engineering design, troubleshooting, and failure analysis. In addition to ASTM International, Dowling is a member of the Fatigue Design and Evaluation Committee of the Society of Automotive Engineers, ASM International, and Sigma Xi.



ISBN: 9789352861521

Strength of Materials, 2/e

U. C. Jindal

888 | © 2017

ABOUT THE BOOK

Strength of Materials deals with the study of the effect of forces and moments on the deformation of a body. This book follows a simple approach along with numerous examples solved step-by-step, most of which are based on university exam questions.The author has discussed the basics followed by advanced concepts such as three dimensional stresses, the theory of simple bending, theories of failure, mechanical properties, material testing and engineering materials.

FEATURES

- Balanced approach between theory and numericals with concepts explained in detailed.
- Excellent Pedagogy including questions from previous year question papers of Indian universities.
- Step-by-step methodology provided for solved examples.

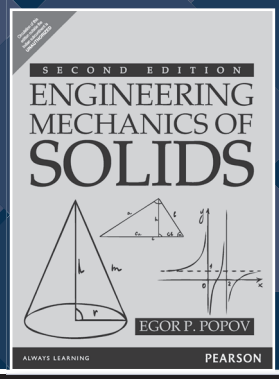
CONTENTS

1. Simple Stresses and Strains
2. Elastic Constants
3. Principal Stresses and Strains
4. Strain Energy and Impact Loading
5. Centre of Gravity and Moment of Inertia
6. Shear Force and Bending Moment
7. Bending Stresses in Beams
8. Shear Stresses in Beams
9. Direct and Bending Stresses
10. Dams and Retaining walls
11. Analysis of Perfect Frames
12. Deflection of Beams
13. Deflection of Cantilevers
14. Conjugate Beam Method, Propped Cantilevers and Beams
15. Fixed and Continuous Beams
16. Torsion of Shafts and Springs
17. Thin Cylinders and Spheres
18. Thick Cylinders and spheres
19. Columns and struts
20. Riveted joints
21. Welded joints
22. Rotating Discs and Cylinders
23. Bending of Curved Bars
24. Theories of Failure

ABOUT THE AUTHOR(S)

U. C. Jindal is a former Professor and Head of the Department of Mechanical Engineering, Delhi College of Engineering. He completed his M.Tech. from Indian Institute of Technology Kanpur and did his Ph.D. on Experimental Stress Analysis from the University of Delhi.

For the last 50 years, Dr Jindal has been involved in teaching, research and development activities in the mechanics group of subjects such as engineering mechanics, strength of materials, machine design, theory of machines and materials science. He is the author of nine books, and has also published numerous research papers in the fi eld of stress analysis, material testing, stress concentrations, adhesives and composite materials in various national and international journals. Dr Jindal was awarded the Toshiba Anand Prize in 1978 for original research in Theory and Practice of Standardization. He is a life member of the Indian Society for Construction Materials and Structures, New Delhi.



ISBN: 9789332550216

Engineering Mechanics of Solids, 2/e

Egor P. Popov

884 | © **2015**

ABOUT THE BOOK

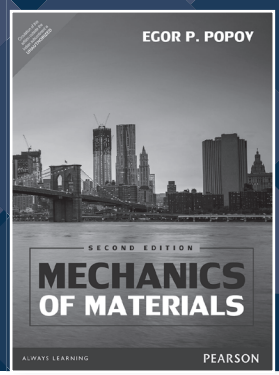
For civil, mechanical, and aeronautical engineering courses. This book is a comprehensive, cross-referenced examination of engineering mechanics of solids. Traditional topics are supplemented by an exposure to several newly-emerging disciplines, such as the probabilistic basis for structural analysis, matrix methods, and plastic limit analysis.

FEATURES

- NEW - Includes a greater number of chapters to focus on specific topics and to improve the overall presentation sequence.
- NEW - Includes an expanded chapter on Mechanical Properties of Materials.
- NEW - Emphasizes the SI system of units.
- NEW - Introduces a number of avant-garde topics including an advanced analytic expression for cyclic loading and a novel failure surface for brittle material.
- NEW - Most of section properties are given in the two systems of units.

CONTENTS

1. Stress
2. Strain
3. Axial Deformation of Bars: Statically Determinate Systems
4. Axial Deformation of Bars: Statically Indeterminate Systems
5. Generalized Hooke's Law: Pressure Vessels
6. Torsion
7. Beam Statics
8. Symmetric Beam Bending
9. Unsymmetric (Skew) Beam Bending
10. Shear Stresses in Beams
11. Stress and Strain Transformation
12. Yield and Fracture Criteria
13. Elastic Stress Analysis
14. Beam Deflections by Direct Integration
15. Beam Deflections by the Moment-area Method
16. Columns
17. Energy and Virtual Work
18. Classical Energy Methods
19. Elastic Analysis of Systems
20. Plastic Limit Analysis



ISBN: 9789332559547

Mechanics of Materials, 2/e

Egor P. Popov

608 | © **2016**

ABOUT THE BOOK

This volume stresses fundamental principles of mechanics of materials, and introduces applications from various fields of engineering.

FEATURES

- Includes numerous solved examples.
- Uses English and SI units throughout.

CONTENTS

1. Abbreviations and Symbols
2. Stress—Axial Loads
3. Strain—Hooke's Law—Axial Load Structural
4. Torsion
5. Axial Force—Shear—and Bending Moment
6. Pure Bending of Beams
7. Shearing Stresses in Beams
8. Compound Stresses
9. Analysis of Plane Stress and Strain
10. Transformation of Moments of Inertia of Areas to Different Axes
11. Combined Stresses—Pressure Vessels—Failure Theories
12. Design of Members by Strength Criteria
13. Deflection of Beams
14. Statically Indeterminate Problems
15. Columns.
16. Structural Connections
17. The Energy Methods
18. Thick-Walled Cylinders

ABOUT THE AUTHOR(S)

Egor P. Popov, University of California, Berkeley.

ISBN: 9789332518605

Mechanics of Materials (SI Unit), 9/e

R. C. Hibbeler

876 | © **2015**

ABOUT THE BOOK

Containing Hibbeler's hallmark student-oriented features, this text is in four-color with a photorealistic art program designed to help students visualize difficult concepts. A clear, concise writing style and more examples than any other text further contribute to students' ability to master the material.

FEATURES

- Problem Solving: A large variety of problem types from a broad range of engineering disciplines, stress practical, realistic situations encountered in professional practice, varying levels of difficulty, and problems that involve solution by computer.
- Visualization: This text is in four-color with a photorealistic art program designed to help students visualize difficult concepts.
- Review and Student Support: A thorough end of chapter review provides students with a concise tool for reviewing chapter contents.
- Accuracy: The accuracy of the text and problem solutions has been thoroughly checked by four other parties.

CONTENTS

1. Stress
2. Strain
3. Mechanical Properties of Materials
4. Axial Load
5. Torsion
6. Bending
7. Transverse Shear
8. Combined Loadings
9. Stress Transformation
10. Strain Transformation
11. Design of Beams and Shafts
12. Deflection of Beams and Shafts
13. Buckling of Columns
14. Energy Methods

ABOUT THE AUTHOR(S)

R.C. Hibbeler graduated from the University of Illinois at Urbana with a BS in Civil Engineering (major in Structures) and an MS in Nuclear Engineering. He obtained his PhD in Theoretical and Applied Mechanics from Northwestern University.

ISBN: 9789332584778

Mechanics of Materials 1/e

Paul S. Steif

592 | © 2017

ABOUT THE BOOK

Mechanics of Materials helps students gain physical and intuitive understanding of the ideas underlying the mechanics of materials; grasp big picture ideas; and use the subject to solve problems—everything it takes to genuinely learn how the forces acting on a material relate to its deformation and failure.

FEATURES

- **Student-focused Organization**: Drawing on over two decades of research on student learning of mechanics concepts and engineering education methods, Dr. Steif uses a thoughtfully organized book structure to break the subject apart for students, and then helps them put it back together. Students can generally picture deformation better than they can picture forces (for instance, imagine seeing a ruler bend, and then calculating the force)– therefore, he begins with the deformation, and then covers the associated forces. He starts with a simple situation and then builds a more general mathematical representation.
- Each chapter is a series of two-page spreads or sections, with each section dedicated to developing one idea or concept.
- Chapter Openers present the main ideas of a chapter in diagrams and words.
- Chapter Summaries draw together key concepts, terms, and equations.
- Chapters 2-8 are grouped into 3 units that capture the overall structure of the subject presented in Chapter 1.
- **Big Picture Concepts**: To help students grasp the larger, coherent structure of Mechanics of Materials, the core question that it answers is addressed in Chapter 1: will a body deform too much or fail? The remaining chapters are grouped into 3 units that outline how this question is answered:
- A body that deforms and may fail as composed of many small, identical pieces or elements (Chapter 2).
- **Three common modes of deformation:** stretching, twisting, and bending (Chapters 3-5).
- To address deformation and failure in more general situations, the presence of these common deformation modes is recognized, and their contributions appropriately combined (Chapters 6-8).
- **End-of-section and Focused Application Area Problems:** This book contains end-of-section problems that illustrate ideas, concepts, and procedures. Focused Application area problems demonstrate applications to real situations like: bicycles, cable stayed bridges, drilling of wells, exercise equipment, bone fracture fixation, and wind turbines.
- Each Focused Application area problem's diagram references a short appendix that describes the application. Students can see how the situation depicted in a single problem fits into the overall application. Refer to pages 160 and 286-288.
- **Familiar Context:** Everyday objects can illustrate the ideas of Mechanics of Materials, and help students gain an intuitive understanding of concepts. This book starts with situations that students are familiar with, and progresses to the general, mathematical forms that enable wide application of the subject. Refer to pages 138, 139, 224, 252, 332, and 380.
- **Presentation:** Steif's knowledge of, and enthusiasm for, the subject are reflected in his direct, friendly style of writing. Words, diagrams, and equations are used in balance to present concepts in a clear, thorough way that resonates with students. Refer to pages 139, 151, 191, and 253.
- **Steif Explained:** Author, Paul S. Steif, answers frequently asked questions about his Mechanics of Materials textbook and teaching approach. http://www.pearsonhighered.com/steif

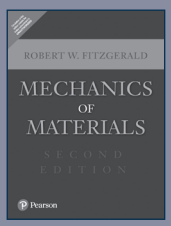
CONTENTS

1. Introduction
2. Internal Force, Stress, and Strain
3. Axial Loading
4. Torsion
5. Bending
6. Combined Loads
7. Stress Transformations and Failure
8. Buckling

ABOUT THE AUTHOR(S)

Professor Paul S. Steif has been a faculty member in the Department of Mechanical Engineering at Carnegie Mellon University since 1983. He received a Sc.B. degree in engineering mechanics from Brown University; M.S. and Ph.D. degrees in applied mechanics from Harvard University; and was National Science Foundation NATO Postdoctoral fellow at the University of Cambridge. As a faculty member his research has addressed a variety of problems, including the effects of interfacial properties on fiberreinforced composites, bifurcation and instabilities in highly deformed layered materials, and stress generation and fracture induced by cryopreservation of biological tissues. Dr. Steif has also contributed to engineering practice through consulting and research on industrial projects, including elastomeric damping devices, blistering of face seals, and fatigue of tube fittings.

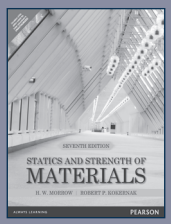
➦ ALSO AVAILABLE...



Mechanics of Materials, 2/e

ISBN: 9789332581272

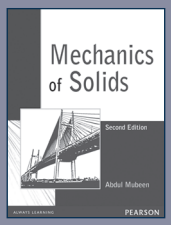
Pages: 584



Statics and Strength of Materials, 7,e

ISBN: 9789332509351

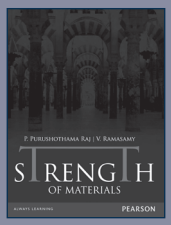
Pages: 528



Mechanics of Solids

ISBN: 9788131758885

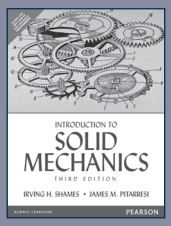
Pages: 668



Strength of Materials

ISBN: 9788131768549

Pages: 488



Introduction to Solid Mechanics, 3/e

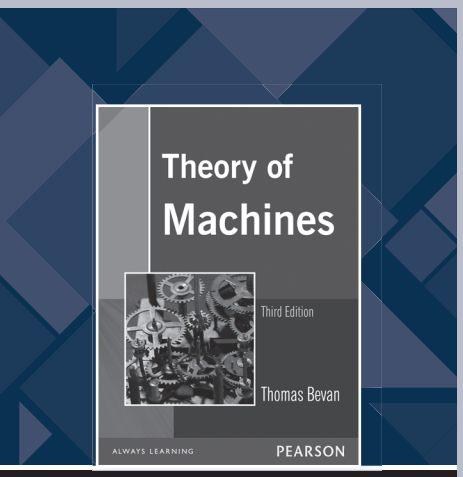
ISBN: 9789332549906

Pages: 768

Advanced Mechanics of Materials, 1/e

ISBN: 9789332559448

Pages: 472



ISBN: 9788131729656

The Theory of Machines, 3/e

Thomas Bevan

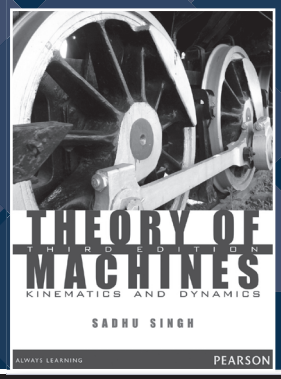
630 | © 2009

ABOUT THE BOOK

The book is largely based on lectures given at the Manchester College of Technology. The lectures cover a period of one hour a week for three sessions. This book is valuable for the students who are preparing for a University degree in engineering.

CONTENTS

1. Definitions. Simple Mechanisms
2. Motion Inertia
3. Velocity and Acceleration
4. Mechanisms with Lower Pairs
5. Valve Diagrams and Valve Gears
6. Friction
7. Belt Rope and Chain Drives
8. Brakes and Dynamometers
9. Cams
10. Toothed Gearing
11. Gear Trains
12. Dynamics of Machines. Turning Moment. The Flywheel
13. Governors
14. Balancing
15. Vibrations



ISBN: 9788131760697

Theory of Machines, 3/e

Sadhu Singh

1392 | © 2012

ABOUT THE BOOK

A comprehensive textbook on ***Theory of Machines*** for undergraduate students of Mechanical and Civil Engineering. The main objective of the book is to present the concepts in a logical, innovative and lucid manner With easy to understand illustrations and diagrams; the book is a treasure in itself for Mechanical Engineers. The text gives an easy explanation of basic principles followed by advance topics. The book has been thoroughly revised with fresh examples and exercises to match the syllabi requirement of various universities across the country.

FEATURES

- An exclusive chapter on mechanical vibrations and automatic control
- A separate chapter on velocity and acceleration in mechanisms is explained in detail
- 615 solved examples
- 210 practice problems with answers

CONTENTS

1. Mechanisms
2. Velocity In Mechanisms
3. Acceleration In Mechanisms
4. Mechanisms With Lower Pairs
5. Friction
6. Belts, Chains And Ropes
7. Brakes, Clutches, and Dynamometers
8. Cams
9. Governors
10. Inertia Force And Turning Moment
11. Static And Dynamic Force Analysis
12. Balancing
13. Gyroscopic And Precessional Motion
14. Gears
15. Gear Trains
16. Kinematic Synthesis Of Planar Mechanisms
17. Mechanical Vibrations
18. Automatic Control

ABOUT THE AUTHOR(S)

Dr Sadhu Singh retired as Professor and Head of the Department of Mechanical Engineering, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, Uttarakhand.

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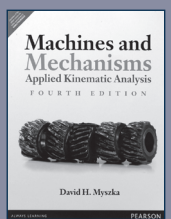
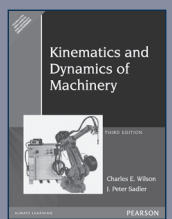


Machines & Mechanisms: Applied Kinematic Analysis, 4/e

ISBN: 9789332555204
Pages: 384



Kinematics and Dynamics of Machinery, 3/e

ISBN: 9788131720226
Pages: 936

Mechanical Vibrations (SI Units), 6/e

Singiresu S. Rao

COMING SOON

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ISBN: TBA

ABOUT THE BOOK

This book serves as an introduction to the subject of vibration engineering at the undergraduate level. The style of the prior editions has been retained, with the theory, computational aspects, and applications of vibration presented in as simple a manner as possible. As in the previous editions, computer techniques of analysis are emphasized. Expanded explanations of the fundamentals are given, emphasizing physical significance and interpretation that build upon previous experiences in undergraduate mechanics. Numerous examples and problems are used to illustrate principles and concepts.

FEATURES

- Each topic in Mechanical Vibrations is self-contained, with all concepts explained fully and the derivations presented with complete details.
- Computational aspects are emphasized throughout the book. MATLAB-based examples as well as several general purpose Matlab programs with illustrative examples are given in the last section of every chapter.
- 252 illustrative examples are given to accompany most topics.
- 988 review questions are included to help students in reviewing and testing their understanding of the text material.
- 55 MATLAB programs are included to aid students in the numerical implementation of the methods discussed in the text.

CONTENTS

1. Fundamentals of Vibration
2. Free Vibration of Single-Degree-of-Freedom Systems
3. Harmonically Excited Vibration
4. Vibration Under General Forcing Conditions
5. Two-Degree-of-Freedom Systems
6. Multidegree-of-Freedom Systems
7. Determination of Natural Frequencies and Mode Shapes
8. Continuous Systems
9. Vibration Control
10. Vibration Measurement and Applications
11. Numerical Integration Methods in Vibration Analysis
12. Finite Element Method
13. Nonlinear Vibration
14. Random Vibration

ABOUT THE AUTHOR(S)

Singiresu S. Rao, University of Miami

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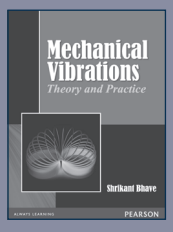
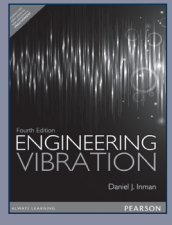


Mechanical Vibrations: *Theory and Practice*

ISBN: 9788131732489

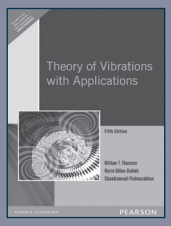
Pages: 359



Engineering Vibrations, 4/e

ISBN: 9789332518483

Pages: 705



Theory of Vibrations with Applications, 5/e

ISBN: 9788131704820

Pages: 512

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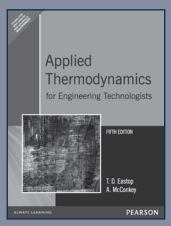
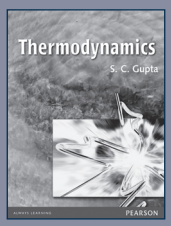


Applied Thermodynamics for Engineering Technologists, 5/e

ISBN: 9788177582383

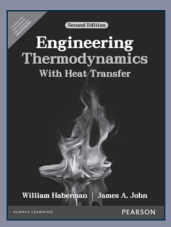
Pages: 736



Thermodynamics

ISBN: 9788131717950

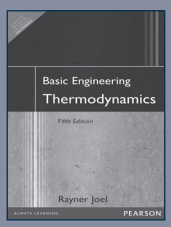
Pages: 552



Engineering Thermodynamics with Heat Transfer, 2/e

ISBN: 9789332559578

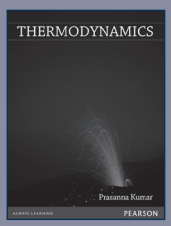
Pages: 720



Basic Engineering Thermodynamics, 5/e

ISBN: 9788131718889

Pages: 660



Thermodynamics

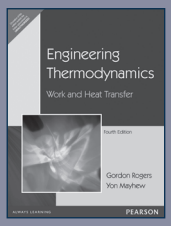
ISBN: 9788131771853

Pages: 616

Thermodynamics: Express Learning Series

ISBN: 9788131795507

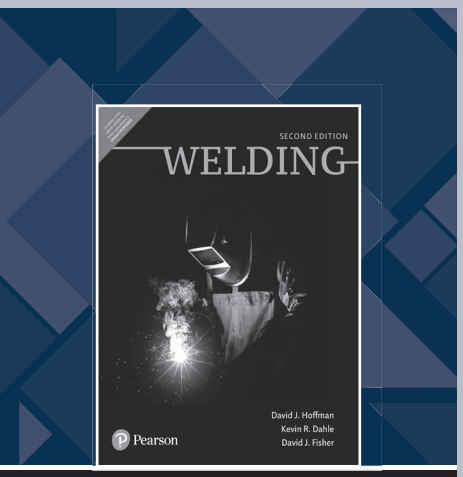
Pages: 300



Engineering Thermodynamics: Work and Heat Transfer, 4/e

ISBN: 9788131702062

Pages: 736



ISBN: 9789332585584

Welding, 2/e

David J. Hoffman | Kevin R. Dahle | David J. Fisher

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ABOUT THE BOOK

An easy-to-read and highly visual "diameter of electrodes" approach to welding. Most textbooks do not cover smaller diameter electrodes well. Welding does. With over 50 years combined experience, the authors have created a book that is both reference-friendly and incredibly engaging to students and professionals alike. With setups for every important weld and step-by-step procedures and photos for every step, this is the only book on welding you will ever need.

Welding provides readers with cleanly designed and concise chapters. Essential coverage of safety, theory, key skills, easy-to-read reference charts and tables, detailed step-by-step procedures, and a strong emphasis on the diameter of electrodes is covered in a simple, yet comprehensive way. After an introduction to welding and to welding safety, each major welding process is presented in its own chapter so they can easily be discussed in the classroom. Following the weld processes, chapters focus on critical topics such as codes, destructive and non-destructive weld testing, welding symbols, welding metallurgy, welding ferrous and nonferrous alloys, and welding power sources.

The Second Edition has been updated to include a new chapter on pipe welding and techniques, a new macro look at metallurgy, and a more procedural approach to welding alloys. Welding codes and testing have also been split into two separate chapters, for accessibility and ease of use.

FEATURES

- Find the information you need.
- Easily understand the information you find.
- Utilize the resources at your fingertips.

CONTENTS

1. Welding Jobs and Employment Skills
2. Safety in Welding
3. Shielded Metal Arc Welding
4. Gas Metal Arc Welding
5. Flux Cored Arc Welding
6. Gas Tungsten Arc Welding
7. Pipe Welding
8. Other Welding Processes
9. Cutting Processes
10. Metals and Welding Metallurgy
11. Welding Ferrous Alloy
12. Welding Nonferrous Alloys
13. Welding Symbols
14. Welding Codes
15. Weld Testing
16. Power Sources

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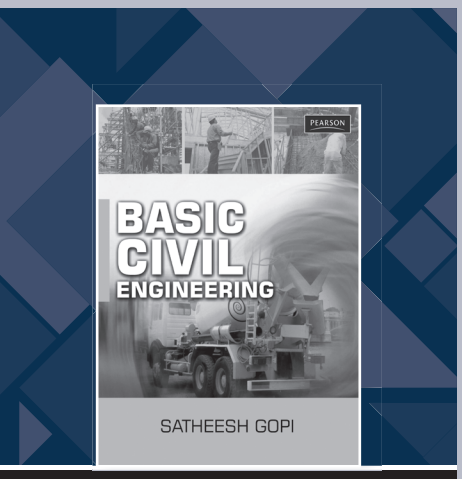
Civil Engineering



ISBN: 9788131729885

Basic Civil Engineering

Satheesh Gopi

348 | © 2009

ABOUT THE BOOK

Basic Civil Engineering is designed to enrich the preliminary conceptual knowledge about civil engineering to the students of non-civil branches of engineering. The coverage includes materials for construction, building construction, basic surveying and other major topics like environmental engineering, geo-technical engineering, transport traffic & urban engineering, irrigation & water supply engineering and CAD.

FEATURES

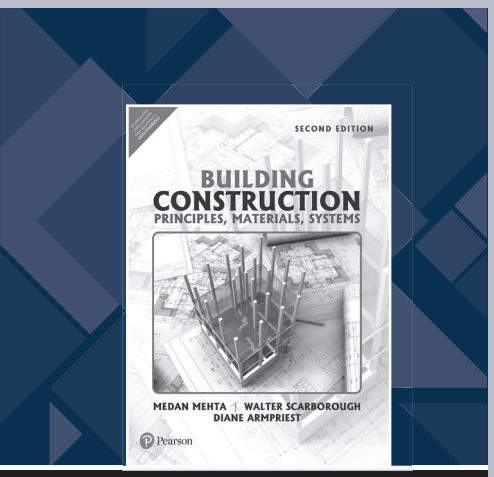
- Quality and standard of Materials along with cost effectiveness.
- Modern field procedures for surveying such as Total Station, GPS and digital levels.
- Building services like air conditioning, fire protection systems, lifts, escalators etc. and also repair and maintenance of structures.
- A chapter on CAD highlighting its importance in civil engineering.

CONTENTS

1. Materials for Construction
2. Building Construction
3. Basic Surveying
4. Other Major Topics in Civil Engineering

ABOUT THE AUTHOR

Satheesh Gopi has over 19 years of experience as a hydrographer and over five years of experience as a civil engineer and is currently the deputy director in the Hydrographic Survey Wing of the Kerala Port Department.



