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MECHANICAL, CIVIL,
CHEMICAL AND
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Dr. Arindam Mukherjee, IIM-Ranchi. Area - Information Systems

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