ISBN: 9789332575097

Building Construction: Principles, Materials, & Systems, 2/e

Medan Mehta | Walter Scarborough | Diane Armpriest

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ABOUT THE BOOK

The science of building construction and design is evolving more quickly than ever before. Written by an author team with decades of experience in architecture, building construction, engineering, and teaching, ***Building Construction: Principles, Materials & Systems 2nd Edition*** is a comprehensive and fully illustrated introduction to construction methods and materials.

Continuing on with the books unique organization, Principles of Construction are covered in Part One and Materials and Systems of Construction are covered in Part Two. This organization fosters a definitive understanding of general concepts before moving on to more complex concepts.

FEATURES

- Organization and Approach.
  - A unique organization creates an unparalleled exploration of building construction—principles of construction are covered in Part 1, and materials and systems of construction are covered in Part 2—providing students with a balanced learning approach.
  - A focus on principles in Part 1 emphasizes the basic principles common to the performance of most building materials. By doing this in the classroom, the authors have experienced that they can preclude or reduce repetition when progressing from one material or system to another later on in the course. This focus also encourages critical thinking and informed decision making related to building materials and methods of construction. These principles will sustain over time even as materials and systems/assemblies are bound to change.
  - The logical organization in Part 2 presents the materials and systems in an order based on the extent of their use in the working world.
  - Sustainability has always been a cornerstone of coverage in this modern text. A comprehensive chapter and thorough integration of content is featured throughout.
  - Extensive cross-referencing allows for quick and thorough referencing from Part 2 (Materials and Systems) to the underlying principles in Part 1(Principles of Construction). This gives instructors and students maximum flexibility and the ability to start with Part 2 if they prefer. This may be particularly appealing for a one semester course.
- Content, Illustrations, and Pedagogy.
  - Hundreds of original photographs and drawings have been developed specifically for this text—clearly illustrating difficult concepts and ideas.
  - Numerous examples with solutions prepare students for exams and real-world applications.
  - Principles in Practice sections demonstrate practical applications of key concepts and reinforce the fundamentals that will sustain over time.
  - A chapter on “Sustainable Construction” and the Focus on Sustainability boxes highlighted throughout the text address contemporary “green” issues that face the construction industry today.
  - Practice Quizzes are integrated within each chapter allowing readers to test their comprehension before moving on to additional concepts.
  - Expand Your Knowledge boxes offer readers the opportunity to learn more about a relevant topic being discussed in the main body of the text.
  - Margin Notes include additional information and help clarify selected topics.

CONTENTS

Part 1: Principles

1. An Overview of the Building Delivery Process—How Buildings Come into Being
2. Construction Regulations and Standards
3. Loads on Buildings
4. Load Resistance—The Structural Properties of Materials
5. Properties of the Envelope-I: Thermal Properties
6. Properties of the Envelope-II: Air and Water Vapor Control
7. Fire-Related Properties
8. Acoustical Properties of Materials
9. Principles of Joints and Sealants (Expansion and Contraction Control)
10. Principles of Sustainable Construction

Part 2: Materials and Systems

11. Soils and Excavations
12. Below-Grade Construction: Foundation Systems and Basements
13. Materials for Wood Construction-I (Lumber)
14. Materials for Wood Construction-II (Engineered Wood, Fasteners, and Connectors)
15. Wood Light Frame Construction-I
16. Wood Light Frame Construction-II
17. Structural Insulated Panel System Construction
18. The Material Steel and Steel Components
19. Structural Steel Construction
20. Light-Gauge Steel Construction
21. Lime, Portland Cement, and Concrete
22. Concrete Construction-I (Formwork, Reinforcement and Slabs-on-Ground)
23. Concrete Construction-II (Site-Cast and Precast Concrete Systems)
24. Masonry Materials-I (Mortar and Brick)
25. Masonry Materials-II (Concrete Masonry Units, Natural Stone, and Glass Masonry Units)
26. Masonry and Concrete Bearing Wall Construction
27. Exterior Wall Cladding-I (Principles of Rainwater Infiltration Control)
28. Exterior Wall Cladding-II (Masonry, Precast Concrete, and GFRC)
29. Exterior Wall Cladding-III (Stucco, EIFS, Natural Stone, and Insulated Metal Panels)
30. Glass, Glazing and Light-Transmitting Plastics
31. Windows and Doors
32. Exterior Wall Cladding-IV (Glass-Aluminum Wall Systems)
33. Roofing-I (Low-Slope Roofs)
34. Roofing-II (Steep Roofs)
35. Stairs
36. Floor Coverings
37. Ceilings

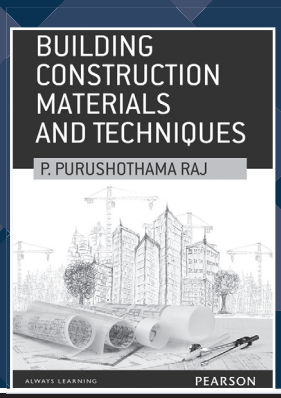
Appendix A System of Units
Appendix B Preliminary Sizing of Structural Members
References and Further Reading
Answers to Quizzes

ABOUT THE AUTHORS

Madan Mehta, B.Arch., M.Bdg.Sc., Ph.D., P.E., is a faculty member at the School of Architecture, University of Texas at Arlington, and teaches courses in construction and structures. He was previously the Director of the Architectural Engineering Program at King Fahd University, Saudi Arabia. A licensed professional engineer (Texas), Fellow of the Institute of Architects (India), and Member of the American Society of Civil Engineers, he has worked in India, Australia, the United Kingdom, Saudi Arabia, and the United States. With academic credentials in both architecture and engineering, he ran a comprehensive architecture/engineering practice while working as a faculty member at the Delhi School of Architecture, and he worked for a large general contractor in the United States during a leave of absence. He is the author of several full-length books and monographs on building construction, architectural structures, and architectural engineering.

Walter R. Scarborough, CSI, SCIP, AIA, is Vice President and Regional Manager for Hall Building Information Group, LLC. He is a specifications consultant and registered architect (Texas) with over 35 years of comprehensive technical architectural experience in specifications, document production, and construction contract administration. He has produced documents and administered construction for a large number and variety of building types. Previously the Director of Specifications for 10 years for one of the largest architectural firms in the world, he was responsible for building sciences research, manager of a department of specifiers, and master specification development and maintenance, in addition to being the specifier for major healthcare, sports, detention, municipal, and commercial projects, some valued in the hundreds of millions of dollars. He is active in the Construction Specifications Institute (CSI) at the local level (past president, secretary, and technical director) and national level (Education Committee and Practice Guide Task team), holds several CSI certifications, is Chairman of the Institute's Education Committee, was awarded CSI's prestigious J. Norman Hunter Memorial Award for advancing building sciences and specifications, and is the revision author for CSI's Project Delivery Practice Guide and its associated education program.

Diane Armpriest, M.L.A., M. Arch., is Associate Professor and Chair, Faculty of Architecture and Interior Design, College of Art and Architecture, University of Idaho. Before joining the faculty in 2001, she worked as an architectural project manager, and as a project developer and construction manager for neighborhood nonprofit housing providers. Her teaching and research interests include the pedagogy of architectural building construction technology, the expression of structure and materials in Northwest regional architecture, and the relationship between building and site. Previously, she was Associate Professor of Landscape Architecture at the University of Cincinnati. Highlights of her work there include research in resource-efficient design and construction and working with students on design-build projects.



ISBN: 9789332544796

Building Construction Materials and Techniques

P. Purushothama Raj

624 | © 2016

ABOUT THE BOOK

Building construction materials and techniques is a subject offered to the students of civil engineering in their second year. This book is written to cover the subject in universities where it is offered as two different subjects as well as universities where it is offered as a combined single subject at the undergraduate level.
Of the 32 chapters in this book, 19 are dedicated to building construction while the remaining 13 focus on building materials. Each chapter is supplemented with numerous self-explanatory illustrations for easy comprehension.

FEATURES

- Lucid coverage of various building materials.
- Elaborate coverage of concrete and precast concrete units.
- Adequate detailing on masonry construction.
- More than 350 review questions, 300 Objective questions and 200 illustrations.
- Highly illustrated with line diagrams, cash-flow diagrams, bar diagrams, line graphs to make the book interactive and easy to understand.

CONTENTS

1. Construction materials
2. Building Stones
3. Bricks
4. Tiles and ceramic materials
5. Lime
6. Cement
7. Mortar
8. Concrete
9. Precast concrete units
10. Wood and wood-based products
11. Metals and alloys
12. Building finishes
13. Other building materials
14. Planning of buildings
15. Foundations
16. Masonry construction
17. Walls
18. Framed structures
19. Arches and Lintels
20. Doors, Windows and ventilators
21. Stairs and elevators
22. Temporary supporting structures
23. Floorings
24. Structural steel works
25. Roofs and roof coverings
26. Plastering and pointing
27. Essential services in buildings
28. Special services in buildings
29. Protection of buildings
30. Maintenance of buildings
31. Construction planning and scheduling
32. Construction equipments

ABOUT THE AUTHOR

P. Purushothama Raj was Former Director, Adhiparasakthi Engineering College. He has over 30 years of teaching experience and has published journals in several national and international journals.

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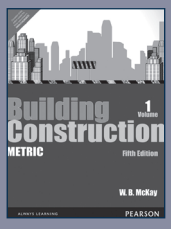
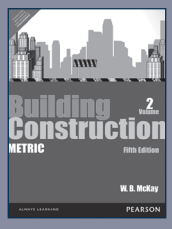


Building Construction, Metric Volume 1, 5/e

ISBN: 9789332508231

Pages: 178



Building Construction, Metric Volume 2, 4/e

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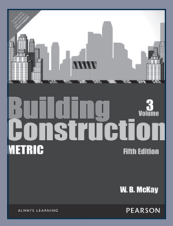

Building Construction, Metric Volume 3, 5/e

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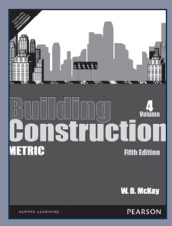
Pages: 172

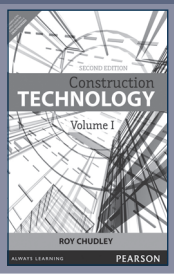


Building Construction, Metric Volume 4, 4/e

ISBN: 9789332508255

Pages: 283

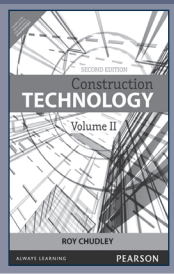
CONSTRUCTION TECHNOLOGY AVAILABLE TITLES



Construction Technology - Volume 1, 2/e

ISBN: 9789332542051

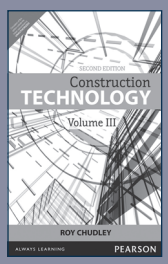
Pages: 264



Construction Technology - Volume 2, 2/e

ISBN: 9789332542068

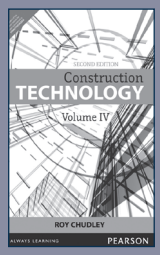
Pages: 248



Construction Technology - Volume 3, 2/e

ISBN: 9789332542075

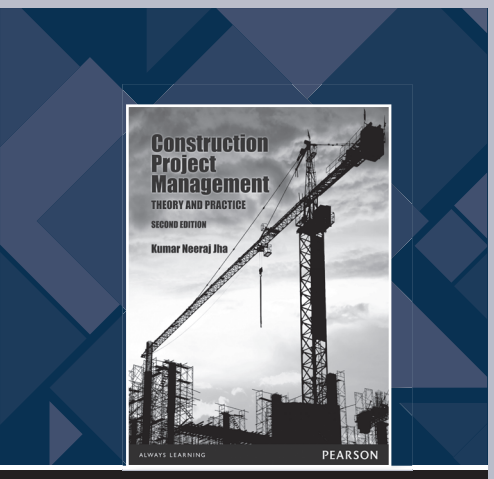
Pages: 256



Construction Technology - Volume 4, 2/e

ISBN: 9789332542082

Pages: 302



ISBN: 9789332542013

Construction Project Management, Theory and Practices, 2/e

Kumar Neeraj Jha

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ABOUT THE BOOK

The revised second edition of ***Construction Project Management*** discusses the various facets of construction project management with a special emphasis on the fundamental concepts. The major principles of project management are explained with the help of real-life case studies. Simple examples are used to facilitate the better understanding of basic concepts before complex problems are discussed.

FEATURES

- Computer applications (Primavera and MS Project) are used to explain planning, scheduling, resource leveling, monitoring and reporting.
- Line diagrams, cash-flow diagrams, bar diagrams and line graphs make the book interactive and easy to understand.
- Real-life examples from the construction sites of the Delhi Metro, the Delhi International Airport construction, etc.
- Case studies on the preparation of documents for ISO 9001:2000, construction disputes, accidents in the construction industry, and preparation of estimates for live projects.
- Additional solved problems in PERT and CPM (NEW).
- Introduction to earthworks and concreting equipment (NEW).
- Chapters on Linear programming and Transportation and Transshipment and Assignment problems (NEW).

CONTENTS

1. Introduction
2. Project Organization
3. Construction Economics
4. Client's Estimation of Project Cost
5. Construction Contract
6. Construction Planning
7. Project Scheduling and Resource Levelling
8. Contractor's Estimation of Cost and Bidding Strategy
9. Construction Equipment Management
10. Construction Accounts Management
11. Construction Material Management
12. Project Cost and Value Management
13. Construction Quality Management
14. Risk and Insurance in Construction
15. Construction Safety Management
16. Project Monitoring and Control System
17. Construction Claims, Disputes, and Project Closure
18. Computer Applications in Scheduling, Resource Levelling, Monitoring, and Reporting
19. Factors Behind the Success of a Construction Project
20. Linear programming
21. Transportation, transshipment and assignment problems

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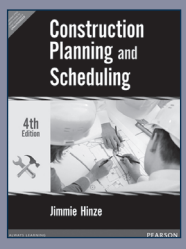
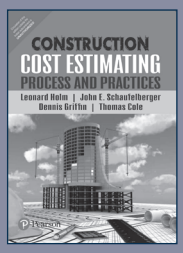


Construction Planning and Scheduling, 4/e

ISBN: 9789332505735

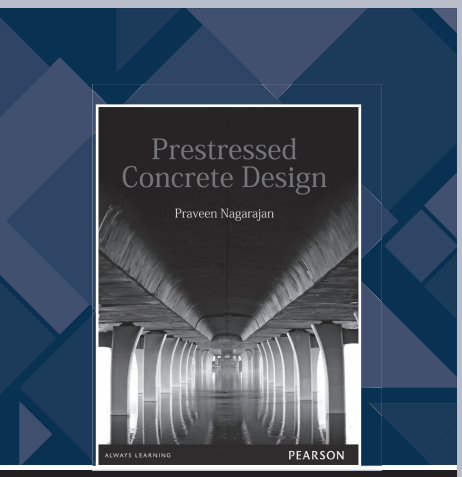
Pages: 264



Construction Cost Estimating: Process and Practices

ISBN: 9789332552623

Pages: 388



ISBN: 9789332513754

Prestressed Concrete Design

Praveen Nagarajan

350 | © **2013**

ABOUT THE BOOK

This book is suited for a first course in ***prestressed concrete design*** offered to senior undergraduate students in civil engineering and postgraduate students in structural engineering. The book focuses on the behaviour of the prestressed concrete structural elements, with emphasis on clarity and precision in its discussions. Carefully chosen worked examples are included to delineate the design aspects while pointed chapter-end questions enable effortless recapitulation of the subject. This book, while being useful to both the students and teachers, will also serve as an invaluable reference for practising engineers.

FEATURES

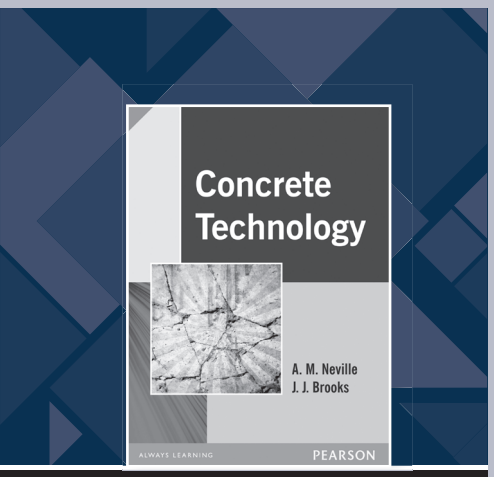
- The code provisions in IS: 1343 are critically analyzed and articulated.
- Design methods for torsion and the strut-and-tie method for bursting forces in anchorage zones are elucidated.
- Design of special structures such as pipes, water tanks and composite beams are unravelled.
- A step-by-step approach of problem-solving is adopted.

CONTENTS

1. Basic Concepts
2. Materials
3. Limit State Design
4. Losses in Prestress
5. Analysis of Sections
6. Shear and Torsion
7. Anchorage Zones
8. Deflections
9. Design of Members
10. Composite Materials
11. Intermediate Structures
12. Slabs

ABOUT THE AUTHOR

Prof Praveen Nagarajan, is Assistant Professor, Department of civil engineering at National Institute of Technology, Calicut. He has published his papers in several national and international journals. He has over 10 years of teaching experience.



ISBN: 9788131705360

Concrete Technology

A. M. Neville | J. J. Brooks

456 | © 2006

ABOUT THE BOOK

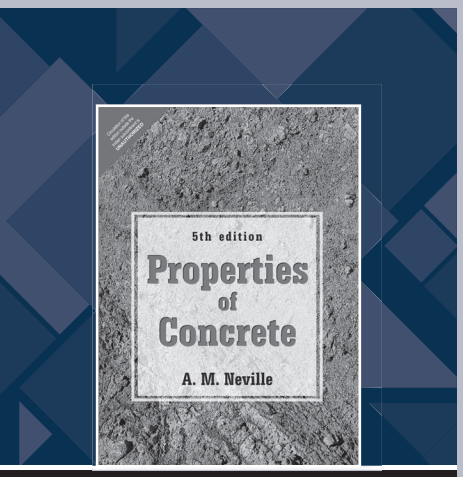
This book gives students of concrete structure and designs a thorough understanding of all aspects of concrete design and technology from first principles. Examples and problems are given throughout to emphasize the important aspects of each chapter. An excellent course book for all students of Civil Engineering, Structural Engineering and Building at a degree or diploma level, this book is a valuable reference book for practicing engineers in the field.

FEATURES

- Covers the fundamentals of concrete technology including concrete ingredients, properties and behaviour in the finished structure.
- Contains only what the student requires.
- Condensed version of well-known Properties of Concrete.

CONTENTS

1. Concrete as a Structural Material
2. Cement
3. Normal Aggregate
4. Quality of Water
5. Fresh Concrete
6. Strength of Concrete
7. Mixing, Handling, Placing, and Compacting Concrete
8. Admixtures
9. Temperature Problems in Concreting
10. Development of Strength
11. Other Strength Properties
12. Elasticity and Creep
13. Deformation and Cracking Independent of Load
14. Permeability and Durability
15. Resistance to Freezing and Thawing
16. Testing
17. Compliance with Specifications
18. Lightweight Concrete
19. Mix Design
20. Special Concretes
21. An Overview
22. Relevant American and British Standards



ISBN: 9788131791073

Properties of Concrete, 5/e

A. M. Neville

872 | © 2012

ABOUT THE BOOK

Since its first publication in 1963, Properties of Concrete has been internationally acclaimed as the definitive work of reference on the subject for both the professional and the student engineer. The book has been translated into 12 languages and has sold well over half a million copies.

FEATURES

- New material includes such topics as self-compacting (self-consolidating) concrete, recycled concrete aggregate, thaumasite sulfate attack, compactability test, and delayed ettringite formation.
- Standards, both American (ASTM) and British/European updated to 2010 are used.
- Both SI and American (Imperial) units are used throughout.
- Includes 1500 full references to the world's literature on concrete and its constituents.
- An extensive subject index containing over 6000 entries provides excellent ease of reference.

CONTENTS

1. Portland Cement
2. Cementitious materials of different types
3. Properties of aggregate
4. Fresh concrete
5. Admixtures
6. Strength of concrete
7. Further aspects of hardened concrete
8. Temperature effects in concrete
9. Elasticity, shrinkage, and creep
10. Durability of concrete
11. Effects of freezing and thawing and of chlorides
12. Testing of hardened concrete
13. Concretes with particular properties
14. Selection of concrete mix proportions (mix design)

ABOUT THE AUTHOR

Adam Neville is a renowned international authority on concrete and author or co-author of nine other books, the latest of which are Neville on Concrete and Concrete: Neville's Insights and Issues, as well as over 250 research and technical papers.

ISBN: 9789332575714

Reinforced Concrete: Mechanics and Design, 6/e

James K. Wight | James G. | MacGregor

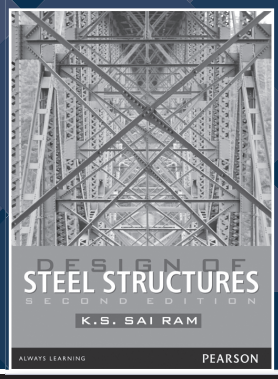
1176 | © 2016

ABOUT THE BOOK

Reinforced concrete design encompasses both the art and science of engineering. This book presents the theory of reinforced concrete as a direct application of the laws of statics and mechanics of materials. A multi-tiered approach makes ***Reinforced Concrete: Mechanics and Design*** an outstanding textbook for a variety of university courses on reinforced concrete design. Topics are normally introduced at a fundamental level, and then move to higher levels where prior educational experience and the development of engineering judgment will be required.

CONTENTS

1. Introduction
2. The Design Process
3. Materials
4. Flexure: Behavior and Nominal Strength of Beam Sections
5. Flexural Design of Beam Sections
6. Shear in Beams
7. Torsion
8. Development, Anchorage, and Splicing of Reinforcement
9. Serviceability
10. Continuous Beams and One-way Slabs
11. Columns: Combined Axial Load and Bending
12. Slender Columns
13. Two-way Slabs: Behavior, Analysis, and Design
14. Two-way Slabs: Elastic and Yield-line Analyses
15. Footings
16. Shear Friction, Horizontal Shear Transfer, and Composite Concrete Beams
17. Discontinuity Regions and Strut-and-tie Models
18. Walls and Shear Walls
19. Design for Earthquake Resistance



ISBN: 9789332542105

Design of Steel Structures, 2/e

K. S. Sai Ram

472 | © 2015

ABOUT THE BOOK

This book on ***Design of Steel Structures*** uses Limit State Method and follows the latest BIS Codes, BIS: 800: 2008.

A perfect mix of theory with relevant applications and inclusion of most recent design methodologies makes this an excellent offering to students and practicing engineers.

FEATURES

- Uses Limit State Design principles.
- Latest BIS Codes: IS: 800: 2007.
- Includes a wide variety of solved and unsolved problems.
- A new chapter on Steel Buildings which includes details of Roof Trusses.
- Detailed coverage of Fillet Weld.
- A new chapter of Steel Bridges.

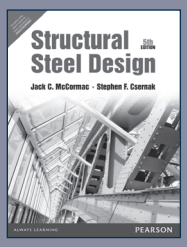
CONTENTS

1. Introduction
2. Structural Steel Fasteners
3. Tension Members
4. Compression Members
5. Beams
6. Gantry Girder
7. Welded Plate Girder
8. Beam-Columns
9. Column Splices and Bases
10. Welded Connections
11. Bolted Connections
12. Light Gauge Steel Sections
13. Composite Construction
14. Steel Buildings
15. Steel Bridges

ABOUT THE AUTHOR

Dr. K. S. Sai Ram is Prof and Head, Department of Civil Engineering at RVR and JC College of Engineering.

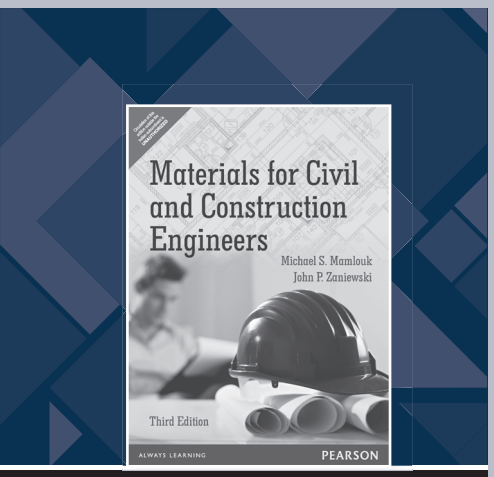
ALSO AVAILABLE



Structural Steel Design, 5/e

ISBN: 9789332505711

Pages: 736



ISBN: 9789332535220

Materials for Civil and Construction Engineers, 3/e

Michael S. Mamlouk | John P. Zaniewski

624 | © 2014

ABOUT THE BOOK

This introduction gives students a basic understanding of the material selection process and the behavior of materials — a fundamental requirement for all civil and construction engineers performing design, construction, and maintenance. The authors cover the various materials used by civil and construction engineers in one useful reference, limiting the vast amount of information available to the introductory level, concentrating on current practices, and extracting information that is relevant to the general education of civil and construction engineers. A large number of experiments, figures, sample problems, test methods, and homework problems gives students opportunity for practice and review.

FEATURES

- This text limits the vast amount of information available on civil and construction engineering to an introductory level, concentrates on current practices, and extracts information that is relevant to the general education of civil and construction engineers. The text is organized into three parts:
  - Introduction to Materials Engineering: The first section introduces the basic mechanistic properties of materials, environmental influences, basic material classes, and the atomic structure of materials.
  - Characteristics of Materials Used in Civil and Construction Engineering: The second section, which represents a large portion of the book, presents the characteristics of the primary material types used in civil and construction engineering: steel, aluminum, aggregate, concrete, masonry, asphalt, wood, and composites.
  - Laboratory Methods for the Evaluation of Materials: The third part of the book is a lab manual that includes typical experiments performed by students at this level.
- The discussion of each type of material includes information on the following:
  - Basic structure of the materials.
  - Material production process.
  - Mechanistic behavior of the material and other properties.
  - Environmental influences.
  - Construction considerations.
  - Special topics related to the material discussed in each chapter.
  - Each chapter includes an overview of various test procedures to introduce the test methods used with each material.
- A large number of figures display concepts and equipment.
- Numerous sample problems and homework problems in each chapter enable professors to vary assignments between semesters.
- A complete set of slides and a solution manual are available to instructors.

CONTENTS

1. Materials Engineering Concepts
2. Nature of Materials
3. Steel
4. Aluminum
5. Aggregates
6. Portland Cement, Mixing Water, and Admixtures
7. Portland Cement Concrete
8. Masonry
9. Asphalt Binders and Asphalt Mixtures
10. Wood
11. Composites

ABOUT THE AUTHORS

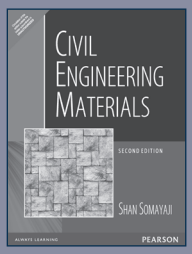
Michael S. Mamlouk is Professor and Associate Chair (Undergraduate Studies) in the School of Sustainable Engineering and the Built Environment at the Arizona State University's Ira A. Fulton Schools of Engineering.

Dr. Mamlouk's main area of expertise includes pavement analysis and design, pavement maintenance and rehabilitation, and highway materials. He has served as the P.I. and Co-P.I. of many research projects sponsored by FHWA, NHI, U.S. Army Corps of Engineers, Arizona DOT, and various local agencies. John

P. Zaniewski is a Professor in Civil and Environmental Engineering at West Virginia University's College of Engineering and Mineral Resources.

Dr. Zaniewski has 16 years of academic experience preceded by 11 years of practicing engineering. In 1996, he accepted the Asphalt Technology Professor position with the Civil and Environmental Engineering faculty at WVU. Dr. Zaniewski has over 50 publications in the areas of pavement design, materials and management systems.

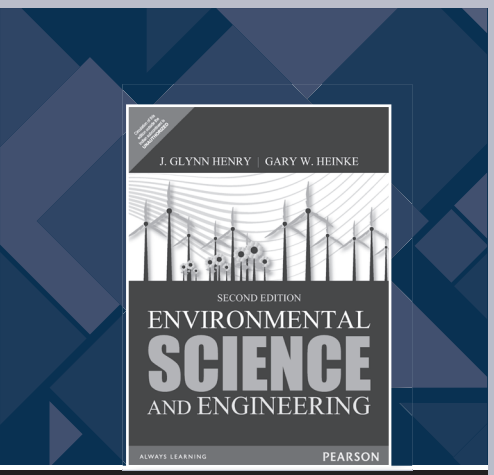
ALSO AVAILABLE



Civil Engineering Materials, 2/e

ISBN: 9788131766316

Pages: 496



ISBN: 9789332551749

Environmental Science and Engineering, 2/e

J. Glynn Henry | Gary W. Heinke

804 | © 2015

ABOUT THE BOOK

For one-term, undergraduate-level courses in Environmental Engineering, Pollution Control, Environmental Control, Human Environmental Systems, and Environmental Management.

Focused on current environmental problems, their causes, effects, and solutions, this text explores the basic nature of the natural systems. Using a technical (quantitative) approach —unusual for a book at the introductory level it maintains a broad perspective that appeals to all students, but at the same time is useful to those proceeding further in environmental or sanitary engineering.

FEATURES

- Features unusually broad and balanced coverage of topics: in addition to the traditional topics of water quality, wastewater treatment, and air pollution, it explains the root causes of environmental problems and clarifies the relationships between natural systems and technology.
- Provides discussions on solid and hazardous wastes, environmental management, and ethics topics seldom found in a single text.
- Offers an authoritative perspective on both theory and practice: the authors are world renowned scientists and engineers with academic and practical experience in environmental matters.
- Discusses the changing role of technology "preventive technology" as an alternative to traditional "end-of-pipe" solutions.
- Considers recent data on the causes of environmental problems population and economic growth, energy growth, natural environmental hazards, and environmental disturbances.
- Expands coverage of scientific background — e.g., atmospheric sciences, Cryptosporidium.
- Updates coverage of water consumption and drinking water standards.
- Expands and updates coverage of water pollution:
- Land-based treatment methods, trickling filters, rotating biological contactors, and dual processes.
- The effect of the new US EPA regulations (40 CFR Part 503 Standards for the Use or Disposal of Sewage Sludge) on future biosolids management.
- The trends in controlling water pollution from source control through collection and treatment to effluent reuse.
- Expands and revises coverage of air pollution — e.g., effects and sources.
- Contains a completely reorganized discussion of solid wastes — e.g., source reduction, separation, recycling, recovery, composting, and incineration (using Detroit as an example).
- Features a completely revised chapter on hazardous waste management, with new, updated tables and sections on: Environmental effects, waste minimization, incineration, co-disposal, etc.
- A summary of the processes used at the 146 hazardous waste treatment facilities in the U.S.
- Site remediation — with a superfund site in Indiana as a case study.
- Updates coverage of environmental management.
- Describes a rational procedure for solving ethical problems.
- Provides data in SI or US units where appropriate.
- Provides figures, illustrations, and photographs throughout.
- Updates charts, graphs, tables, and other data.
- Provides more problems (with solutions) — over 300 total, and more case Studies.
- Includes an extensive list of references for each chapter.

CONTENTS

I. Causes of Environmental Problems

1. The Nature and Scope of Environmental Problems
2. Population and Economic Growth
3. Energy Growth
4. Natural Environmental Hazards
5. Human Environmental Disturbances

II. Scientific Background

6. Physics and Chemistry
7. Atmospheric Sciences

8. Microbiology and Epidemiology
9. Ecology

III. Technology and Control

10. Water Resources
11. Water Supply
12. Water Pollution
13. Air Pollution
14. Solid Wastes
15. Hazardous Wastes
16. Environmental Management

Appendix A. Symbols, Dimensions, and Units
Appendix B. Physical Properties and Constants
Appendix C. Abbreviations and Symbols.ndix D. Special Environmental Problems

ISBN: 9789332549760

Introduction to Environmental Engineering and Science, 3/e

Gilbert M. Masters | Wendell P. Ela

720 | © 2015

ABOUT THE BOOK

Balanced coverage of all the major categories of environmental pollution, with coverage of current topics such as climate change and ozone depletion, risk assessment, indoor air quality, source-reduction and recycling, and groundwater contamination.

FEATURES

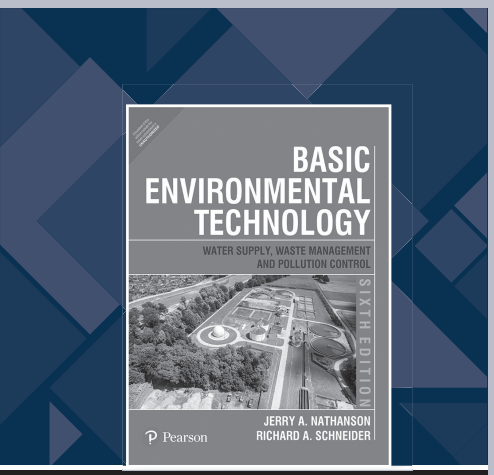
- Risk Assessment (Chapter 4) - separated from hazardous substance legislation and is complete chapter in itself.
- Explores urgent environmental issues that have become the focus of much of the environmental attention in recent years.
  - Global Climate Change
  - Risk Assessment
  - Stratospheric Ozone Depletion
  - Greenhouse effect
  - Indoor air quality
  - Groundwater contamination
  - Acid Deposition
  - Hazardous Waste
- Numerous examples of each quantitative concept - Worked examples in each quantitative section.
- Numerous problems at the end of each chapter.
- Chapter covering Solid Waste Management and Resource Recovery - This chapter focuses on pollution prevention and product stewardship.
- Expanded coverage of water resources and Groundwater remediation - including challenges posed by subsurface contamination of nonaqueous-phase liquids.
- Covers the treatment of hazardous wastes and descriptions of the key pieces of environmental legislation that regulate hazardous substances.

CONTENTS

1. Mass and Energy Transfer
2. Environmental Chemistry
3. Mathematics for Growth
4. Risk Assessment
5. Water Pollution
6. Water Quality Control
7. Air Pollution
8. Global Atmospheric Change
9. Solid Waste Management and Resource Recovery

ABOUT THE AUTHORS

Gilbert M. Masters, Stanford University
Wendell P. Ela, University of Arizona



ISBN: 9789332575134

Basic Environmental Technology, 6/e

Jerry A Nathanson | Richard A Schneider

456 | © 2016

ABOUT THE BOOK

For introductory civil/construction technology program courses in environmental technology, water supply and pollution control, environmental quality control, environmental and sanitary design, and water/wastewater technology.

The clear, up-to-date, practical, visual, application-focused introduction to modern environmental technology.

Now fully updated, ***Basic Environmental Technology, Sixth Edition*** emphasizes applications while presenting fundamental concepts in clear, simple language. It covers a broad range of environmental topics clearly and thoroughly, giving students a solid foundation for further study and workplace success. This edition adds new coverage of environmental sustainability, integrated water management, low impact development, green building design, advanced water purification, dual water systems, new pipeline materials, hydraulic fracturing, constructed wetlands, single stream municipal solid waste recycling, plasma gasification of waste, updated EPA standards, and more. Hundreds of clear diagrams and photographs illuminate key concepts; practice problems and review questions offer students ample opportunity to deepen their mastery. Math is applied at a basic level, and all computations are fully explained with example problems; both U.S. and metric units are used. Students with less academic experience will also appreciate this text's review of basic math, and its basic primers on biology, chemistry, geology, hydrology, and hydraulics.

TEACHING AND LEARNING EXPERIENCE

This easy-to-read text will help technology students quickly understand the latest issues and techniques related to water supply, waste management, and pollution control. It provides:

- **Thorough, up-to-date, application-focused coverage of the field's key issues, challenges, and techniques:** Prepares students for success in roles involving hydraulics, hydrology, water quality, water pollution mitigation, drinking water purification, water distribution systems, sanitary sewers, stormwater management, wastewater treatment/disposal, municipal solid waste, hazardous waste management, and the control of air and noise pollution.
- **Simple and clear, with plenty of numerical examples and basic primers for less prepared students:** Written and designed for maximum accessibility, with introductory math and science primers for every student who needs them, and step-by-step walkthrough examples for all significant computations.
- **Hundreds of diagrams and photos, and extensive pedagogical resources for faster, more intuitive learning:** Teaches visually and through example wherever possible; contains clear chapter summaries, an expanded glossary, and comprehensive, updated Instructor's materials.

FEATURES

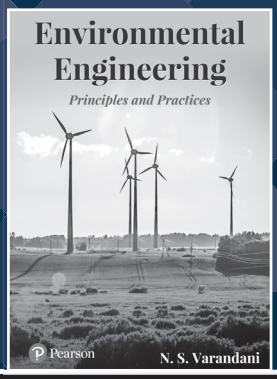
- **Thorough, up-to-date, application-focused coverage of the field's key issues, challenges, and techniques:**
  - **Fully addresses all facets of environmental technology related to water supply, waste management, and pollution control**—preparing students to enter any organization involved with environmental technology.
  - **Teaches through real-world applications**—linking concepts to real-world issues that will be relevant to students.
  - **NEW! Discusses environmental sustainability, integrated water management, low impact development, and green building design throughout the book**—ensuring that students understand the field's most significant trends and opportunities.
  - **NEW! Offers expanded coverage of advanced wastewater treatment and recycling, especially membrane filtration technology**—enabling students to participate in advanced wastewater treatment projects.
  - **NEW! Covers many significant new topics and trends, including dual water systems, new pipeline materials, environmental impacts of hydraulic fracturing (fracking), constructed wetlands, single stream municipal solid waste recycling, and plasma gasification of solid and hazardous waste**—preparing students to participate in cutting-edge projects for many years to come.

- **NEW! Reflects updated water and air quality standards and regulations, including the EPA's determination that CO2 is an air pollutant that can harm public health and welfare by causing global warming and climate change**—preparing students to help organizations respond to the latest government regulations.
  - **NEW! Contains expanded discussions of environmental education, certification, and employment**—giving students up-to-date information and guidance for finding jobs in the field.
  - **NEW! Introduces LEED green building project certification**—showing students how to earn the green building industry's most valuable credentials.
  - **Simple and clear, with plenty of numerical examples and basic primers for less prepared students:**
  - **NEW! Contains hundreds of up-to-date, application-focused practice and review questions**—giving students all the quantitative problem-solving practice they need to succeed.
  - **Reviews all the basic math students need to perform this book's calculations**—ensuring that students can accurately perform environmental computations, even if they have limited backgrounds in mathematics.
  - **Contains basic primers on biology, chemistry, geology, hydrology, and hydraulics**—getting students up-to-speed on the essentials of each key science related to environmental technology.
  - **Uses both US customary and SI metric units throughout the text and in example problems, and includes a discussion of unit measurements and unit conversions**—preparing students to work in global environments that may use metric or US units, or both.
- **Hundreds of diagrams and photos, and extensive pedagogical resources for faster, more intuitive learning:**
  - **Line drawings, diagrams, and two-tone photos throughout**—making virtually all key topics easier to understand.
  - **Clear chapter synopses**—emphasizing key points, and promoting more efficient review.
  - **NEW! Provides expanded glossary and acronyms lists**—giving students a single source for definitions and explanations of key environmental technology terms and acronyms.
  - **NEW! Expanded online Instructor's Resources materials, including worked solutions to all practice problems, text-page references for answers to review questions, supplemental problems, 100 + multiple-choice test Q&As, additional test problems and project assignments, photos, web/video links, and more**—helping instructors teach more effectively and efficiently, regardless of their program or the types of students they serve.

CONTENTS

1. Basic Concepts
2. Hydraulics
3. Hydrology
4. Water Quality
5. Water Pollution
6. Drinking Water Purification
7. Water Distribution Systems
8. Sanitary Sewer Systems
9. Stormwater Management
10. Wastewater Treatment and Disposal
11. Municipal Solid Waste
12. Hazardous Waste Management
13. Air Pollution and Control
14. Noise Pollution and Control

Appendix A. Environmental Impact Studies and Audits
Appendix B. Education, Employment, Licensing, and Certification
Appendix C. LEED Green Building Project Certification Process
Appendix D. Review of Basic Mathematics, Units, and Unit Conversions
Appendix E. Glossary and Abbreviations
Appendix F. Answers to Practice Problems
Index



ISBN: 9789332581951

Environmental Engineering: Principles and Practices

N. S. Varandani

592 | © 2017

ABOUT THE BOOK

The book is aimed at covering the syllabi requirements of ***Environmental Engineering-I*** offered to the undergraduate students of civil engineering. Volume I has been designed and organized to incorporate varied topics on environmental engineering that includes environmental microbiology, house drainage, environmental impact assessment, environmental audit and the complete design of water treatment plant.

FEATURES

- Extensive coverage of basic to advanced water treatment methods.
- Noise and noise pollution control strategies are explained in detail.
- Exclusive chapter on Environmental Impact Assessment and Environmental Audit.

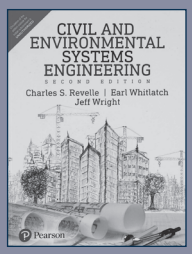
CONTENTS

1. Environment and Its Components
2. Environmental Microbiology
3. Quantity of Water
4. Quality of Water
5. Wastewaters: Types, Effects and Characteristics
6. Industrial Wastes: Origin, Characteristics and Treatment
7. Air Pollution: Sources and Effects
8. Air Pollution: Pollutant Control SyStem
9. Solid Waste Management: Generation, Collection and Transportation
10. Solid Waste Management: Processing, Treatment and Landfilling
11. Noise: Sources and Control
12. House Drainage
13. Environmental Impact Assessment and Audit
14. Water Treatment Systems

ABOUT THE AUTHOR

Prof. Dr N. S. Varandani had a long academic career spanning over 30 years. He had been teaching different subjects of Environmental Engineering at the Department of Environmental Engineering, L. D. College of Engineering, since 1988.He has guided more than 100 theses of master degree, published technical papers in national journals and delivered expert lectures on different environmental issues. He was the recipient of Dr Vikram Sarabhai Award for Science and Technology, 2009 for developing "Integrated Air Pollution Control System for Foundry Industry" and was a member of several government and non-government organisations contributing towards environment protection and management.

➦ ALSO AVAILABLE...



Civil and Environmental Systems Engineering, 2/e

ISBN: 9789332575752

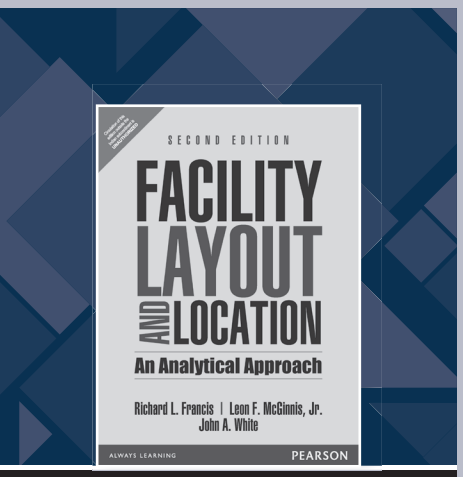
Pages: 520

Pearson

Environmental Engineering: A Design Approach

ISBN: 9789332549630

Pages: 816



ISBN: 9789332551787

Facility Layout and Location: An Analytical Approach, 2/e

Richard L. Francis | Lenn F. McGinnis Jr. | John A. White

608 | © 2015

ABOUT THE BOOK

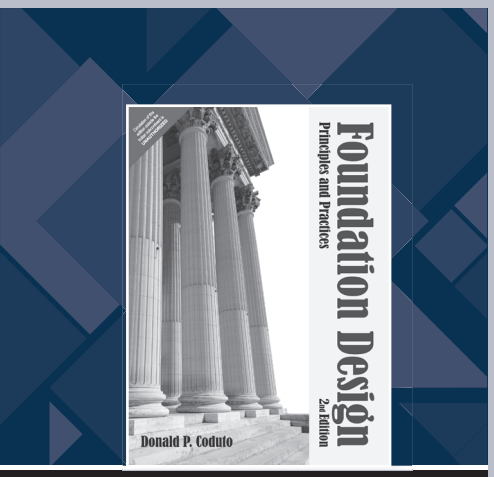
A comprehensive introduction to quantitative methods for facility layout and location.

FEATURES

- Treats problems of facility layout and location together and views them a "layout problem in the large."
- Introduces the field's issues and literature, along with basic tools and methodologies.
- Contains basic design and layout approaches and problem definitions.
- Contains extensive figures and tables, and numerical examples.

CONTENTS

1. Introduction
2. The Plant Layout Problem
3. Computerized Layout Planning
4. Planar Single Facility Location Problems
5. Storage Systems Layout
6. Planar Multifacility Location Problems
7. Network Location Problems
8. Cyclic Network Location Problems
9. Advanced Discrete Location Models



ISBN: 9789332535008

Foundation Design: Principles and Practices, 2/e

Donald P. Coduto

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ABOUT THE BOOK

Covers the subject matter thoroughly and systematically, while being easy to read. Emphasizes a thorough understanding of concepts and terms before proceeding with analysis and design, and carefully integrates the principles of foundation engineering with their application to practical design problems.

FEATURES

- NEW - Expanded coverage of earth retaining structures—Features separate full chapters on cantilever walls and sheet pile walls.
- New A chapter on reliability-based design, reorganized chapters on deep foundations.
- NEW - Revised coverage of laterally loaded deep foundations.
- NEW - Expanded discussions of dynamic methods of deep foundation analysis.
- A multidisciplinary approach—Integrates geotechnical, structural, and construction aspects of foundation engineering.
- A strong presentation of basic principles and the underlying assumptions.
- Practical solutions to real design problems.
- Frequent references to uncertainties and reliability issues.
- Coverage of both geotechnical and structural issues.
- Extensive use of example problems.
- Questions and Practice Problems—Includes numerical problem solving, definitions, and short essay questions.
- Comprehensive problems at the end of each chapter.

NEW TO THIS EDITION

- Expanded coverage of earth retaining structures—Features separate full chapters on cantilever walls and sheet pile walls.
- A chapter on reliability-based design.
- Reorganized chapters on deep foundations.
- Revised coverage of laterally loaded deep foundations.
- Expanded discussions of dynamic methods of deep foundation analysis.
- More emphasis on the differences between strength requirements and serviceability requirements.

CONTENTS

I. General Principles
1. Foundations in Civil Engineering
2. Performance Requirements
3. Soil Mechanics
4. Site Exploration and Characterization

II. Shallow Foundation Analysis and Design
5. Shallow Foundations
6. Shallow Foundations—Bearing Capacity
7. Shallow Foundations—Settlement
8. Spread Footings—Geotechnical Design
9. Spread Footings—Structural Design
10. Mats

III. Deep Foundation Analysis and Design
11. Deep Foundations
12. Deep Foundations—Structural Integrity
13. Deep Foundations—Axial Load Capacity Based on Static Load Tests
14. Deep Foundations—Axial Load Capacity Based on Analytical Methods
15. Deep Foundations—Axial Load Capacity Based on Dynamic Methods
16. Deep Foundations—Lateral Load Capacity
17. Deep Foundations—Design

IV. Special Topics
18. Foundations on Weak and Compressible Soils
19. Foundations on Expansive Soils
20. Foundations on Collapsible Soils
21. Reliability-Based Design

V. Earth Retaining Structure Analysis And Design
Earth-Retaining Structures
22. Lateral Earth Pressures
23. Cantilever Retaining Walls
24. Sheet Pile Walls
Appendix A: Unit Conversion Factors
Appendix B: Computer Software

ABOUT THE AUTHOR

Donald P. Coduto, Professor of Civil Engineering, California State Polytechnic University, Pomona

ISBN: 9789332587427

Geotechnical Engineering; Principles & Practices, 2/e

Donald P. Coduto | Man-chu | Ronald Yeung | William A. Kitch

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ABOUT THE BOOK

This introductory geotechnical engineering textbook explores both the principles of soil mechanics and their application to engineering practice. It offers a rigorous, yet accessible and easy-to-read approach, as well as technical depth and an emphasis on understanding the physical basis for soil behavior.

The second edition has been revised to include updated content and many new problems and exercises, as well as to reflect feedback from reviewers and the authors' own experiences.

FEATURES

- Clear and detailed explanations of soil mechanics principles.
- Applications of soil mechanics principles to practical geotechnical engineering problems.
- Offers a full chapter on engineering geology.
- Contains over 90 example problems, and 400 review questions and practice problems.

CONTENTS

1. Introduction to Geotechnical Engineering
2. Engineering Geology
3. Site Exploration and Characterization
4. Soil Composition
5. Soil Classification
6. Excavation, Grading, and Compacted Fill
7. Groundwater–Fundamentals and One-Dimensional Flow
8. Groundwater–Multidimensional Flow and Applications
9. Stress
10. Compressibility and Settlement
11. Rate of Consolidation
12. Soil Strength
13. Stability of Earth Slopes
14. Foundations
15. Spread Footing Design
16. Earth Retaining Structures
17. Lateral Earth Pressures

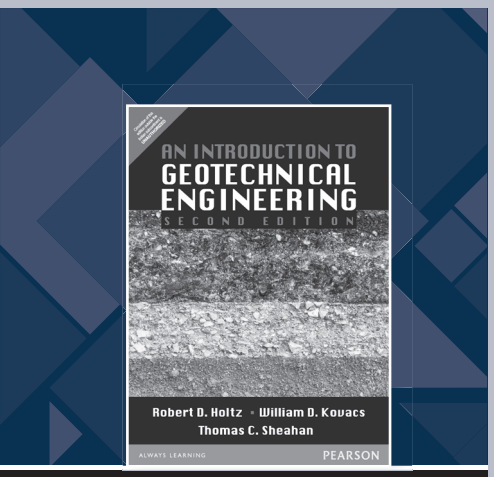
Appendix A Recommended Resources for Further Study
Appendix B Unit Conversion Factors
Appendix C Field Identification of Soils
Appendix D Finite Difference Solutions to Flow Problems

ABOUT THE AUTHORS

Donald P. Coduto is currently a professor of geotechnical engineering and chair of the Civil Engineering Department at the California State Polytechnic University, Pomona. He is an ASCE Fellow, a licensed Civil Engineer and a licensed Geotechnical Engineer, and has worked on a variety of geotechnical projects for both private and public sector clients.

Dr. Man-chu Ronald Yeung is currently a professor of civil engineering at the California State Polytechnic University, Pomona. Dr. Yeung had worked for several consulting firms and taught at several universities including Montana Tech, San Jose State University, and The University of Hong Kong.

Dr. William A. Kitch is currently an associate professor of civil engineering at the California State Polytechnic University, Pomona. He is a retired Lt Col in the US Air Force and had over 23 years of practicing engineering experience in both the private and public sectors. He is a registered Civil Engineer in California and Colorado.



ISBN: 9789332507616

An Introduction to Geotechnical Engineering, 2/e

Robert D. Holtz | William D. Kovacs | Thomas C. Sheahan

864 | © 2013

ABOUT THE BOOK

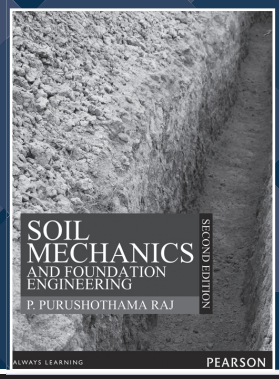
An Introduction to Geotechnical Engineering 2/e, provides a descriptive, elementary introduction to "geotechnical engineering" with applications to civil engineering practice. It focuses on the engineering classification, behavior, and properties of soils necessary for the design and construction of foundations and earth structures. It includes chapters on Geology, Landforms, and the Origin of Geomaterials. The book has been updated to include many new useful engineering property correlations, as well as units on both SI and customary engineering. It also covers an introduction to vibratory and dynamic compaction, the method of fragments, the Schmertmann procedure for determining field compressibility, secondary compresson, liquefaction, and an extensive use of the stress path method.

FEATURES

- Focuses on the engineering classification, behavior, and properties of soils necessary for the design and construction of foundations and earth structures.
- Introduces vibratory and dynamic compaction, the method of fragments, the Schmertmann procedure for determining field compressibility, secondary compression, liquefaction, and an extensive use of the stress path method.

CONTENTS

1. Introduction to Geotechnical Engineering
2. Index and Classification Properties of Soils
3. Geology, Landforms, and the Origin of Geo-Materials
4. Clay Minerals, Soil and Rock Structures, and Rock Classification
5. Compaction and Stabilization of Soils
6. Hydrostatic Water in Soils and Rocks
7. Fluid Flow in Soils and Rock
8. Compressibility of Soil and Rock
9. Time Rate of Consolidation
10. Stress Distribution and Settlement Analysis
11. The Mohr Circle, Failure Theories, and Strength Testing of Soil And Rocks
12. An Introduction to Shear Strength of Soils and Rock
13. Advanced Topics in Shear Strength of Soils and Rocks



ISBN: 9788131790816

Soil Mechanics and Foundation Engineering, 2/e

P. Purushothama Raj

928 | © 2013

ABOUT THE BOOK

The principles of soil mechanics and foundation engineering are dealt with in an elegant, yet simplified, manner in this text. It presents all the material required for a firm background in the subject, reinforcing theoretical aspects with sound practical applications.

The study of soil behavior is made lucid through precise treatment of the factors that influence it.

FEATURES

- The measurement of soil properties is dealt with the conventions of the Bureau of Indian Standards. This included the methods of data collection, computation and presentation of results and limitations.
- Design of shallow foundations, pile foundations, drilled piers and caissons.
- Discusses the latest techniques of ground investigation and soil improvement.

CONTENTS

1. Soil Formation and Composition
2. Index Properties of Soils
3. Identification and Classification of Soils
4. Compaction of Soils
5. Permeability and Capillarity
6. Seepage
7. Stress and Stress Distribution in Soil
8. Consolidation and Consolidation Settlement
9. Shear Strength of Soils
10. Laboratory Measurement of Soil Properties
11. Lateral Earth Pressure
12. Earth- Retaining Structures
13. Stability of Slopes
14. Bearing Capacity of Soils
15. Shallow Foundations
16. Pile Foundation
17. Drilled Piers and Caisson Foundations
18. Ground Investigation
19. Soil Improvement
20. Embankment Dams
21. Dynamic Loading of Soil
22. Environmental Geotechnology
23. Introductory Rock Mechanics
24. 24. Pavements

ABOUT THE AUTHOR

Dr. P Purushothama Raj is Principal, Sri Aravindar Engineering College, Villupuram.

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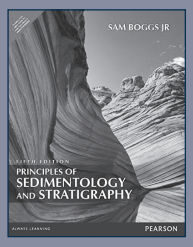
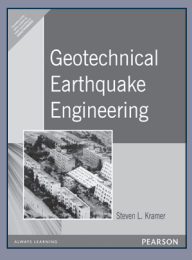


Principles of Sedimentology and Stratigraphy, 5/e

ISBN: 9789332570955

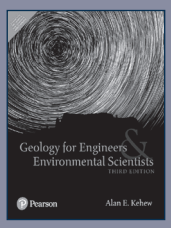
Pages: 568



Geotechnical Earthquake Engineering

ISBN: 9788131707180

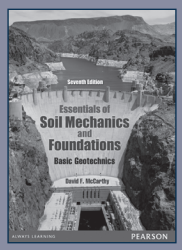
Pages: 672



Geology for Engineers and Environmental Scientists, 3/e

ISBN: 9789332581289

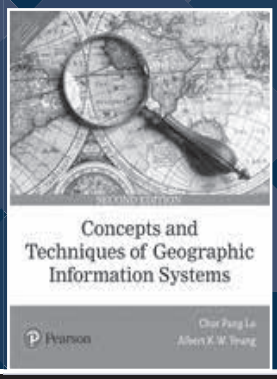
Pages: 712



Essentials of Soil Mechanics and Foundations: Basic Geotechnics, 7/e

ISBN: 9789332542020

Pages: 848



ISBN: 9789332581883

Concepts and Techniques of Geographic Information Systems, 2/e

Chor Pang Lo | Albert K. W. Yeung

552 | © 2016

ABOUT THE BOOK

For ***Geographic Information Systems*** courses held in departments of Geography or Anthropology.

Fully updated to reflect advances in GIS concepts and techniques, this text approaches the subject from the broader context of information technology. Complete, up-to-date coverage is given to the concepts and techniques pertaining to every stage of the systems development life cycle of GIS, as well as its applications to various areas of spatial problem solving and decision making. Emphasizes GIS and mainstream IT integration. Explores new spatial analysis techniques/landscape metrics. Expands discussion of geovisualization. Examines new terrain data acquisition by LiDAR. Covers emerging technology in mobile computing and location-based services.

FEATURES

- Coverage of topics that are often not adequately covered in other GIS texts - Includes the principles and practice of information resource management, information system development methodology, spatial database modeling and design, and more.
- Emphasis on spatial modeling and modeling with examples of application - Shows students how to correctly use GIS to solve problems.
- Full discussion on data quality and data standard.
- Detailed and up-to-date references.
- Two useful appendices - Includes Internet Resources and a GIS glossary.
- A Summary in every chapter.
- Numerous figures and diagrams.

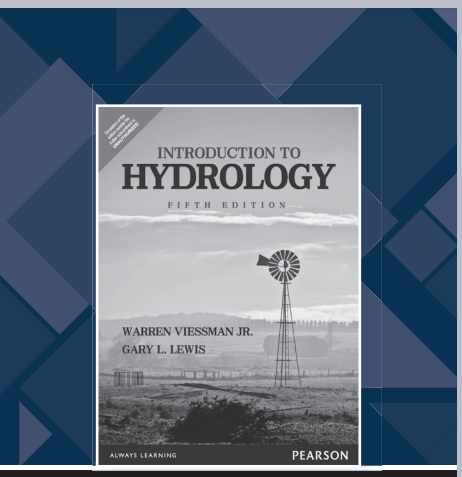
CONTENTS

1. Introduction to Geographic Information Systems (GIS)
2. Maps and Geospatial Data
3. Digital Representation and Organization of Geospatial Data
4. Geospatial Data Quality and Standards
5. Raster Geoprocessing
6. Vector Geoprocessing
7. Geovisualization and Geospatial Information Products
8. Remote Sensing and GIS Integration
9. Digital Terrain Modeling
10. Spatial Data Analysis, Modeling and Mining
11. GIS Implementation and Project Management
12. GIS Issues and Prospects

Appendix A: Internet Resources for GIS
Appendix B: Glossary of GIS Terms

ABOUT THE AUTHORS

Chor Pang Lo, Albert K.W. Yeung



ISBN: 9789332555297

Introduction to Hydrology, 5/e

Warren Viessman Jr. | Gary L. Lewis

624 | © 2015

ABOUT THE BOOK

For students who expect to become involved in programs that are concerned with the development, management and protection of water resources.

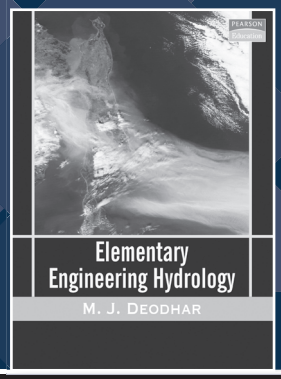
The Fifth Edition of ***Introduction to Hydrology*** has been redesigned to better acquaint future water engineers, scientists and managers with the basic elements of the hydrologic cycle. Its focus is on presenting the principles of hydrology in the context of their application to real-world problems. The book identifies data sources, introduces statistical analyses in the context of hydrologic problem-solving, covers the components of the hydrologic budget, discusses hydrograph analysis and routing, and introduces groundwater hydrology, urban hydrology, hydrologic models and hydrologic design. Many solved examples and problems serve to amplify the concepts presented in the text. Computer applications are discussed and appropriate Web addresses are provided.

FEATURES

- NEW - Topical organization—Covers underlying principles of hydrology in chapters 1 - 10 while chapters 11 - 13 cover application of these principles to practical problems in the field.
- Provides logical course development and basis for advanced studies in hydrology.
- NEW - Comprehensive coverage.
- Covers all aspects of the hydrologic cycle, and the manner in which they may be modified to deal with floods, droughts, potable water supply and urban drainage. Chapters 1, 4-8, and 10 cover the key components of the hydrologic cycle and chapters 11 - 13 and section 10.6 cover measures that can be taken to develop and control water.
- Numerous solved examples—Using both English and metric units.
- Enhances student comprehension and aids in homework and test preparation.
- Presentation of hydrologic models and modeling.
- Provides practice-oriented experiences for students and demonstrates how the basic hydrologic processes can be incorporated into engineering designs and water resources management processes.

CONTENTS

1. Introduction
2. Hydrologic Measurements and Data Sources
3. Statistical Methods In Hydrology
4. Precipitation
5. Interception and Depression Storage
6. Evaporation and Transpiration
7. Infiltration
8. Surface Water Hydrology
9. Hydrographs
10. Groundwater Hydrology
11. Urban Hydrology
12. Hydrologic Simulation and Streamflow Synthesis
13. Hydrology in Design



ISBN: 9788131708057

Elementary Engineering Hydrology, 1/e

M. J. Deodhar

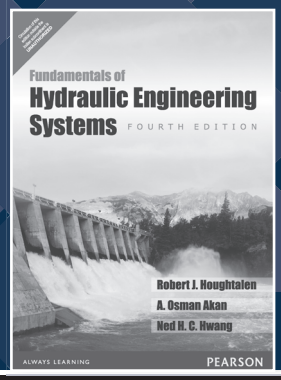
408 | © **2009**

ABOUT THE BOOK

Elementary Engineering Hydrology is a textbook for undergraduate and diploma students of civil engineering. It provides a comprehensive coverage of all the essential aspects of hydrology. To make it easy for students to grasp the concepts, all important topics have been divided into sub-topics, lending clarity to the subject matter. The text is interspersed with numerous figures and tables, and a wide range of solved problems to illustrate the underlying concepts and techniques effectively. Simple and comprehensible for beginners in the course, this book also contains a host of additional information, by way of appendices, including India's National Water Policy, water resources of India and also a guide to using survey maps. These features of the book will make it an invaluable reference book for practicing engineers as well.

FEATURES

- Chapter organization based on the progression of the stages of the hydrologic cycle
- Inclusion of recent developments in the field of discharge measurement of high velocity fluids, and rainfall simulation to measure the infiltration rate
- Separate chapters devoted to evaporation and transpiration, precipitation, infiltration, discharge measurement, etc.
- An excellent selection of a wide range of solved problems, interspersed in the text as well as at the end of each chapter
- Review questions, objective-type questions and numerous practice problems to aid self-study



ISBN: 9789332507593

Fundamentals of Hydraulic Engineering Systems, 4/e

Robert Houghtalen | **A. Osman Akan** | **Ned H. C Hwang**

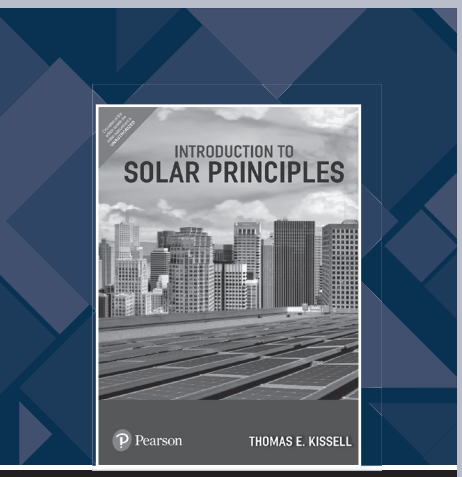
496 | © **2013**

ABOUT THE BOOK

This fundamental treatment of engineering hydraulics balances theory with practical design solutions to common engineering problems. The author examines the most common topics in hydraulics, including hydrostatics, pipe flow, pipelines, pipe networks, pumps, open channel flow, hydraulic structures, water measurement devices, and hydraulic similitude and model studies. Chapters dedicated to groundwater, deterministic hydrology, and statistical hydrology make this text ideal for courses designed to cover hydraulics and hydrology in one semester.

FEATURES

- Examples and homework problems are provided for every major topic covered in the book
- Many software-friendly topics in hydraulics are provided, reflecting the wide use of software in engineering practice to accelerate and simply the design and analysis process
- Use of off-the-shelf software is encouraged throughout.



ISBN: 9789332587038

Introduction to Solar Principles, 1/e

Thomas E. Kissell

320 | © 2017

ABOUT THE BOOK

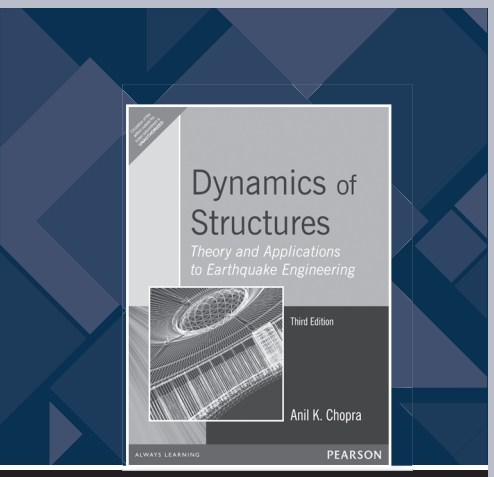
This book explains the basic principles of solar energy used to create electricity through photovoltaic (PV) cells or solar heating for hot water and residential and commercial heating systems. The book will help prepare students for green energy jobs such as selling, installing, troubleshooting and repair of solar energy systems.

FEATURES

- Overview of the chapter is at the beginning which will help students easily understand what to expect.
- Each chapter provides in depth pictures and diagrams showing students how to install and repair solar energy system.
- Provides detailed electrical information that is needed to understand electronic inverters and electrical circuits commonly found in solar energy equipment.
- Provides in depth detailed information about how photovoltaic (PV) cells are manufactured and how they are installed and connected into stand alone systems that charge batteries or how they are connected directly into the electrical grid system.

CONTENTS

1. Intro. to Solar Energy
2. Electical and Energy Demand for the US and the World
3. Types of Solar Energy Systems
4. Solar Energy Installations and Solar Farms
5. Basic Photovoltaic Principles and Types of Solar PV Cells
6. Construction and Manufacturing of Solar PV Cells
7. Basic Electrical Principles Used for Solar PV Systems
8. Photovoltaic Controllers and Inverters
9. Storing Electrical Energy and Batteries
10. The Grid and Integration of Solar Generated Electricity Into the Grid
11. Installing, Troubleshooting, and Maintaining Solar Energy Systems
12. Electricity and Electronics for Solar Energy Systems



ISBN: 9788131713297

Dynamics of Structures, 3/e

Anil K. Chopra

914 | © 2007

ABOUT THE BOOK

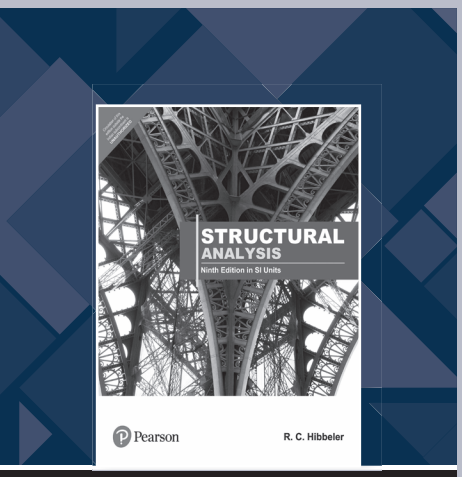
Designed for senior-level and graduate courses in ***Dynamics of Structures*** and Earthquake Engineering. The text includes many topics encompassing the theory of structural dynamics and the application of this theory regarding earthquake analysis, response, and design of structures. No prior knowledge of structural dynamics is assumed and the manner of presentation is sufficiently detailed and integrated, to make the book suitable for self-study by students and professional engineers.

FEATURES

- Section on application of the inelastic design spectrum to structural design–For allowable ductility, seismic evaluation of existing structures, and displacement-based structural design.
- Examples on dynamics of bridges and their earthquake response.
- Incorporation of three building codes and inclusion of the Eurocode.
- Theory of dynamic response of structures–Presented in a manner that emphasizes physical insight into the analytical procedures.
- Structural dynamics theory–Applied to conduct parametric studies that bring out several fundamental issues in the earthquake response and design of multistory buildings.
- Analytical procedures–Illustrated by over 100 worked out examples.
- Over 400 figures carefully designed and executed to be pedagogically effective.

CONTENTS

1. Single-Degree-of-Freedom Systems
2. Multi-Degree-of-Freedom Systems



ISBN: 9789332586147

Structural Analysis, 9/e (In SI Units)

R. C. Hibbeler

722 | © 2017

ABOUT THE BOOK

Structural Analysis provides students with a clear and thorough presentation of the theory and application of structural analysis as it applies to trusses, beams, and frames. Emphasis is placed on teaching students to both model and analyze a structure. Hibbeler's problem solving methodology, Procedures for Analysis, provides students with a logical, orderly method to follow when applying theory.

FEATURES

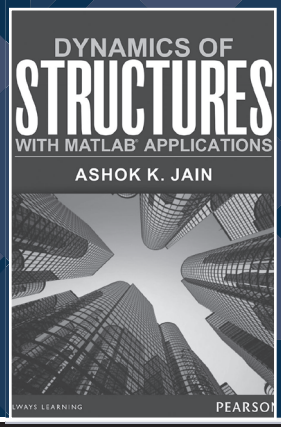
- Homework Problems - stress practical, realistic situations encountered in professional practice, with several levels of difficulty to give students the practice they need.
- Procedures for Analysis provide students with a logical and orderly method for applying theory and building problem-solving skills. The Example Problems are then solved using this outlined method.
- Example Problems - The worked examples illustrate the application of fundamental theory to practical engineering problems and reflect problem-solving strategies discussed in associated Procedures for Analysis.
- Important Points - Important Points summarize the most significant concepts in a section, and highlight the points that should be used when applying the theory to solve problems.
- End-of-Chapter Review includes each Important Point, accompanied by the relevant equation and art from the chapter, providing students with a concise tool for studying.

CONTENTS

1. Types of Structures and Loads
2. Analysis of Statically Determinate Structures
3. Analysis of Statically Determinate Trusses
4. Internal Loadings Developed in Structural Members
5. Cables and Arches
6. Influence Lines for Statically Determinate Structures
7. Approximate Analysis of Statically Indeterminate Structures
8. Deflections
9. Deflections Using Energy Methods
10. Analysis of Statically Indeterminate Structures by the Force Method
11. Displacement Method of Analysis Slope-Deflection Equations
12. Displacement Method of Analysis: Moment Distribution
13. Beams and Frames Having Nonprismatic Members
14. Truss Analysis Using the Stiffness Method
15. Beam Analysis Using the Stiffness Method
16. Plane Frame Analysis Using the Stiffness Method
17. Structural Modeling and Computer Analysis

ABOUT THE AUTHOR

R. C. Hibbeler currently teaches both civil and mechanical engineering courses at the University of Louisiana, Lafayette. In the past he has taught at the University of Illinois at Urbana, Youngstown State University, Illinois Institute of Technology, and Union College.



ISBN: 9789332558557

Dynamics of Structures with MATLAB® Applications

Dr. Ashok K. Jain

672 | © 2016

ABOUT THE BOOK

The text is conceived as a textbook for senior-level and graduate courses in ***Dynamics of Structures***. It includes topics in the theory of structural dynamics, and applications of this theory to earthquake analysis, response, design, and evaluation of structures.

The text provides engineering students with an understanding of the dynamic response of structures and the analytical tools to determine such responses. This comprehensive text demonstrates how modern theories and solution techniques can be applied to a large variety of practical, real-world problems.

FEATURES

- Covers computation of dynamic wind load, Non-linear analysis parameters.
- Refers to Indian codes, ASCE-7, and Euro code 1998-Part-1.
- Illustrates the application of MATLAB through programmes developed using basic tools.
- Application of SAP 2000, ETABS programmes.

CONTENTS

Part 1 Single-Degree of Freedom Systems

1. Introduction to Structural Dynamics
2. Single Degree of Freedom System: Free Vibrations
3. Single Degree of Freedom System: Harmonic Loading
4. Single Degree of Freedom System: Periodic Loading
5. Single Degree of Freedom System: Impulse Loading
6. Single Degree of Freedom System: Machine Vibrations
7. Direct Integration of Equation of Motion
8. Elastic Response Spectra

Part 2 Multi-Degree of Freedom Systems

9. Two-degree of Freedom System
10. Multi-degree of Freedom Systems
11. Systems with Distributed Mass and Elasticity

Part 3 Application to Earthquake Engineering

12. Analysis of Buildings for Earthquake Force
13. Nonlinear Analysis of Structures
14. Performance-based Seismic Design of Structures

Part 4 Wind Load

15. Wind Load

Appendix 1 Measuring Earthquakes: Magnitude and Intensity

Appendix 2 MATLAB Basics

Answers to Selected Problems

ABOUT THE AUTHOR

Dr Ashok K. Jain is Professor of Civil Engineering at the Indian Institute of Technology, Roorkee. A recipient of several awards, he has been a research fellow at the University of Michigan; a visiting Professor at the McGill University, Montreal; Director, Malaviya National Institute of Technology, Jaipur; and Head of Civil Engineering Department, I.I.T. Roorkee.

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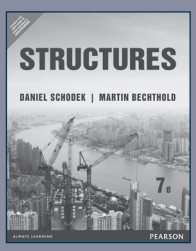
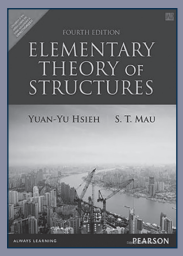


Structures, 7/e

ISBN: 9789332549869

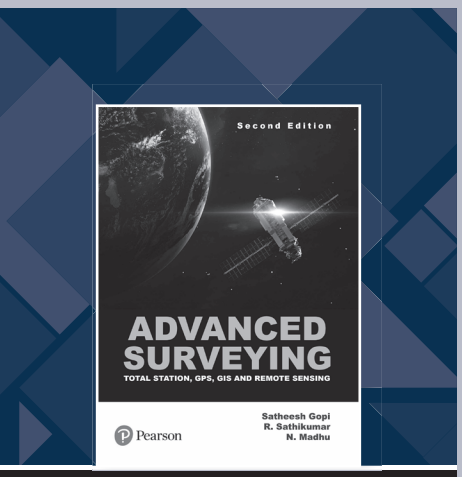
Pages: 528



Elementary Theory of Structures, 4/e

ISBN: 9789332559479

Pages: 432



ISBN: 9789352860722

Advanced Surveying: Total Station, GIS and Remote Sensing, 2/e

Satheesh Gopi | R. Sathikumar | N. Madhu

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ABOUT THE BOOK

The revised edition has been enlarged and thoroughly updated to cover modern surveying. The use of electronic equipment and information technology with advanced automated systems has been emphasised on. Total Station, Global Positioning System (GPS), Remote Sensing and Geographical Information System (GIS) have all become an inextricable part of surveying excellently covered in the book.

FEATURES

- Comprehensive coverage on Total Station, GIS, GPS and Remote Sensing.
- Well drawn illustrations, black-and-white photographs and color plates that lend conceptual clarity to the subject.
- New and updated chapter on "Spatial Analysis".
- Total Station explained with principles, data acquisition and plotting.
- Remote Sensing explained with data acquisition and interpretation.
- Covers latest Indian Remote Sensing Satellites.

CONTENTS

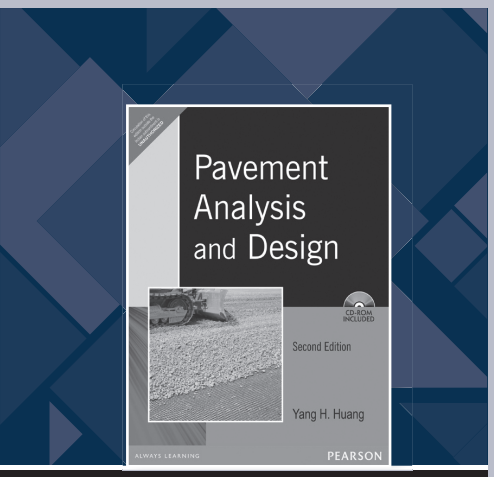
1. Fundamental Concepts of GIS GIS Data Models
2. Data Acquisition
3. Maps and Map Projections
4. The Coordinate System
5. Application of GIS
6. Spatial Analysis
7. Basics of Total Station
8. Electronic Distance Measurement(EDM)
9. Surveying Using Total Station
10. Data Collection Procedures
11. Automatic Level, Digital Level and Optical Theodolites
12. Aerial Surveying
13. Fundamentals of Remote Sensing
14. GPS Fundamentals
15. GPS Applications

ABOUT THE AUTHORS

Satheesh Gopi has over 20 years experience as a hydrographer and is currently working as Marine Surveyor in the Hydrographic Survey Wing of the Kerala Port Department. He received his degree in civil engineering from the College of Engineering, Thiruvananthapuram and also holds a masters degree in information technology. He is the author of Global Positioning System – Principles and Applications. He was commissioned to supervise surveys with commercially available Total Stations in the late eighties and with GPS receivers in the early nineties. He has worked with Total Station and GPS ever since.

R. Sathikumar was former Professor (Civil) with the College of Engineering, Thiruvananthapuram. He received his post-graduate degree, in Transportation Engineering, from IIT Kanpur in 1989 and his Ph.D from IIT Roorkee in 1996.

N. Madhu was former Assistant Professor (Civil) with the College of Engineering, Thiruvananthapuram. He obtained his M.Tech in Traffic and Transportation Engineering from IIT Madras in 1991.



ISBN: 9788131721247

Pavement Analysis and Design, 2/e

Yang H. Huang

792 | © 2008

ABOUT THE BOOK

This up-to-date text covers both theoretical and practical aspects of pavement analysis and design. It includes some of the latest developments in the field, and some very useful computer softwares developed by the author with detailed instructions.

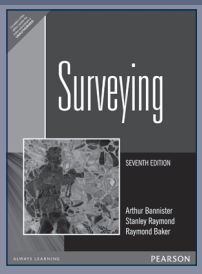
FEATURES

- NEW - KENPAVE Windows program: Based on the mechanistic-empirical method; written using Microsoft Visual Basic 6.0; combines the flexible and rigid pavements into a single package together with the addition of new input programs and computer graphics.
  - Demonstrates to students how theory can be put into practice, and gives them a better understanding of the pavement design process.
  - Serves as a useful tool for the structural design of raft foundations—an important subject in geotechnical engineering.
- **NEW - Revised material on the AASHTO overlay design method.**
  - Reflects the AASHTO design guide which was revised in 1993.
- **NEW- Added developments and information throughout, i.e.,** a new method based on the Mohr-Coulomb failure criterion; and new comparisons between KENLAYER and the latest Windows version of MICH-PAVE.
  - Keeps the book and students current, and broadens the scope of knowledge contained in both.
- **NEW - Three additional appendices: Superpave;** Pavement Management System; and Preview of 2002 Design Guide.
  - Provides students with the most current information available while new publications by the American Association of State Highway and Transportation Officials are being approved and implemented.

CONTENTS

1. Introduction
2. Stresses and Strains in Flexible Pavements
3. KENLAYER Computer Program
4. Stresses and Deflections in Rigid Pavements
5. KENSLABS Computer Program
6. Traffic Loading and Volume
7. Material Characterization
8. Drainage Design
9. Pavement Performance
10. Reliability
11. Flexible Pavement Design
12. Rigid Pavement Design
13. Design of Overlays

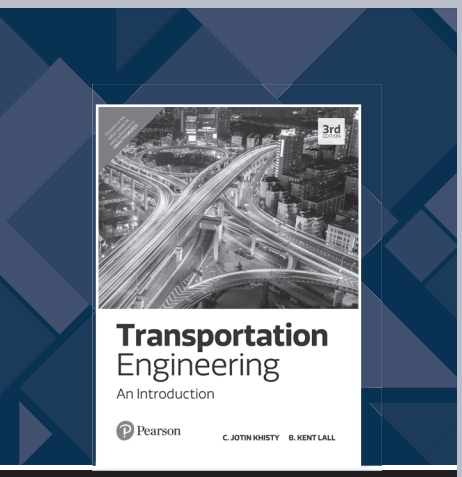
ALSO AVAILABLE



Surveying, 7/e

ISBN: 9788131700662

Pages: 512



ISBN: 9789332569706

Transportation Engineering: An Introduction, 3/e

C. Jotin Khisty | B. Kent Lall

840 | © 2017

ABOUT THE BOOK

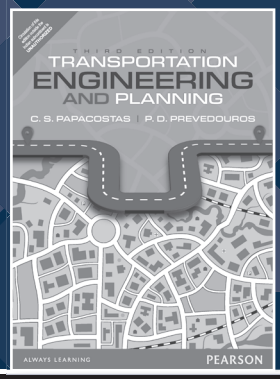
Pearson brings to you the third edition of ***Transportation Engineering,*** which offers students and practitioners a detailed, current, and interdisciplinary introduction to transportation engineering and planning. This much praised and widely recommended text has been revered for its wide spectrum coverage encompassing both traditional principles—traffic engineering, transportation planning and non-traditional considerations transportation economics, land use, energy, public transport, transportation systems management.

FEATURES

- The text is built on ideas, concepts, and observations that students are likely to be most familiar with, e.g., roads, streets, highways, buses, bicyclists, pedestrians and so on.
- Organization of the book and individual chapters has been carefully planned for easy transition from one to another.
- Quantitative and policy-oriented topics are incorporated, each supported by numerous worked examples and problems of varying complexity.
- Appendix on Statistics for Transportation Engineers provided for easy reference.
- Examples and exercises that illustrate real-world problems and require creativity and critical thinking."

CONTENTS

1. Transportation as a System
2. Transportation Economics
3. The Land-Use/Transportation System
4. Vehicle and Human Characteristics
5. Traffic Flow Characteristics
6. Geometric Design of Highways
7. Highway Capacity
8. Intersection Control and Design
9. At-Grade Intersection Capacity and Level of Service
10. Public Passenger Transportation
11. Urban Transportation Planning
12. Local Area Traffic Management
13. Energy Issues Connected with Transportation
14. TSM Planning: Framework
15. Evaluation of Transportation Improvement
16. Transportation Safety



ISBN: 9789332555150

Transportation Engineering and Planning, 3/e

C. S. Papacostas | P. D. Prevedouros

704 | © 2015

ABOUT THE BOOK

For a course in transportation engineering in the Civil Engineering Department. This detailed, interdisciplinary introduction to transportation engineering serves as a comprehensive text as well as a frequently cited reference. It begins with the basic sciences, mathematics, and engineering mechanics, and gradually introduces new concepts concerning societal context, geometric design, human factors, traffic engineering, and simulation, transportation planning, evaluation.

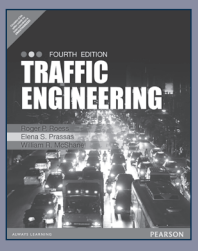
FEATURES

- NEW - Restructured--Organized in four main sections: DESIGN AND OPERATION (includes basic engineering principles, geometric design, human factors and traffic engineering); SYSTEMS (includes transportation modes, urban transportation, intelligent transportation systems [ITS], transportation planning and forecasting); IMPACTS (includes traffic impact studies, noise and pollution, and evaluation of transportation alternatives); and SUPPORTING ELEMENTS (such as economics, statistics, probability, queuing and software for traffic simulation and transportation analysis).
- NEW - Updated coverage on Transportation Modes.
- NEW - Updated coverage on Urban Systems--With extensive coverage of Intelligent Transportation Systems and the Quantification of Congestion.
- NEW - Expanded Capacity Analyses--Of bikeway, freeway, intersection, pedestrian and transit facilities based on HCM 2000.
- Coverage of Traffic Calming and basic Roundabouts.
- Extensive coverage of transportation software-(Ch. 15).
- NEW - Expanded coverage of Actuated Controllers--With numerous realistic case studies for Signal Design and Capacity Analysis.
- NEW - Updated Demand Modeling and Forecasting.
- NEW - Updated Traffic Impact Studies.
- Carefully chosen examples--Most accompanied by discussion and interpretations of results.
- Develops and illustrates concepts.
- Exercises--Cover a full range of difficulty.
- Gives students hands-on practice in applying concepts.

CONTENTS

1. Introduction and Background
2. Roadway Design
3. Traffic Stream Flow Models.
4. Capacity and Level of Service Analysis
5. Transportation Modes
6. Urban and Intelligent Transportation Systems
7. Transportation Planning
8. Travel-Demand Forecasting
9. Traffic Impact and Parking Studies
10. Air Quality, Noise, and Energy Impacts
11. Evaluation and Choice
12. Elements of Engineering Economy
13. Probability and Statistics
14. Queuing and Simulation
15. Transportation Software

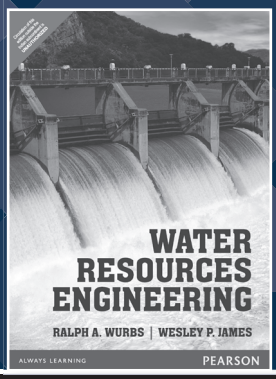
ALSO AVAILABLE



Traffic Engineering, 4/e

ISBN: 9789332509368

Pages: 744



ISBN: 9789332555143

Water Resources Engineering

Ralph A. Wurbs | Wesley P. James

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ABOUT THE BOOK

For a basic course in water resources engineering. Also appropriate for more advanced undergraduate and graduate courses and as a reference for practicing engineers. Designed to provide a broad coverage of pertinent topics concerning water resource engineering, this text focuses on fundamental topics of hydraulics, hydrology, and water management. Water resources engineering concepts and methods are addressed from the perspective of practical applications in water management and associated environmental and infrastructure management. The focus is on mathematical modeling and analysis using state-of-the-art computational techniques and computer software. The text is written to easily adapt to the spectrum of ways that individual courses and sequences of undergraduate and graduate courses are organized at various universities, providing flexibility for the instructor.

FEATURES

- Focus on professional practice.
- Prepares students for professional practice in a field with unlimited challenges and opportunities for serving society.
- Comprehensive coverage of fundamental concepts and techniques—Provides the foundation for water resources engineering.
- Provides the fundamentals to prepare students for life-long learning.
- Focus on modern computer-based modeling and analysis methods.
- Illustrates recent advances in computer technology and computational methods that have greatly increased capabilities for solving water resources engineering problems.
- Numerous carefully prepared example and homework problems.
- Provides students with ample opportunity to learn the material.
- Numerous figures—Illustrate the material.
- Provides students with drawings and schematics that greatly aid in comprehending the material.

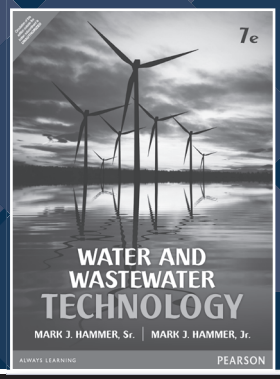
CONTENTS

1. Introduction
2. Hydrology
3. Fluid Mechanics
4. Hydraulics of Pipelines and Pipe Networks
5. Open Channel Hydraulics
6. Flood Routing
7. Hydrologic Frequency Analysis
8. Modeling Watershed Hydrology
9. Groundwater Engineering
10. Urban Stormwater Management
11. Water Resources Systems Analysis
12. River Basin Management

ABOUT THE AUTHORS

Wesley P. James has over 40 years of experience in hydraulics, hydrology, and water resources engineering, working in federal agencies, private consulting, and universities. He has continued his consulting engineering practice since retiring in 1997 after 26 years with the Civil Engineering Department, Texas A&M University. His teaching, research, and consulting have been in the areas of watershed modeling, remote sensing, groundwater engineering, stormwater management, and design and analysis of hydraulic structures and facilities. Honors include the national J. M. Robbins Excellence in Teaching Award from the Chi Epsilon Civil Engineering Honor Society in 1990. Dr. James holds degrees in Civil Engineering from Montana State University, Purdue University, and Oregon State University.

Ralph A. Wurbs is a Professor in the Environmental and Water Resources Engineering Division with the Civil Engineering Department, Texas A&M University. He worked in the water resources program of the U.S. Army Corps of Engineers for nine years prior to joining the TAMU faculty in 1980. Much of his research and consulting have been related to river basin management. His several teaching awards include the national J. M. Bobbins Excellence in Teaching Award from the Chi Epsilon Civil Engineering Honor Society in 2000. His many publications include two other books published by Prentice Hall: Water Management Models: A Guide to Software (1995) and Modeling and Analysis of Reservoir System Operations (1996). Dr. Wurbs holds degrees from Texas A&M University, University of Texas at Arlington, and Colorado State University.



ISBN: 9789332550056

Water and Wastewater Technology, 7/e

Mark J. Hammer, Sr. | Mark J. Hammer, Jr.

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ABOUT THE BOOK

The new seventh edition of ***Water and Wastewater Technology*** continues its tradition of coverage water processing principles and modern management practices, but now integrates a new emphasis on sustainability throughout.

Comprehensive coverage of topics such as:

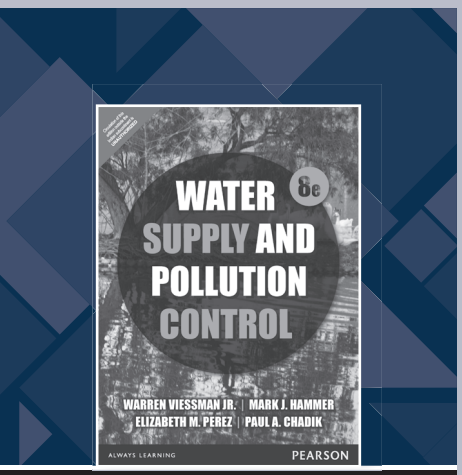
- Water processing
- Water distribution
- Wastewater collection
- Conventional and advanced wastewater treatment
- Sludge processing

FEATURES

- Coverage of new technologies.
- Water supply and water sustainability woven throughout.
- Coverage of energy reduction opportunities, and other processes important to water sustainability.
- Extensive use of illustrations to explain concepts and demonstrate modern equipment and facilities.
- Extensive use of charts, diagrams, and tables to make the mathematics more accessible.

CONTENTS

1. Introduction
2. Chemistry
3. Biology
4. Hydraulics and Hydrology
5. Water Quality
6. Water Distribution Systems
7. Water Processing
8. Operation of Waterworks
9. Wastewater Flows and Characteristics
10. Wastewater Collection Systems
11. Wastewater Processing
12. Wastewater Systems Capacity, Management, Operation, and Maintenance
13. Advanced Wastewater Treatment
14. Water Reuse



ISBN: 9789332549616

Water Supply and Pollution Control, 8/e

Warren Viessman Jr. | Mark J. Hammer | Elizabeth M. Perez | Paul A. Chadik

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ABOUT THE BOOK

The Eighth Edition of this bestselling text has been revised and modernized to meet the needs of today's environmental engineering students who will be engaged in the design and management of water and wastewater systems. It emphasizes the application of the scientific method to problems associated with the development, movement, and treatment of water and wastewater. Recognizing that all waters are potential sources of supply, the authors present treatment processes in the context of what they can do, rather than dividing them along clean water or waste water lines. An abundance of examples and homework problems amplify the concepts presented.

FEATURES

- The interconnectedness of all potential water sources is illustrated by the text's wide breadth of coverage – Water development, distribution, and use as well as water and wastewater development are all explored.
- Prominent coverage of monitoring drinking water for pathogens highlights this topic – an increasing concern as the security of drinking water becomes more critical.
- Expanded and updated material on indirect reuse of water for augmenting drinking water supplies gives prominence to this increasingly important component of water resources development.

CONTENTS

1. Introduction
2. Water Resources Planning and Management
3. The Hydrologic Cycle and Natural Water Sources
4. Alternative Sources of Water Supply
5. Water Use Trends and Forecasting
6. Conveying and Distributing Water
7. Wastewater Collection and Stormwater Engineering
8. Water Quality
9. Systems for Treating Wastewater and Water
10. Physical Treatment Processes
11. Chemical Treatment Processes
12. Biological Treatment Processes
13. Processing of Sludges

ABOUT THE AUTHORS

Warren Viessman, Jr. is Professor Emeritus with the Department of Environmental Engineering Sciences, College of Engineering University of Florida. He served as Associate Dean for Academic Programs from 1990 to 2003, and prior to that was Chairman of the Department of Environmental Engineering Sciences. Dr. Viessman is senior author of widely used textbooks on water supply and pollution control, hydrology, and water management. He has served on numerous national, regional and state committees and commissions, and is recognized for his outstanding contributions to water resources and environmental policy making and analysis at state and national levels. His many national awards attest to his efforts in these fields. He is an Honorary Member of the American Society of Civil Engineers and a registered professional engineer.

Mark L. Hammer is Professor Emeritus of civil engineering and is an author of environmental engineering publications in the United States and Saudi Arabia. During his long tenure as a professor at the University of Nebraska-Lincoln, Dr. Hammer also served as the Director of the Environmental Protection Agency Grant in Water Quality Control. He has taught at the King Fahd University of Petroleum & Minerals and King Abdul Aziz University, Saudi Arabia, where he conducted environmental engineering research in addition to his teaching responsibilities. He is a member of the American Water Works Association and the Water Environment Federation.

Elizabeth M. Perez has degrees in Environmental and Civil Engineering. Her specialties include hydrologic and hydraulic modeling, geographic information systems, ecological engineering, stormwater modeling, and watershed management.

Paul A. Chadik brings background of degrees in Chemical and Environmental Engineering and 23 years of teaching and research in water and wastewater treatment. He is a member of the faculty of the Department of Environmental Engineering Sciences at the University of Florida.

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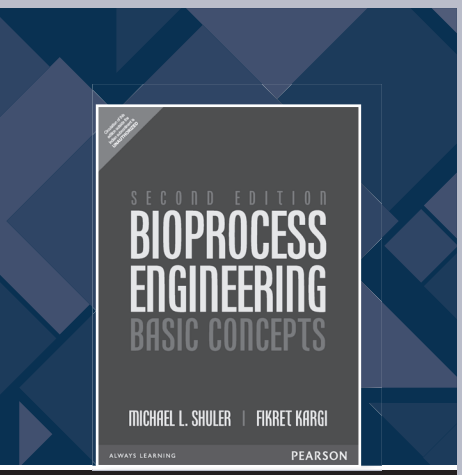
Chemical Engineering



ISBN: 9789332549371

Bioprocess Engineering: Basic Concepts, 2/e

Michael L. Shuler | Fikret Kargi

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ABOUT THE BOOK

This is the definitive, up-to-the-minute guide to systems management for every IT professional responsible for maintaining stable, responsive IT production environments. Top IT system management expert Rich Schiesser illuminates both the theoretical and practical aspects of systems management, using methods and examples drawn from decades of professional experience in roles ranging from data center leadership to infrastructure design. Schiesser covers every systems management discipline, every type of IT environment, and all elements of success: technology, processes, and people. This edition adds detailed new coverage of the popular IT Infastructure Library, showing how ITIL's 10 processes align with the 12 processes Schiesser presents. Another new chapter addresses key issues related to ethics, legislation, and outsourcing. Additional new coverage ranges from managing wireless networks, VoIP, and "ultra-speed" Internet to strategic security and new approaches to facilities management

CONTENTS

Part: I. Introduction

1. What is a Bioprocess Engineer?

Part: II. The Basics Of Biology: An Engineer's Perspective

2. An Overview of Biological Basics
3. Enzymes
4. How Cells Work
5. Major Metabolic Pathways
6. How Cells Grow
7. Stoichiometry of Microbial Growth and Product Formation
8. How Cellular Information is Altered

Part: III. Engineering Principles For Bioprocesses

9. Operating Considerations for Bioreactors for Suspension and Immobilized Cultures
10. Selection, Scale-Up, Operation, and Control of Bioreactors
11. Recovery and Purification of Products

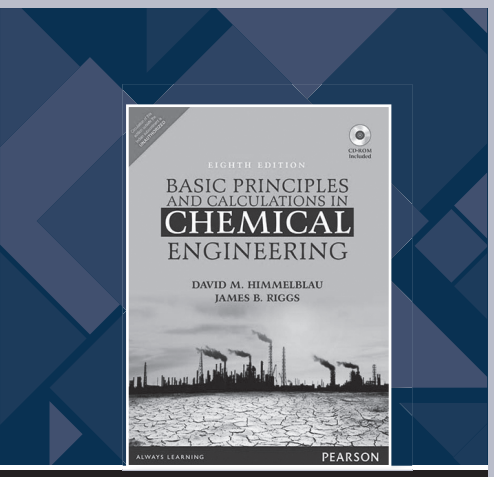
Part: IV. Applications To Nonconventional Biological Systems

12. Bioprocess Considerations in Using Animal Cell Cultures
13. Bioprocess Considerations in Using Plant Cell Cultures
14. Utilizing Genetically Engineered Organisms
15. Medical Applications of Bioprocess Engineering
16. Mixed Cultures
17. Epilogue

ABOUT THE AUTHOR(S)

Dr. Michael L. Shuler is Professor in the School of Chemical Engineering, Cornell University. His areas of research include structured models, heterologous protein expression systems, cell culture analogs for pharmacokinetic models, in-vitro toxicology, plant-cell tissue culture, microbial functional genomics, and bioremediation.

Dr. Fikret Kargi is Professor of Environmental Engineering at Dokuz Eylul University in Ismir, Turkey. His current research includes bioprocessing of wastes for production of commercial products, development of novel technologies for biological treatment of problematic wastewaters, nutrient removal, and novel biofilm reactor development.



ISBN: 9789332549623

Basic Principles and Calculations in Chemical Engineering, 8/e

David M. Himmelblau | James B. Riggs

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ABOUT THE BOOK

Basic Principles and Calculations in Chemical Engineering, Eighth Edition goes far beyond traditional introductory chemical engineering topics, presenting applications that reflect the full scope of contemporary chemical, petroleum, and environmental engineering. Celebrating its fiftieth Anniversary as the field's leading practical introduction, it has been extensively updated and reorganized to cover today's principles and calculations more efficiently, and to present far more coverage of bioengineering, nanoengineering, and green engineering.

Offering a strong foundation of skills and knowledge for successful study and practice, it guides students through formulating and solving material and energy balance problems, as well as describing gases, liquids, and vapors. Throughout, the authors introduce efficient, consistent, student-friendly methods for solving problems, analyzing data, and gaining a conceptual, application-based understanding of modern chemical engineering processes. This edition's improvements include many new problems, examples, and homework assignments.

FEATURES

- Thoroughly covers material balances, gases, liquids, and energy balances.
- Contains new biotech and bioengineering problems throughout.
- Adds new examples and homework on nanotechnology, environmental engineering, and green engineering.
- All-new student projects chapter.
- Self-assessment tests, discussion problems, homework, and glossaries in each chapter.
- Power Points and instructor's solutions manual available for course use.

CONTENTS

Part I: Introduction

1. What are Chemical Engineering and Bioengineering?
2. Introductory Concepts

Part II: Material Balances

3. Material Balances
4. Material Balances without Reaction
5. Material Balances Involving Reactions
6. Material Balances for Multi-Unit Systems

Part III: Gases, Vapors, and Liquids

7. Ideal and Real Gases
8. Multiphase Equilibrium

Part IV: Energy

9. Energy Balances
10. Energy Balances: How to Account for Chemical Reaction
11. Humidity (Psychrometric) Charts and Their Use

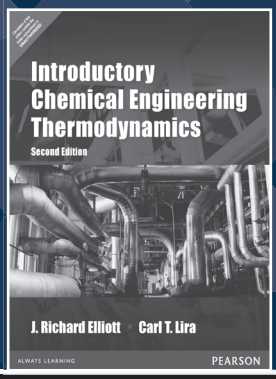
Part V: Supplementary Material

12. Analysis Of The Degrees Of Freedom in a Steady-State Process
13. Heats of Solution and Mixing
14. The Mechanical Energy Balance
15. Liquids and Gases in Equilibrium with Solids
16. Solving Material and Energy Balances UsingProcess Simulators (Flowsheeting Codes)
17. Unsteady-State Material And Energy Balances

ABOUT THE AUTHOR(S)

David M. Himmelblau was (until his death in April) the American Petrofina Foundation Centennial Professor in Chemical Engineering at the University of Texas, Austin. The author of sixteen books, his areas of research included the use of artificial neural networks for fault diagnosis and data rectification.

James B. Riggs is Professor in the Chemical Engineering Department at Texas Tech University, where he directs the Texas Tech Process Control and Optimization Consortium. His books include Chemical Process Control, Second Edition and An Introduction to Numerical Methods for Chemical Engineers, Second Edition.



ISBN: 9789332524040

Introductory Chemical Engineering Thermodynamics, 2/e

J. Richard Elliot | Carl T. Lira

904 | © 2013

ABOUT THE BOOK

In this book, two leading experts and long-time instructors thoroughly explain therodynamics, taking the molecular perspective that working engineers require (and competitive books often avoid). This new Second Edition contains extensive new coverage of today's fast-growing biochemical engineering applications, notably biomass conversion to fuels and chemicals. It also presents many new MATLAB examples and tools to complement its previous usage of Excel and other software.

FEATURES

- Clear, colloquial, easy to use - and the only book in its market that focuses on the molecular perspective working engineers need.
- Contains new MATLAB examples and tools, extensive new coverage of biochemical engineering and biomass conversions, and many other improvements.
- Teaches molecular modeling and product design techniques that are rapidly being adopted in the marketplace.
- Hierarchical instruction with increasing levels of detail: Content requiring deeper levels of theory is clearly delineated in separate sections and chapters.
- Early introduction to the overall perspective of composite systems like distillation columns, reactive processes, and biological systems.
- Learning objectives, problem-solving strategies for energy balances and phase equilibria, chapter summaries, and "important equations" for every chapter.
- Supporting software in formats for both MATLAB® and spreadsheets.
- Online supplemental sections and resources including instructor slides, ConcepTests, coursecast videos, and other useful resources.

CONTENTS

Unit I. First and Second Laws

1. Basic Concepts
2. The Energy Balance
3. Energy Balances for Composite Systems
4. Entropy
5. Thermodynamics of Processes

Unit II. Generalized Analysis of Fluid Properties

6. Classical Thermodynamics—Generalizations for Any Fluid
7. Engineering Equations of State for PVT Properties
8. Departure Functions
9. Phase Equilibrium in a Pure Fluid

Unit III. Fluid Phase Equilibria in Mixtures

10. Introduction to Multicomponent Systems
11. An Introduction to Activity Models
12. Van der Waals Activity Models
13. Local Composition Activity Models
14. Liquid-Liquid and Solid-Liquid Phase Equilibria
15. Phase Equilibria in Mixtures by an Equation of State
16. Advanced Phase Diagrams

Unit IV. Reaction Equilibria

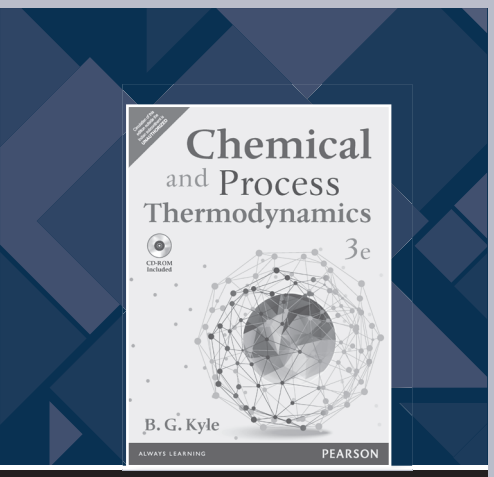
17. Reaction Equilibria
18. Electrolyte Solutions
19. Molecular Association and Solvation

Appendix A. Summary of Computer Programs
Appendix B: Mathematics
Appendix C: Strategies for Solving VLE Problems
Appendix D: Models for Process Simulators
Appendix E: Themodynamic Properties

ABOUT THE AUTHOR(S)

J. Richard Elliott is Professor of Chemical Engineering at the University of Akron in Ohio. He has taught courses ranging from freshman tools to senior process design as well as thermodynamics at every level. He has worked with the NIST lab in Boulder and ChemStations in Houston. He holds a Ph.D. from Pennsylvania State University.

Carl T. Lira is Associate Professor in the Department of Chemical Engineering and Materials Science at Michigan State University. He teaches thermodynamics at all levels, chemical kinetics, and material and energy balances. He has been recognized with the Amoco Excellence in Teaching Award and multiple presentations of the MSU Withrow Teaching Excellence Award. He holds a Ph.D. from the University of Illinois.



ISBN: 9789332549364

Chemical and Process Thermodynamics, 3/e

B. G. Kyle

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ABOUT THE BOOK

This is an example-rich guide to chemical engineering thermodynamics that focuses on current techniques, new applications, and today's revolutionary computer tools. The sequentially organized book helps in discovering both the "how" and "why" of chemical engineering thermodynamics, and helps to improve the problem-solving effectiveness with an extensive collection of sophisticated PC software.

This brand new third edition reflects newly-developed techniques and applications and includes a thorough treatment of complex chemical equilibria as well as philosophy and practice of modeling thermodynamic systems.

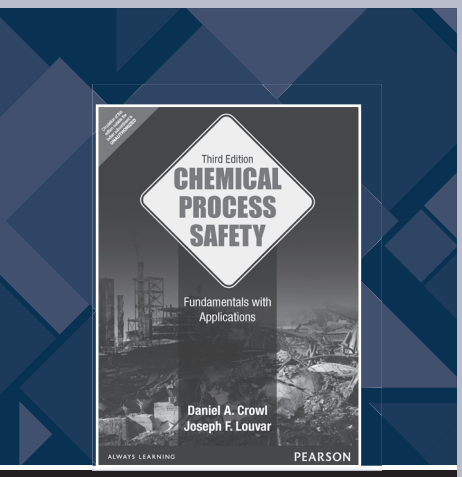
CD-ROM: The accompanying CD-ROM contains nine executable programs, three spreadsheets for professional calculations, POLYMATH numerical analysis software, and EQUATIONS OF STATE software for thermodynamic process visualization on 3D PVT diagrams.

FEATURES

- The 1st and 2nd laws of thermodynamics.
- Fluid behavior and thermodynamic networks.
- Heat effects, equilibrium and stability.
- Phase equilibrium.
- Chemical equilibrium.
- Thermodynamic analysis of processes, physicomechanical processes and more.

CONTENTS

1. Introduction The First Law of Thermodynamics
2. The Behavior of Fluids
3. The Second Law of Thermodynamics
4. The Thermodynamic Network
5. Heat Effects
6. Equilibrium and Stability
7. Thermodynamics of Pure Substances
8. Principles of Phase Equilibrium
9. Applied Phase Equilibrium
10. Additional Topics in Phase Equilibrium
11. Chemical Equilibrium
12. Complex Chemical Equilibrium
13. Thermodynamic Analysis of Processes
14. Physicomechanical Processes
15. Compressible Fluid Flow
16. Thermodynamics and Models



ISBN: 9789332524057

Chemical Process Safety: Fundamentals with Applications, 3/e

Daniel A. Crowl | Joseph F. Louvar

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ABOUT THE BOOK

As chemical processes have grown more complex, so have the safety systems required to prevent accidents. ***Chemical Process Safety, Third Edition,*** offers students a more fundamental understanding of safety and the application required to safely design and manage today's sophisticated processes.

The third edition continues the definitive standard of the previous editions. The content has been extensively updated to today's techniques and procedures, and two new chapters have been added. A new chapter on chemical reactivity provides the information necessary to identify, characterize, control, and manage reactive chemical hazards. A new chapter on safety procedures and designs includes new content on safely management, and specific procedures including hot work permits, lock-tag-try, and vessel entry.

FEATURES

- New chapter on Chemical Reactivity.
- New chapter on Safe Design Features and Procedures.
- Extensively updated content.
- Additional homework problems.
- Power Point Slides and an instructor's solutions manual available for course use.

CONTENTS

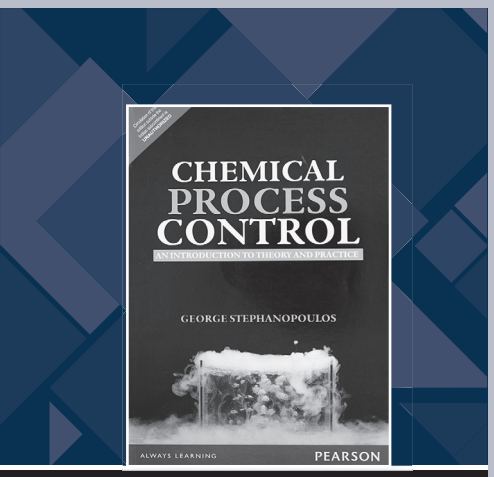
1. Introduction
2. Toxicology
3. Industrial Hygiene
4. Source Models
5. Toxic Release and Dispersion Models
6. Fires and Explosions
7. Concepts to Prevent Fires and Explosions
8. Chemical Reactivity
9. Introduction to Reliefs
10. Relief Sizing
11. Hazards Identification
12. Risk Assessment
13. Safety Procedures and Designs
14. Case Histories

Appendix A: Unit Conversion Constants
Appendix B: Flammability Data for Selected Hydrocarbons
Appendix C: Detailed Equations for Flammability Diagrams
Equations Useful for Gas Mixtures
Equations Useful for Placing Vessels into and out of Service
Appendix D: Formal Safety Review Report for Example 10-4
Appendix E: Saturation Vapor Pressure Data
Appendix F: Special Types of Reactive Chemicals
Appendix G: Hazardous Chemicals Data for a Variety of Chemical Substances

ABOUT THE AUTHOR(S)

Daniel A. Crowl is Herbert H. Dow Professor for Chemical Process Safety at Michigan Tech. He serves on the AIChE Center for Chemical Process Safety (CCPS) Safety and Chemical Engineering Education (SACHE) Committee, and is author/editor of several AIChE books on process safety. His awards include AIChE's Bill Doyle Award; the ACS Chemical Health and Safety Award; the Walton/Miller award from AIChE's Safety and Health Division; and the AIChE Board's Gary Leach Award. He is a Fellow of AIChE, ACS Safety and Health Division, and CCPS.

Joseph F. Louvar is Research Professor at Wayne State University's College of Engineering, where he teaches chemical process safety, risk assessment, and process design. He was recently the CCPS staff consultant for the Undergraduate Education Committee, commonly known as the Safety and Chemical Engineering Education Committee (AIChE's SACHE) and has previously chaired this committee for over ten years. His books include Health and Environmental Risk Analysis: Fundamentals with Applications(Prentice Hall, 1997)



ISBN: 9789332549463

Chemical Process Control: An Introduction to Theory and Practice

George Stephanopoulos

720 | © **2015**

ABOUT THE BOOK

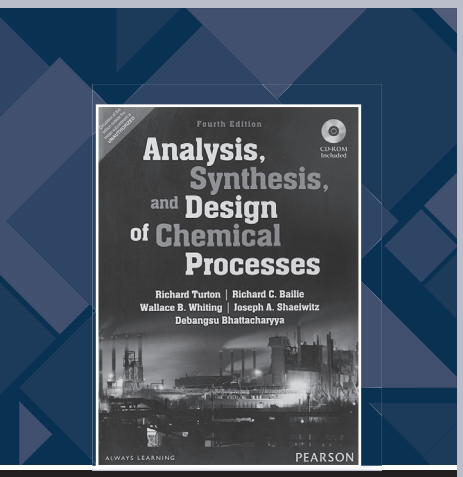
A thorough overview of all aspects of chemical process control — process modeling, dynamic analyses of processing systems, a large variety of control schemes, synthesis of multivariable control configurations for single units and complete chemical plants, analysis and design of digital computer control systems.

FEATURES

- Emphasizes problem formulation, analysis of posed control problems, and the synthesis and evaluation of alternative control systems.
- Provides a complete understanding of control design and implementation rather than a mere list of mechanistic tools.
- Discusses both controller design concepts and hardware elements needed for practical implementation of various control schemes.
- Emphasizes controllers' actions and their relative advantages and drawbacks.

CONTENTS

1. The Control of a Chemical Process: Its Characteristics and Associated Problems
2. Modeling the Dynamic and Static Behavior of Chemical Processes
3. Analysis of the Dynamic Behavior of Chemical Processes
4. Analysis and Design of Feedback Control Systems
5. Analysis and Design of Advanced Control Systems
6. Design of Control Systems for Multivariable Processes
7. Process Control Using Digital Computers



ISBN: 9789332550346

Analysis, Synthesis and Design of Chemical Processes, 4/e

Richard Turton | Richard C. Bailie | Wallace B. Whiting | Joseph A. Shaeiwitz

1104 | © 2015

ABOUT THE BOOK

Process design is the focal point of chemical engineering practice: the creative activity through which engineers continuously improve facility operations to create products that enhance life. Effective chemical engineering design requires students to integrate a broad spectrum of knowledge and intellectual skills, so they can analyze both the big picture and minute details - and know when to focus on each. Through three previous editions, this book has established itself as the leading resource for students seeking to apply what they've learned in real-world, open-ended process problems. The authors help students hone and synthesize their design skills through expert coverage of preliminary equipment sizing, flowsheet optimization, economic evaluation, operation and control, simulation, and other key topics. This new Fourth Edition is extensively updated to reflect new technologies, simulation techniques, and process control strategies, and to include new pedagogical features including concise summaries and end-of-chapter lists of skills and knowledge.

FEATURES

- The #1 chemical process design guide, used by 60% of chemical engineering departments: updated with new techniques and control strategies.
- A proven tool for helping students integrate process knowledge to start solving open-ended problems.
- Updated with improved pedagogy throughout, including four new case studies on simulation in design.
- Includes new advanced chapters on both steady state and dynamic simulators.
- Adds expanded coverage of lower- and higher-level process control strategies, including MPC.
- Companion website: che.cemr.wvu.edu/publications/projects/

CONTENTS

Section I: Conceptualization and Analysis of Chemical Processes

1. Diagrams for Understanding Chemical Processes
2. The Structure and Synthesis of Process Flow Diagrams
3. Batch Processing
4. Chemical Product Design
5. Tracing Chemicals through the Process Flow Diagram
6. Understanding Process Conditions

Section II: Engineering Economic Analysis of Chemical Processes

7. Estimation of Capital Costs
8. Estimation of Manufacturing Costs
9. Engineering Economic Analysis
10. Profitability Analysis

Section III: Synthesis and Optimization of Chemical Processes

11. Utilizing Experience-Based Principles to Confirm the Suitability of a Process Design
12. Synthesis of the PFD from the Generic BFD
13. Synthesis of a Process Using a Simulator and Simulator Troubleshooting
14. Process Optimization
15. Pinch Technology
16. Advanced Topics Using Steady-State Simulators
17. Using Dynamic Simulators in Process Design
18. Regulation and Control of Chemical Processes with Applications Using Commercial Software

Section IV: Analysis Of Process Performance

19. Process Input/Output Models
20. Tools for Evaluating Process Performance

21. Performance Curves for Individual Unit Operations
22. Performance of Multiple Unit Operations
23. Reactor Performance
24. Process Troubleshooting and Debottlenecking

Section V: The Impact of Chemical Engineering Design on Society

25. Ethics and Professionalism
26. Health, Safety, and the Environment
27. Green Engineering

Section VI. Interpersonal And Communication Skills

28. Teamwork

ABOUT THE AUTHOR(S)

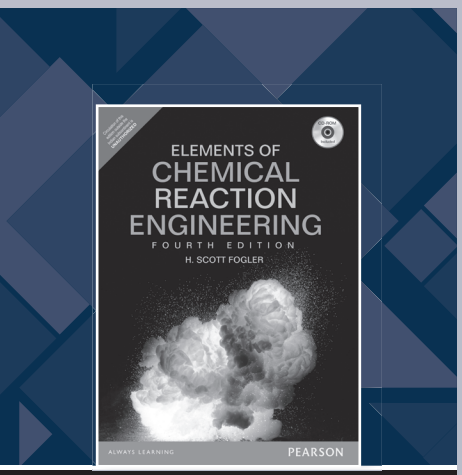
Richard Turton is professor of chemical engineering and professor in the Statler College of Engineering and Mineral Resources at West Virginia University. He has taught WVU's senior design course for more than twenty-five years.

Richard C. Bailie, professor emeritus at WVU, taught chemical engineering design for more than twenty years. He has extensive experience in process evaluation, pilot plant operation, and plant startup.

Wallace B. Whiting, professor emeritus at the University of Nevada, Reno, has practiced and taught chemical process design for more than twenty-four years.

Joseph A. Shaeiwitz has been involved in WVU's senior design sequence and sophomore- and junior-level integrated design projects for twenty years.

Debangsu Bhattacharyya, associate professor in the department of chemical engineering at WVU, has worked in computer-aided simulation, design, construction, and in the operation of a large petroleum refinery for more than ten years.



ISBN: 9789332549326

Elements of Chemical Reaction Engineering, 4/e

H. Scott Fogler

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ABOUT THE BOOK

The book presents in a clear and concise manner the fundamentals of chemical reaction engineering. The structure of the book allows the student to solve reaction engineering problems through reasoning rather than through memorization and recall of numerous equations, restrictions, and conditions under which each equation applies. The fourth edition contains more industrial chemistry with real reactors and real engineering and extends the wide range of applications to which chemical reaction engineering principles can be applied (i.e., cobra bites, medications, ecological engineering)

FEATURES

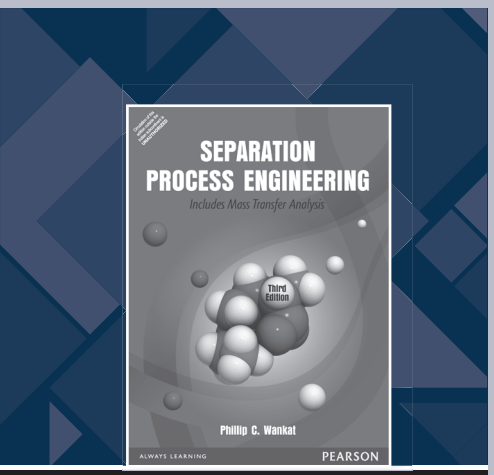
- The best selling chemical reaction engineering book just got better!
- The fundamentals of chemical reaction engineering -- presented in a clear and conciser manner.
- The reader learns how to solve problems through reasoning rather than getting lost in trying to remember which formula applies to what situation.
- Reader develops critical and creative thinking skills they can apply to many situations, becoming more productive and self-reliant.
- The solutions manual is now available for download through the IRC.

CONTENTS

1. Mole Balances
2. Conversion and Reactor Sizing
3. Rate Laws and Stoichiometry
4. Isothermal Reactor Design
5. Collection and Analysis of Rate Data
6. Multiple Reactions
7. Reaction Mechanisms, Pathways, Bioreactions, and Bioreactors
8. Steady-State Nonisothermal Reactor Design
9. Unsteady-State Nonisothermal Reactor Design
10. Catalysis and Catalytic Reactors
11. External Diffusion Effects on Heterogeneous Reactions
12. Diffusion and Reaction
13. Distributions of Residence Times for Chemical Reactors
14. Models for Nonideal Reactors

ABOUT THE AUTHOR(S)

H. Scott Fogler is the Arthur F. Thurnau Professor, Vennema Professor of Chemical Engineering at the University of Michigan. His research interests include flow and reaction in porous media, fused chemical relations, gellation kinetics, and chemical reaction engineering problems in the petroleum industry. He has graduated 37 Ph.D. students and has more than 200 refereed publications in these areas. Fogler is the AIChE 2008 President-elect. He has chaired ASEE's Chemical Engineering Division, served as director of the American Institute of Chemical Engineers, earned the Warren K. Lewis Award from AIChE for contributions to chemical engineering education, and received the Chemical Manufacturers Association's National Catalyst Award. He is the co-author of the bestselling textbook Strategies for Creative Problem Solving, Second Edition (Prentice Hall, 2008).



ISBN: 9789332524842

Separation Process Engineering: Includes Mass Transfer Analysis, 3/e

Phillip C. Wankat

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ABOUT THE BOOK

Separation Process Engineering, Third Edition, is the most comprehensive, accessible text available on modern separation processes and the fundamentals of mass transfer. Phillip C. Wankat teaches each key concept through detailed, realistic examples using real data-including up-to-date simulation practice and new spreadsheet-based exercises.

FEATURES

- In addition to up-to-date material, this book uses what is known about how students learn. The result is a book that students find easy to read and understand.
- Detailed examples that use real data to solve real engineering problems, organized in a common format for ease of understanding.
- This edition features a large number of new problems that use real data to solve real engineering separation and mass transfer problems.
- Extensive coverage and examples of industrially important separation methods, including: flash distillation; continuous column distillation including extractive and azeotropic distillation; batch distillation; absorption; stripping; extraction; membrane separations; adsorption; ion exchange; and chromatography.
- Simulation exercises for process simulators and exercises for spreadsheets presented in chapter appendices so that they do not cause confusion in courses that do not use these techniques.
- New detailed coverage of mass transfer fundamentals and applications in separation processes.

NEW TO THIS EDITION

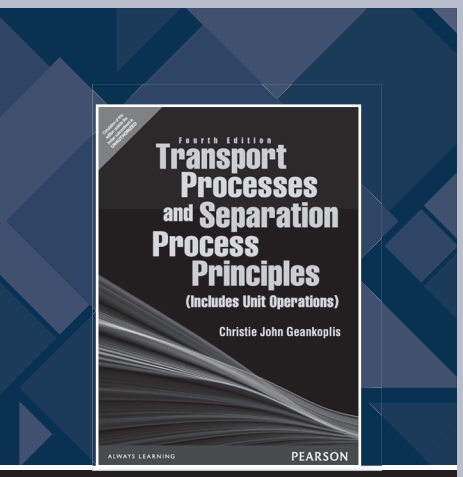
- Detailed coverage of mass transfer fundamentals and applications in separation processes.
- Detailed design procedures and problems are now included for liquid-liquid extraction. These design methods are not in the 2nd edition and are not in competing books; these design methods plus the simulation exercises for extraction make the coverage of extraction the most detailed of any of the textbooks on the market.
- Detailed spreadsheet examples and VBA programs, now included in appendices.
- All new sets of problems.

CONTENTS

1. Introduction to Separation Process Engineering
2. Flash Distillation
3. Introduction to Column Distillation
4. Column Distillation
5. Introduction to Multicomponent Distillation
6. Exact Calculation Procedures for Multicomponent Distillation
7. Approximate Shortcut Methods for Multicomponent Distillation
8. Introduction to Complex Distillation Methods
9. Batch Distillation
10. Staged and Packed Column Design
11. Economics and Energy Conservation in Distillation
12. Absorption and Stripping
13. Liquid-Liquid Extraction
14. Washing, Leaching, and Supercritical Extraction
15. Introduction to Diffusion and Mass Transfer
16. Mass Transfer Analysis for Distillation, Absorption, Stripping, and Extraction
17. Introduction to Membrane Separation Processes
18. Introduction to Adsorption, Chromatography, and Ion Exchange

ABOUT THE AUTHOR(S)

Phillip C. Wankat is Clifton L. Lovell Distinguished Professor of Chemical Engineering and director of undergraduate degree programs at Purdue University's School of Engineering Education. His current research interests include adsorption, large-scale chromatography, simulated moving bed systems, and distillation, as well as improvements in engineering education. He received the 2007 Distinguished Education Alumni Award of Distinction from Purdue's College of Education, and the 2005 Shreve Prize in Chemical Engineering. With K. S. Knaebel, he contributed the Mass Transfer section to Perry's Handbook of Chemical Engineering, Eighth Edition (McGraw-Hill, 2008).



ISBN: 9789332549432

Transport Processes and Separation Process Principles (Includes Unit Operations), 4/e

Christie John Geankoplis

1040 | © 2015

ABOUT THE BOOK

Appropriate for one-year transport phenomena (also called transport processes) and separation processes course. First semester covers fluid mechanics, heat and mass transfer; second semester covers separation process principles (includes unit operations).

The title of this Fourth Edition has been changed from Transport Processes and Unit Operations to Transport Processes and Separation Process Principles (Includes Unit Operations). This was done because the term Unit Operations has been largely superseded by the term Separation Processes which better reflects the present modern nomenclature being used. The main objectives and the format of the Fourth Edition remain the same. The sections on momentum transfer have been greatly expanded, especially in the sections on fluidized beds, flow meters, mixing, and non-Newtonian fluids. Material has been added to the chapter on mass transfer. The chapters on absorption, distillation, and liquid-liquid extraction have also been enlarged. More new material has been added to the sections on ion exchange and crystallization. The chapter on membrane separation processes has been greatly expanded especially for gas-membrane theory.

FEATURES

- The comprehensive, unified, up-to-date guide to transport and separation processes.
- A more thorough coverage of momentum, heat, and mass transport processes and new coverage of separation process applications.
- Greatly expanded coverage of momentum transfer, including fluidized beds and non-Newtonian fluids.
- More detailed discussions of mass transfer, absorption, distillation, liquid-liquid extraction, and crystallization.

CONTENTS

I. Transport Processes: Momentum, Heat, And Mass

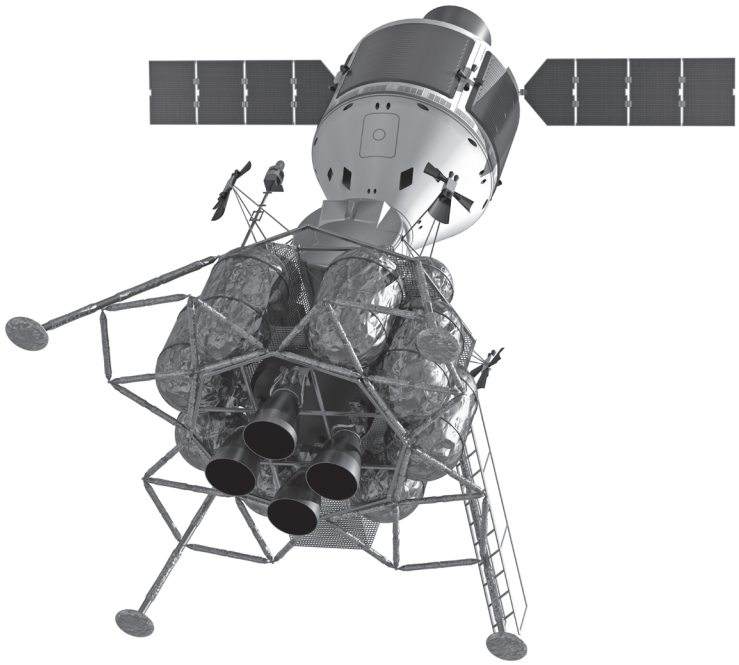
1. Introduction to Engineering Principles and Units
2. Principles of Momentum Transfer and Overall Balances
3. Principles of Momentum Transfer and Applications
4. Principles of Steady-State Heat Transfer
5. Principles of Unsteady-State Heat Transfer
6. Principles of Mass Transfer
7. Principles of Unsteady-State and Convective Mass Transfer

II. Separation Process Principles (Includes Unit Operations)

8. Evaporation
9. Drying of Process Materials
10. Stage and Continuous Gas-Liquid Separation Processes
11. Vapor-Liquid Separation Processes
12. Liquid-Liquid and Fluid-Solid Separation Processes
13. Membrane Separation Processes
14. Mechanical-Physical Separation Processes

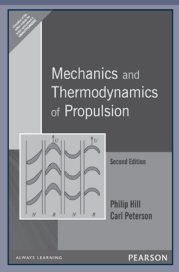
ABOUT THE AUTHOR(S)

Christie John Geankoplis is a Professor of Chemical Engineering and Materials Science at the University of Minnesota. His current research interests involve transport processes, biochemical reactor engineering, mass transfer in liquid solutions, and diffusion and/or reaction in porous solids. He holds a Ph.D. in Chemical Engineering from the University of Pennsylvania.



Aeronautical Engineering

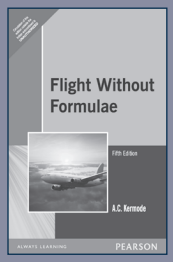
AERONAUTICAL ENGINEERING AVAILABLE TITLES



Mechanics and Thermodynamics of Propulsion, 2/e

ISBN: 9788131729519

Pages: 768



Flight Without Formulae, 5/e

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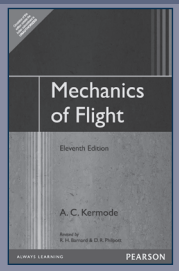

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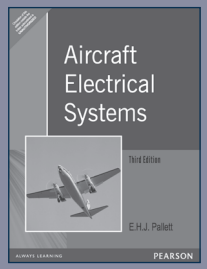

Aircraft Electrical Systems, 3/e

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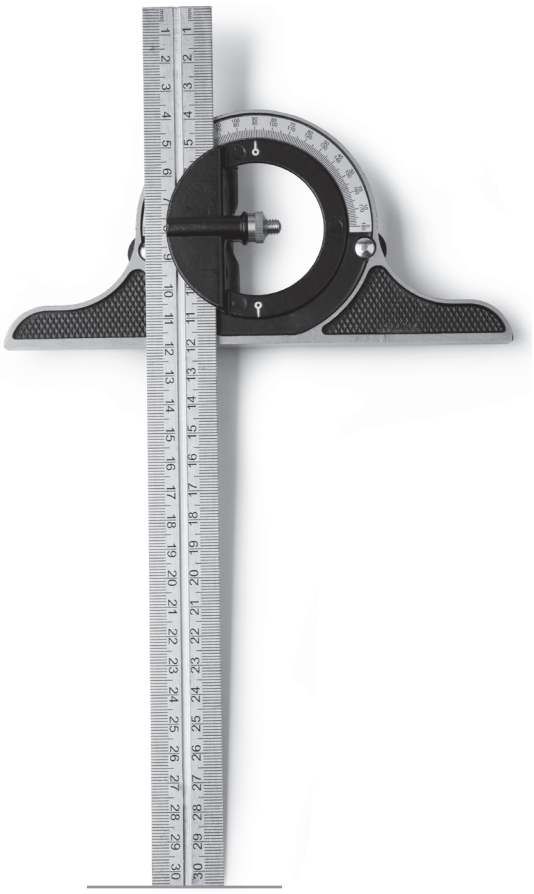
Pages: 240

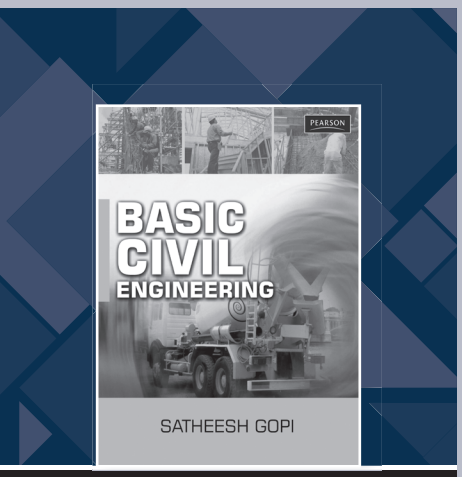
Aircraft Instruments, 2/e

ISBN: 9788131728130

Pages: 432



Core Engineering



ISBN: 9788131729885

Basic Civil Engineering

Satheesh Gopi

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ABOUT THE BOOK

Basic Civil Engineering is designed to enrich the preliminary conceptual knowledge about civil engineering to the students of non-civil branches of engineering. The coverage includes materials for construction, building construction, basic surveying and other major topics like environmental engineering, geo-technical engineering, transport traffic & urban engineering, irrigation & water supply engineering and CAD.

FEATURES

- Quality and standard of Materials along with cost effectiveness.
- Modern field procedures for surveying such as Total Station, GPS and digital levels.
- Building services like air conditioning, fire protection systems, lifts, escalators etc. and also repair and maintenance of structures.
- A chapter on CAD highlighting its importance in civil engineering.

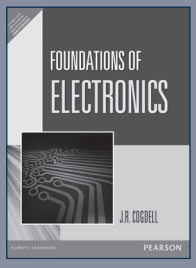
CONTENTS

1. Materials for Construction
2. Building Construction
3. Basic Surveying
4. Other Major Topics in Civil Engineering

ABOUT THE AUTHOR

Satheesh Gopi has over 19 years of experience as a hydrographer and over five years of experience as a civil engineer and is currently the deputy director in the Hydrographic Survey Wing of the Kerala Port Department.

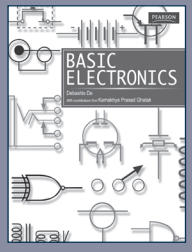
BASIC ELECTRONICS AVAILABLE TITLES



Foundations of Electronics

ISBN: 9788131764046

Pages: 428



Basic Electronics

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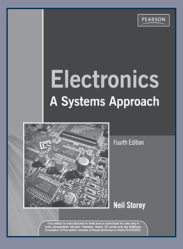
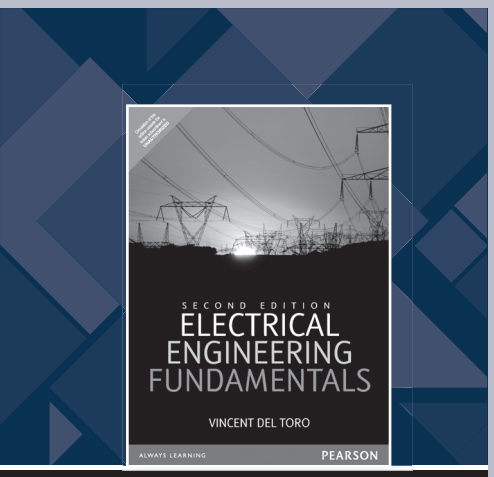
Pages: 628



Electronics: A Systems approach, 4/e

ISBN: 9788131734124

Pages: 824



ISBN: 9789332551763

Electrical Engineering Fundamentals, 2/e

Vincent Del Toro

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ABOUT THE BOOK

Electrical Engineering Fundamentals focuses on the five principal zones within the discipline of electrical engineering. The author also develops new content that is more attuned to the needs of the students and uses new fundamental laws to clarify the concepts and ideas in a more structured manner.

The second edition of the book, Electrical Engineering Fundamentals is intended to be put in use where Del Toro's other text, Principles of Electrical Engineering is being used. As a text, although it is primarily designed for students of electrical engineering, non-majors can subscribe to the text easily because of its accessible content. The student can use the Classical Method or the Laplace Transform Method to solve problems.

CONTENTS

The Fundamental Laws of Electrical Engineering.

Part One: Electric Circuit Theory

1. The Circuit Elements. Elementary Network Theory
2. Circuit Differential Equations
3. Forms and Solutions. Circuit Dynamics and Forced Responses
4. The Laplace-Transform Method of Finding Circuit Solutions
5. Sinusoidal Steady-State Response of Circuits

Part Two: Electronics

6. Electron Control Devices
7. Semiconductor Types
8. Semiconductor Electronic Circuits
9. Special Topics and Applications

Part Three: Digital Systems

10. Binary Logic: Theory and Implementation
11. Simplifying Logical Functions
12. Components of Digital Systems
13. Microprocessor Computer Systems

Part Four: Electromechanical Energy Conversion

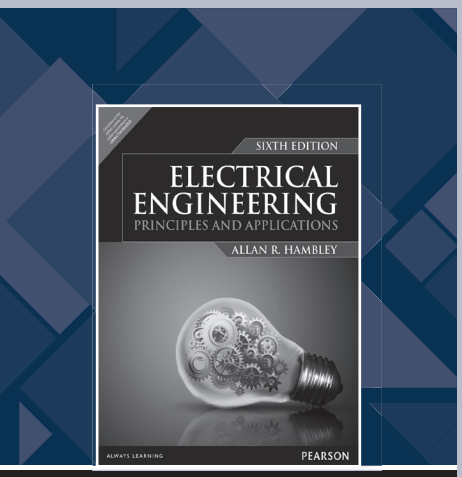
14. Magnetic Theory and Circuits
15. Transformers
16. Electromechanical Energy Conversion
17. The Three-Phase Induction Motor
18. Three-Phase Synchronous Machines
19. D-C Machines
20. Single-Phase Induction Motors
21. Stepper Motors

Part Five: Feedback Control Systems

22. Principles of Automatic Control
23. Dynamic Behavior of Control Systems.
24. Appendices

ABOUT THE AUTHOR(S)

Vincent Del Toro was an Emeritus Professor of City College of New York and an Electrical Engineer. His other books include Electric Machines and Power Systems, Principles of Control Systems Engineering and Electric Power Systems. He graduated from CCNY and Brooklyn Polytechnic University before turning to his enriching career in education and academics. He was a well-known educator and had garnered Educator of the Year awards for his contributions in the field. He wrote 10 books along with the best-selling books Electrical Engineering Fundamentals and Principles of Electrical Engineering. He died at the age of 82 on July 5, 2006 in New Jersey.



ISBN: 9789332563308

Electrical Engineering: Principles & Applications, 6/e

Allan R. Hambley

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ABOUT THE BOOK

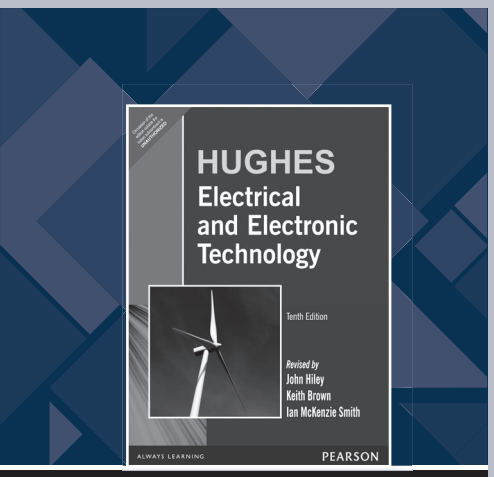
Electrical Engineering: Principles and Applications, 6e helps students learn electrical-engineering fundamentals with minimal frustration. Its goals are to present basic concepts in a general setting, to show students how the principles of electrical engineering apply to specific problems in their own fields, and to enhance the overall learning process. Circuit analysis, digital systems, electronics, and electromechanics are covered. Wide varieties of pedagogical features stimulate student interest and engender awareness of the material's relevance to their chosen profession.

CONTENTS

1. Introduction
2. Resistive Circuits
3. Inductance and Capacitance
4. Transients
5. Steady-State Sinusoidal Analysis
6. Frequency Response, Bode Plots, and Resonance
7. Logic Circuits
8. Computers and Microcontrollers
9. Computer-Based Instrumentation Systems
10. Diodes
11. Amplifiers: Specifications and External Characteristics
12. Field-Effect Transistors
13. Bipolar Junction Transistors
14. Operational Amplifiers
15. Magnetic Circuits and Transformers
16. DC Machines
17. AC Machines

ABOUT THE AUTHOR(S)

Allan R. Hambley received his B.S. degree from Michigan Technological University, his M.S. degree from Illinois Institute of Technology, and his Ph.D. from Worcester Polytechnic Institute. He has worked in industry for Hazeltine Research Inc., Warwick Electronics, and Harris Government Systems. He is currently Professor of Electrical Engineering at Michigan Tech.



ISBN: 9788131733660

Hughes Electrical and Electronic Technology, 10/e

Edward Hughes | Ian McKenzie Smith | Dr John Hiley | Keith Brown

1008 | © 2010

ABOUT THE BOOK

All engineers need to understand the fundamental principles of electrical and electronic technology. The tenth edition of this best-selling text offers a clear and comprehensive introduction to the area, with balanced coverage of electrical, electronic, and power engineering. This revision has been updated to take into account key developments in the subject, including a new chapter on Electrical Energy Systems – an important addition which explores (among other topics) the principles of sustainable electricity generation.

Hughes Electrical and Electronic Technology is a must-have text for all university and college engineering students requiring a comprehensive introduction to electrical and electronic engineering. It is also appropriate as a reference for any practitioners and technicians working in this, or any other engineering discipline.

FEATURES

- Brand new chapter on Electrical Energy Systems including a detailed examination of renewable energy sources.
- Updated and extended coverage in key areas such as Op-Amps; Induction Motors; and Fibre optics.
- Even more exercises and examples added to enhance problem solving skills.

CONTENTS

Section 1: Electrical Principles

1. International System of Measurement
2. Introduction to Electrical Systems
3. Simple DC Circuits
4. Network Theorems
5. Capacitance and Capacitors
6. Electromagnetism
7. Simple Magnetic Circuits
8. Inductance in a DC Circuit
9. Alternating Voltage and Current
10. Single-phase Series Circuits
11. Single-phase Parallel Networks
12. Power in AC Circuits
13. Complex Notation
14. Resonance in AC Circuits
15. Network Theorems Applied to AC Networks

Section 2: Electronic Engineering

16. Electronic Systems
17. Passive Filters
18. Amplifier Equivalent Networks
19. Semiconductor Materials
20. Rectifiers
21. Junction Transistor Amplifiers
22. FET Amplifiers
23. Further Semiconductor Amplifiers
24. Interfacing Digital and Analogue Systems
25. Digital Numbers
26. Digital Systems
27. Microprocessors and Programs
28. Control Systems
29. Signals
30. Data Transmission and Signals
31. Communications
32. Fibreoptics

Section 3: Power Engineering

33. Multiphase Systems
34. Transformers
35. Introduction to Machine Theory
36. AC Synchronous Machine Windings
37. Characteristics of AC Synchronous Machines
38. Induction Motors
39. Electrical Energy Systems
40. Power Systems
41. Direct-current Machines
42. Direct-current Motors
43. Control System Motors
44. Motor Selection and Efficiency
45. Power Electronics

Section 4: Measurements

46. Electronic Measuring Instruments
47. Analogue Measuring Instruments

ISBN: 9789332542167

Basic Electrical Engineering

S. K. Sahdev

656 | © 2015

ABOUT THE BOOK

Attuned to the needs of undergraduate students of engineering in their first year, ***Basic Electrical Engineering*** enables them to build a strong foundation in the subject. A large number of real-world examples illustrate the applications of complex theories. The book comprehensively covers all the areas taught in a one-semester course and serves as an ideal study material on the subject.

FEATURES

- Detailed coverage on AC Circuits and DC Circuits.
- Step-by-step problem-solving methodology to hone problem-solving skills.
- Extended coverage on electric machines and measurements.
- Coverage on specialized motors like hysteresis motor, stepper motor, linear induction motor and universal motor.
- In-depth discussion on renewable sources of energy (eText).
- Separate chapters on Domestic Wiring and Illumination and Earthing and Electrical Safety (eText).
- Excellent pedagogy.
  - 700+ Figures and Illustrations.
  - 450+ Solved Questions.
  - 400+ Unsolved Questions.
  - 300+ MCQs.

CONTENTS

1. Concepts of Circuit Theory
2. DC Circuit Analysis and Network Theorems
3. Electrostatics and Capacitors
4. Batteries
5. Magnetic Circuits
6. AC Fundamentals
7. Single-phase AC Circuits
8. Three-phase AC Circuits
9. Measuring Instruments
10. Single-phase Transformers
11. DC Machines (Generators and Motors)
12. Three-Phase Induction Motors
13. Single-Phase Induction Motors
14. Three-Phase Synchronous Machines Online Chapters
15. Sources of Electrical Power
16. Introduction to Power System
17. Introduction to Earthing and Electrical Safety
18. Domestic Wiring & Illumination

ABOUT THE AUTHOR(S)

Dr. SK Sahdev Associate Dean Lovely Professional University

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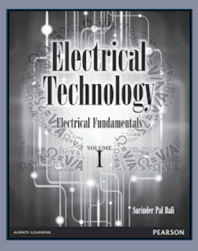
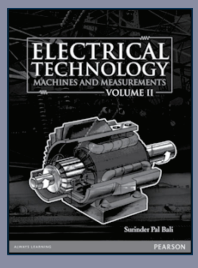


Electrical Technology: Electrical Fundamentals Volume I

ISBN: 9788131785935

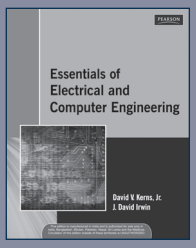
Pages: 608



Electrical Technology: Machines and Measurements Volume II

ISBN: 9789332514416

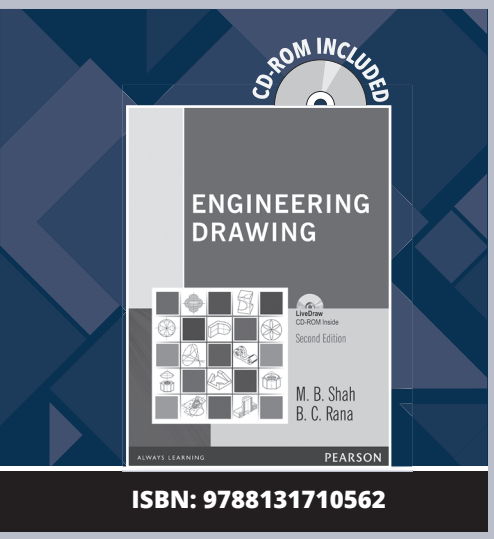
Pages: 456



Essentials of Electrical and Computer Engineering

ISBN: 9788177580198

Pages: 672



ISBN: 9788131710562

Engineering Drawing, 2/e

M. B. Shah | B. C. Rana

580 | © 2009

ABOUT THE BOOK

Engineering Drawing, 2e continues to cover all the fundamental topics of the field, while maintaining its unique focus on the logic behind each concept and method. Based on extensive market research and reviews of the first edition, this edition includes a new chapter on scales, the latest version of AutoCAD, and new pedagogy.

FEATURES

- Learning goals through Objectives.
- Overview of the chapter through Introduction.
- Recap of concepts through solved examples.
- Comes with Live Draw CD.

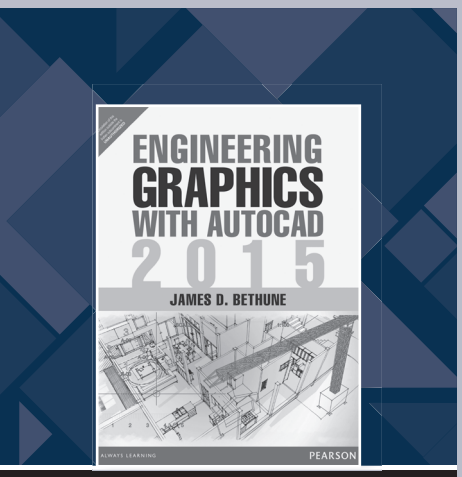
CONTENTS

1. Basics of Engineering Drawing
2. Symbolic Lines and Lettering
3. Geometrical Constructions, Loci and Engineering Plane Curves
4. Scales
5. Projections of Points and Lines
6. Projections on Auxiliary Reference Planes
7. Projections of Planes
8. Projections of Solids
9. Sections of Solids
10. Intersection of Surfaces
11. Development of Surfaces
12. Multiview Orthographic Projections
13. Sectional Views
14. Dimensioning
15. Auxiliary Views
16. Reading Orthographic Projections
17. Isometric Projections
18. Oblique Parallel Projections and Perspective Projections
19. Threaded Fasteners
20. Riveted and Welded Joints
21. Computer-aided Drafting

ABOUT THE AUTHOR(S)

M. B. Shah is a professor of mechanical engineering and the principal of Shah and Anchor Kutchhi Engineering College, Mumbai.

B. C. Rana was an assistant professor at Veermata Jijabai Technological Institute.



ISBN: 9789332549340

Engineering Graphics with AutoCAD 2015

James D. Bethune

884 | © 2015

ABOUT THE BOOK

Engineering Graphics with AutoCAD 2015 teaches students technical drawing using AutoCAD 2015 as its drawing instrument, complying with ANSI standards. Taking a step-by-step approach, it encourages students to work at their own pace and uses sample problems and illustrations to guide them through the powerful features of this drawing program. Nearly 150 exercise problems provide instructors with a variety of assignment material and students with an opportunity to develop their creativity and problem-solving capabilities. This book includes the following features:

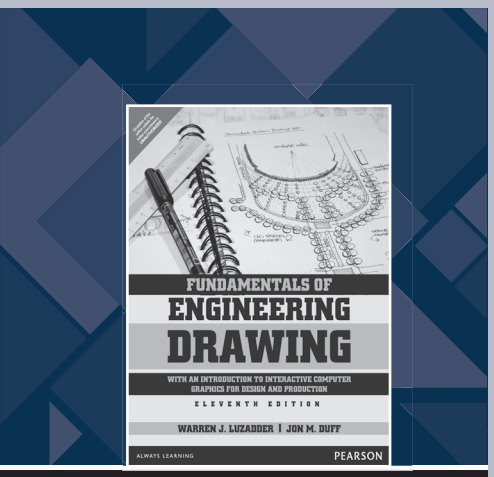
- **Step-by-step** format throughout the text allows students to work directly from the text to the screen and provides an excellent reference during and after the course.
- **Covers the latest** in dynamic blocks, user interface improvements, and productivity enhancements.
- Exercise, sample problems and projects appear in each chapter, providing examples of software capabilities and giving students an opportunity to apply their own knowledge to realistic design situations. Includes examples of how to create an animated assembly, apply dimension to a drawing, calculate shear and bending values, and more!
- **ANSI standards** are discussed when appropriate, introducing students to the appropriate techniques and national standards.
- **Illustrations and sample problems** provided in every chapter, supporting the step-by-step approach by illustrating how to use AutoCAD 2015 and its features to solve various design problems.

FEATURES

- Uses an easy-to-follow, step-by-step system of teaching, with complete chapter coverage on such areas as:
  - AutoCAD's Draw and Modify toolbars and other commands needed to set up and start drawings.
  - **Tolerancing**—Drawing dimensions and tolerances; using geometric tolerances with an explanation of how AutoCAD 2002 can be used to create geometric tolerance symbols directly from dialog boxes and more.
  - AutoCAD's 3D commands and coordinate system definitions.
  - A solid modeling approach to Descriptive Geometry, with discussions on the true lengths of lines and shapes of planes, point and plane locations, and properties between lines and planes.
  - Equips users with fundamental engineering graphics skills within the context of using AutoCAD, yielding students with solid skills into the workplace.

CONTENTS

1. Getting Started
2. Fundamentals of 2D Construction
3. Advanced Commands
4. Sketching
5. Orthographic Views
6. Sectional Views
7. Auxiliary Views
8. Dimensioning
9. Tolerancing
10. Geometric Tolerances
11. Threads and Fasteners
12. Working Drawings
13. Gears, Bearings, and Cams
14. Fundamentals of 3D Drawing
15. Modeling Standards and Reference Tables
16. Index
17. Projects (online)



ISBN: 9789332549982

Fundamentals of Engineering Drawing, 11/e

Warren J. Luzadder | Jon M. Duff

704 | © 2015

ABOUT THE BOOK

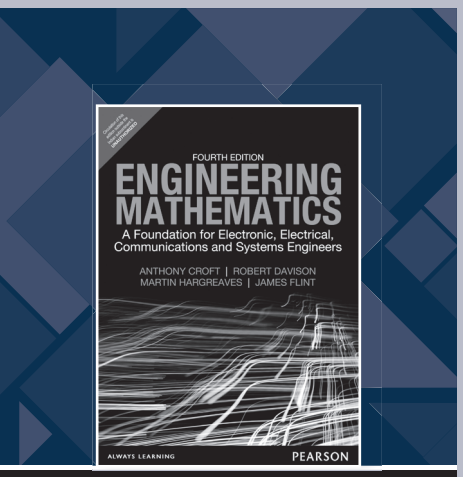
This volume presents a solid fundamental treatment of engineering graphics, geometry, and modeling suitable for engineers and technologists. It reflects the most modern drafting procedures—from the fundamentals (for the beginner), to techniques and practices of drawing in specialized fields. This revision enhances understanding of graphics fundamentals in the era of computer-aided design to better prepare students to use CADD software effectively.

FEATURES

- The Eleventh Edition elaborates on integration of computer graphics through six additional chapters of basic fundamentals; provides two sets of problems to test and reinforce readers' understanding of material; stresses the ability to manipulate three-dimensional geometry— whether on the surface of a drawing or as a solid computer model; and highlights popular CADD products and integrates CADD into each chapter as it naturally occurs.
- The authors cover all topics basic to the preparation of working drawings for both products and systems—e.g., multiview drawing and freehand sketching, spatial geometry, and design and dimensioning practices; and make extensive use of step-by-step illustrations.

CONTENTS

1. Introduction.
2. Drawing Instruments, Computer Drafting Equipment, and Techniques
3. Engineering Geometry
4. The Representation of Space Relationships: Two and Three Dimension
5. Multiview Representation for Design and Product Development
6. Freehand Sketching for Visualization and Communication
7. Sectional Views
8. Auxiliary Views
9. Basic Spatial Geometry for Design and Analysis
10. Developments and Intersections
11. Pictorial Presentation
12. The Design Process and Graphics
13. Dimensions, Notes, Limits, and Geometric Tolerances
14. Fastening and Connecting Methods for Assembly
15. Shop Processes and Tool Drawings
16. Production Drawings and Process Models
17. Computer-Aided Design and Drafting
18. Numerically Controlled Machine Tools and Robots
19. Graphic Methods for Engineering Communication and Computation
20. Graphical Mathematics
21. Design and Selection of Machine Elements: Gears, Cans, Linkages, Springs, and Bearings
22. Electronic Drawings
23. Structural Drawings
24. Topographic and Engineering Map Drawings



ISBN: 9789332507586

Engineering Mathematics: A Foundation for Electronic, Electrical, Communications and Systems Engineers, 4/e

Colin Flint | Anthony Croft | Martin Hargreaves | Robert Davison

986 | © 2013

ABOUT THE BOOK

Engineering Mathematics is the leading undergraduate textbook for Level 1 and 2 mathematics courses for electrical and electronic engineering, systems and communications engineering students. It includes a basic mathematics review, along with all the relevant maths topics required for these engineering degrees.

FEATURES

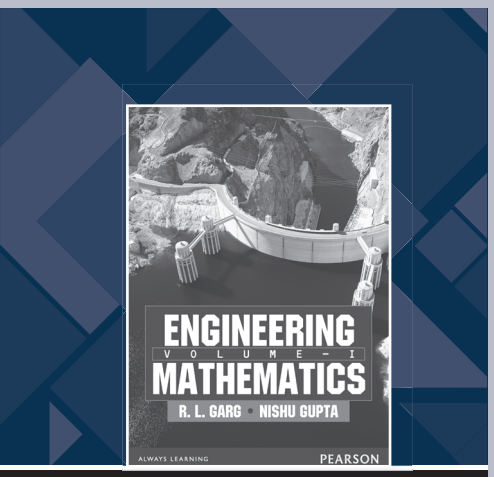
- Students see the application of the maths they are learning to their engineering degree through the book's applications-focussed introduction to engineering mathematics, that integrates the two disciplines.
- Provides the foundation and advanced mathematical techniques most appropriate to students of electrical, electronic, systems and communications engineering, including: algebra, trigonometry and calculus, as well as set theory, sequences and series, Boolean algebra, logic and difference equations.
- Integral transform methods, including the Laplace, z and Fourier transforms are fully covered.
- Students learn and test their understanding of mathematical theory and the application to engineering with a huge number of examples and exercises with solutions.
- New Engineering Example showcase feature, covering an extensive range of modern applications, including music technology, electric vehicles, offshore wind power and PWM solar chargers.
- New mathematical sections on number bases, logs and indices, summation notation, the sinc x function, waves, polar curves and the discrete cosine transform.
- New exercises and answers.

CONTENTS

1. Review Of Algebraic Techniques
2. Engineering Functions
3. The Trigonometic Functions
4. Coordinate Systems
5. Discrete Mathematics
6. Sequences And Series
7. Vectors
8. Matrix Algebra
9. Complex Numbers
10. Differentiation
11. Techniques of Differentiation
12. Application of Differentiation
13. Integration
14. Techniques of Integration
15. Applications of Integration
16. Further Topics in Integration
17. Numerical Integration.
18. Taylor Polynomials, Taylor Series and Maclaurin Series.
19. Ordinary Differential Equations I
20. Ordinary Differential Equations II
21. The Laplace Transform
22. Difference Equations and the z Transform
23. Fourier Series
24. The Fourier Transform
25. Functions of Several Variables
26. Vector Calculus
27. Line Integrals and Multiple Integrals
28. Probability
29. Statistics and Probability Distributions

ABOUT THE AUTHOR(S)

Anthony Croft, Loughborough University, UK
Robert Davison, De Montfort University
Martin Hargreaves, De Montfort University
James Flint, University of Loughborough



ISBN: 9788131789902

Engineering Mathematics–Volume I

R. L. Garg | Nishu Gupta

896 | © 2014

ABOUT THE BOOK

Engineering Mathematics is taught as a compulsory paper to all undergraduate students. The course is offered in three semesters, due to its enormous coverage.

This text uses synthetic division and suppression method of partial fraction in order to solve the problems in an easy and short manner. The inclusion of examples related to direct engineering applications is an integral part of the book.

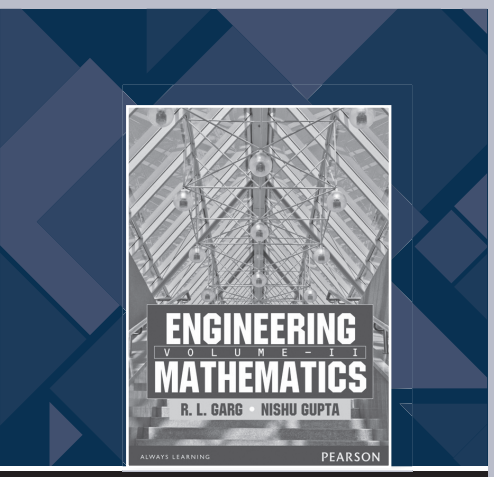
CONTENTS

1. Differential Calculus of a Real Variable
2. Integral Calculus of a Real Variable
3. Differential Calculus of Several Real Variables
4. Integral Calculus of Several Real Variables
5. Infinite Series
6. Linear Algebra: Matrices
7. Vector Calculus
8. Ordinary Differential Equations
9. Series Solution and Special Functions

ABOUT THE AUTHOR(S)

R. L. Garg is a retired Professor, Maharaja Agrasen Institute of Technology, Delhi. He has been teaching Mathematics for last 35 years and been on the examination panel of various universities and state service board exams.

Nishu Gupta is an Assistant Professor at Maharaja Agrasen Institute of Technology, Delhi. She has been teaching for last 16 years.



ISBN: 9789332536333

Engineering Mathematics–Volume II

R. L. Garg | Nishu Gupta

720 | © 2014

ABOUT THE BOOK

Engineering Mathematics is taught as a compulsory paper to all undergraduate students. The course is offered in three semesters, due to its enormous coverage.

This text uses synthetic division and suppression method of partial fraction in order to solve the problems in an easy and short manner. The inclusion of examples related to direct engineering applications is an integral part of the book.

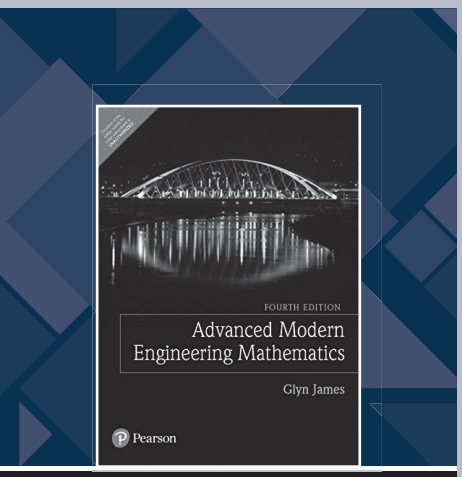
CONTENTS

1. Function of Complex Variables
2. Laplace Transform
3. Fourier Series, Fourier Integral and Fourier Transforms
4. Partial Differential Equations
5. Numerical Methods in General and Linear Algebra
6. Numerical Methods for Differentiation, Integration and Ordinary Differential Equation

ABOUT THE AUTHOR(S)

R. L. Garg is a retired Professor, Maharaja Agrasen Institute of Technology, Delhi. He has been teaching Mathematics for last 35 years and been on the examination panel of various universities and state service board exams.

Nishu Gupta is an Assistant Professor at Maharaja Agrasen Institute of Technology, Delhi. She has been teaching for last 16 years.



ISBN: 9789332575288

Advanced Modern Engineering Mathematics, 4/e

Glyn James

1064 | © **2016**

ABOUT THE BOOK

Building on the foundations laid in the companion text Modern Engineering Mathematics, this book gives an extensive treatment of some of the advanced areas of mathematics that have applications in various fields of engineering, particularly as tools for computer-based system modelling, analysis and design.

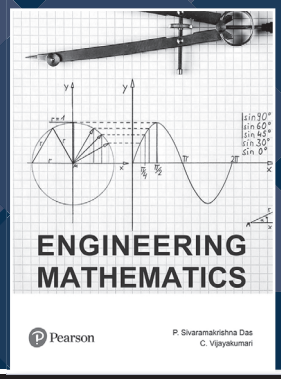
The philosophy of learning by doing helps students develop the ability to use mathematics with understanding to solve engineering problems. A wealth of engineering examples and the integration of MATLAB and MAPLE further support students.

FEATURES

- Graded examples and exercises.
- Increased emphasis on software packages, particularly symbolic algebra packages. Particular emphasis on use of MATLAB and MAPLE, with basic commands introduced and illustrated.
- Downloadable Lecturer Solutions Manual.

ABOUT THE AUTHOR(S)

Glyn James, Coventry University



ISBN: 9789332519121

Engineering Mathematics

P. Sivaramakrishna Das | C. Vijayakumari

1664 | © 2017

ABOUT THE BOOK

Engineering Mathematics is an interdisciplinary subject offered to the undergraduate engineering students. Considering the vast coverage of the subject, usually this paper is taught across multiple semesters. This book on Engineering Mathematics is designed for the 1st, 2nd, and 3rd semester papers on engineering mathematics. The book offers a large number of exercises and a variety of solved examples with reference to engineering applications wherever appropriate.

FEATURES

- Simple presentation with clarity and rigor.
- Sufficient conditions in maxima and minima of several variables as an application of quadratic form has been given.
- Comprehensive coverage of Laplace Transforms, includes details of Inverse LaplaceTransforms.
- Detailed coverage of Vector Calculus.
- Treatment of three dimensional analytical geometry consisting of the topics sphere, cone and cylinder.
- Pedagogy:
  - Over 800 solved examples.
  - Over 1000 exercise questions with answers.

CONTENTS

1. Matrices
2. Sequences and Series
3. Differential Calculus
4. Application of Differential Calculus
5. Differential Calculus of Several variables
6. Integral Calculus
7. Improper Integrals
8. Multiple Integrals
9. Vector Calculus
10. Ordinary First Order Differential Equations
11. Ordinary Second and Higher Order Differential Equations
12. Applications of Ordinary Differential Equations
13. Series Solution of Differential Equations and Special functions
14. Partial Differential Equations
15. Analytic Functions
16. Complex Integration
17. Fourier Series
18. Fourier Transforms
19. Laplace Transforms
20. Applications of Partial Differential Equations

ABOUT THE AUTHOR(S)

Professor P. Sivaramakrishna Das is Professor of Mathematics and Head of the Department of Science and Humanities, K. C. G. College of Technology, Chennai (a unit of Hindustan group of colleges).

Professor C. Vijayakumari is retired Professor of Mathematics, Queen Mary's College, Chennai

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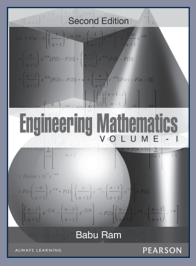
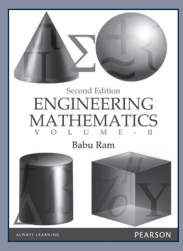


Engineering Mathematics Volume-I, 2/e

ISBN: 9788131784709

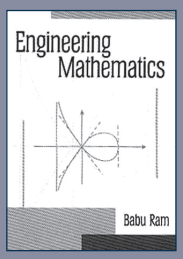
Pages: 608



Engineering Mathematics Volume-II, 2/e

ISBN: 9788131785034

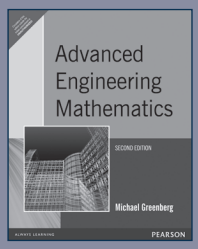
Pages: 960



Engineering Mathematics

ISBN: 9788131726914

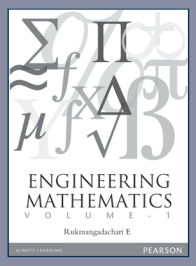
Pages: 1124



Advanced Engineering Mathematics, 2/e

ISBN: 9788177585469

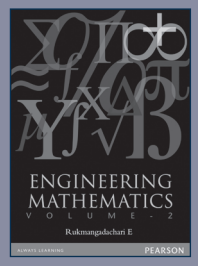
Pages: 1352



Engineering Mathematics - Volume I

ISBN: 9788131761311

Pages: 616



Engineering Mathematics - Volume II

ISBN: 9788131784952

Pages: 600

ISBN: 9789332584747

Engineering Mechanics: Statics & Dyanamics in SI Units, 14/e

R. C. Hibbeler

1330 | © 2017

ABOUT THE BOOK

Engineering Mechanics: Statics & Dynamics excels in providing a clear and thorough presentation of the theory and application of engineering mechanics. Engineering Mechanics empowers students to succeed by drawing upon Prof. Hibbeler's everyday classroom experience and his knowledge of how students learn. This text is shaped by the comments and suggestions of hundreds of reviewers in the teaching profession, as well as many of the author's students.

FEATURES

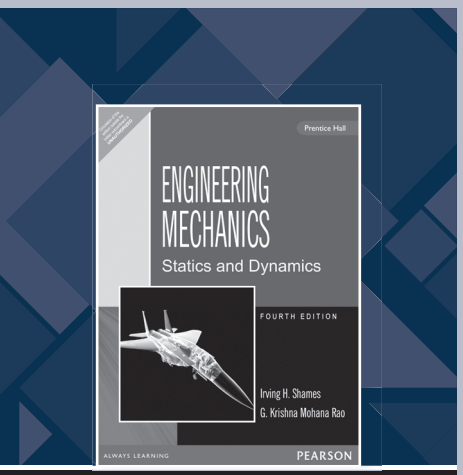
- NEW! Preliminary Problems are designed to test students' conceptual understanding of the theory and are placed throughout the text before the Fundamentals Problems. Preliminary Problems solutions require little or no calculation and are intended to help students develop a basic understanding of the concepts before they are applied numerically.
- Each chapter is organized into well-defined sections that contain an explanation of specific topics, illustrative example problems, and at the end of the chapter, a set of relevant homework problems.
- Fundamental Problems, selectively located after the example problems, offer students simple applications of the concepts and therefore provide them with the chance to develop their problem-solving skills before attempting to solve any of the standard problems that follow.
- Photos placed throughout the text show how the principles of fluid mechanics apply to real-world situations.

CONTENTS

1. General Principles
2. Force Vectors
3. Equilibrium of a Particle
4. Force System Resultants
5. Equilibrium of a Rigid Body
6. Structural Analysis
7. Internal Forces
8. Friction
9. Center of Gravity and Centroid
10. Moments of Inertia
11. Virtual Work
12. Kinematics of a Particle
13. Kinetics of a Particle: Force and Acceleration
14. Kinetics of a Particle: Work and Energy
15. Kinetics of a Particle: Impulse and Momentum
16. Planar Kinematics of a Rigid Body
17. Planar Kinetics of a Rigid Body: Force and Acceleration
18. Planar Kinetics of a Rigid Body: Work and Energy
19. Planar Kinetics of a Rigid Body: Impulse and Momentum

ABOUT THE AUTHOR(S)

R C Hibbeler currently teaches both civil and mechanical engineering courses at the University of Louisiana, Lafayette. In the past he has taught at the University of Illinois at Urbana, Youngstown State University, Illinois Institute of Technology, and Union College.



ISBN: 9788177581232

Engineering Mechanics – Statics and Dynamics

Irving H. Shames | G. Krishna Mohana Rao

864 | © 2005

ABOUT THE BOOK

This book is designed to provide a mature, in-depth treatment of engineering mechanics at the undergraduate level and to offer continuity with, and a smooth transition to, upper-level courses. This text focuses on developing a solid understanding of basic principles rather than rote learning of specific methodologies.

FEATURES

- Offers an approach that improves continuity and provides a smooth transition to upper-level courses in other engineering sciences.
- Provides in-depth coverage of Screw Jack and Compound Pendulum.

CONTENTS

Part Opener I (Statics)

1. Fundamentals of Mechanics
2. Elements of Vector Algebra
3. Systems of forces
4. Equivalent Force Systems
5. Equations of Equilibrium
6. Friction Forces
7. Properties of Surfaces
8. Moments and Products of Inertia

16. Vibrations

Part Opener II (Dynamics)

9. Kinematics of a Particle-Simple Relative Motion
10. Particle Dynamics
11. Energy Methods for Particles
12. Methods of Momentum for Particles
13. Kinematics of Rigid Bodies: Relative Motion
14. Kinetics of Plane Motion of Rigid Bodies
15. Energy and Impulse-Momentum Methods for Rigid Bodies

ISBN: 9789332585508

Engineering Mechanics - Statics and Dynamics

S K Sinha

848 | © 2017

ABOUT THE BOOK

Engineering Mechanics – Statics and Dynamics - has been suitably designed to meet student's requirements. The book is aimed to be a self-tutor to the students which will help them to enhance their knowledge without any external reference. is at building clear concepts and thereby be able to solve problems a problem, rather be able to solve all similar problems.

FEATURES

- Easy to understand and lucid language.
- Excellent Pedagogy including questions from previous year question papers of Indian universities.
- Step-by-step methodology provided for solved examples.
- 600 solved examples to be provided in the book.

CONTENTS

1. Basic Principles
2. Force Systems and Resultants
3. Equilibrium
4. Friction
5. Belt and Rope Drives
6. Beams
7. Truss
8. Centroid
9. Moment of Inertia of Areas
10. Moment of Inertia of Masses
11. Simple Lifting Machines
12. Virtual-work Method
13. Kinematics of Particles
14. Motion with Constant Acceleration
15. Projectile
16. Kinetics of Particles
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ABOUT THE AUTHOR(S)

Professor Sanjay Kumar Sinha is a graduate in M.Tech with Ph.D in Mechanical Engineering from IIT, Kanpur. Presently he is associated with Department of Mechanical Engineering at IIT (Banaras Hindu University), Varanasi.
He has over 22 years of invaluable experience in teaching Engineering Mechanics to students and this book is the outcome of his great knowledge in this subject. He has also published number of research papers for national and international journals as well as conferences. He is also on the expert panel of Public Service Commission of several states, as well as at AICTE (All India Council of Technical Education).

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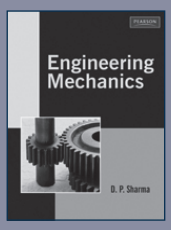

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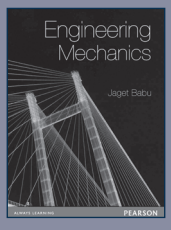

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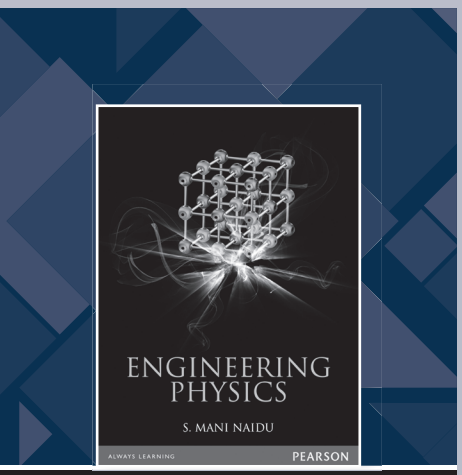

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ABOUT THE AUTHOR(S)

Dr. Mani Naidu is Prof and Head, Department of Physics at Sri Vidhyanikethan college of Engineering. He was a research assistant at Regional Engineering College, Trichy.

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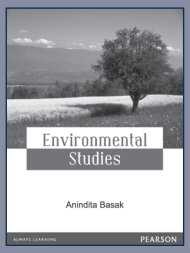

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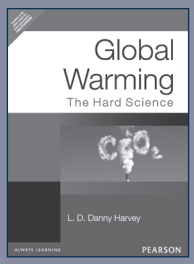

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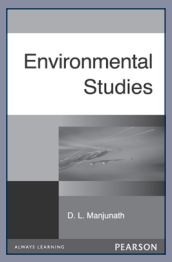

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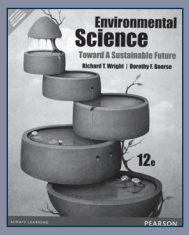

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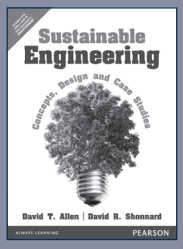

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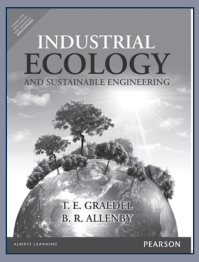

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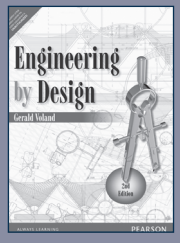

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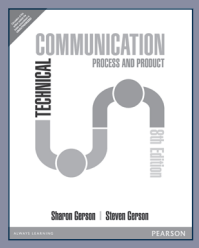

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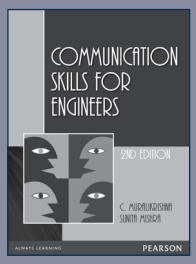

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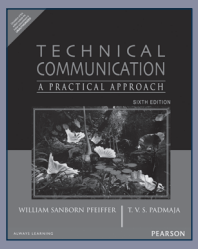

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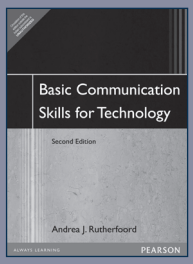

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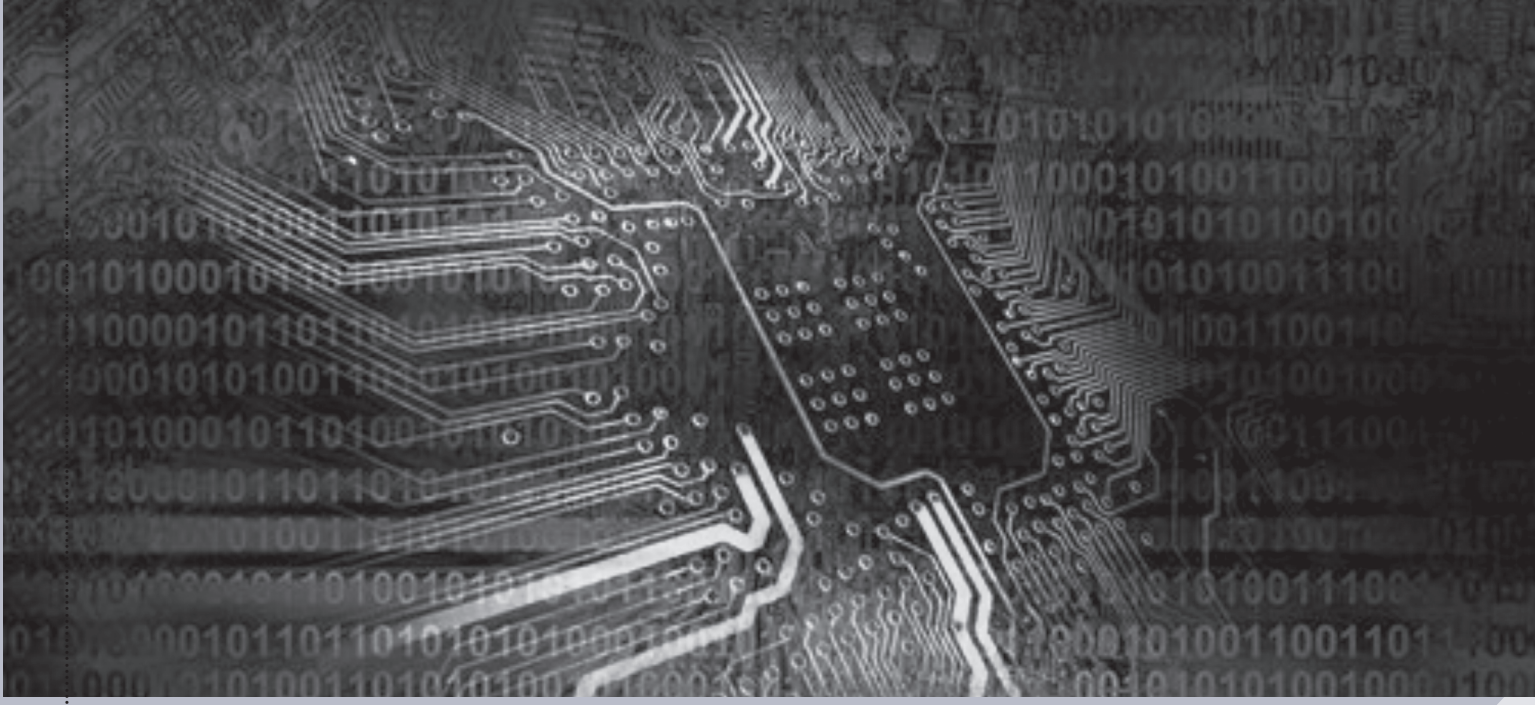

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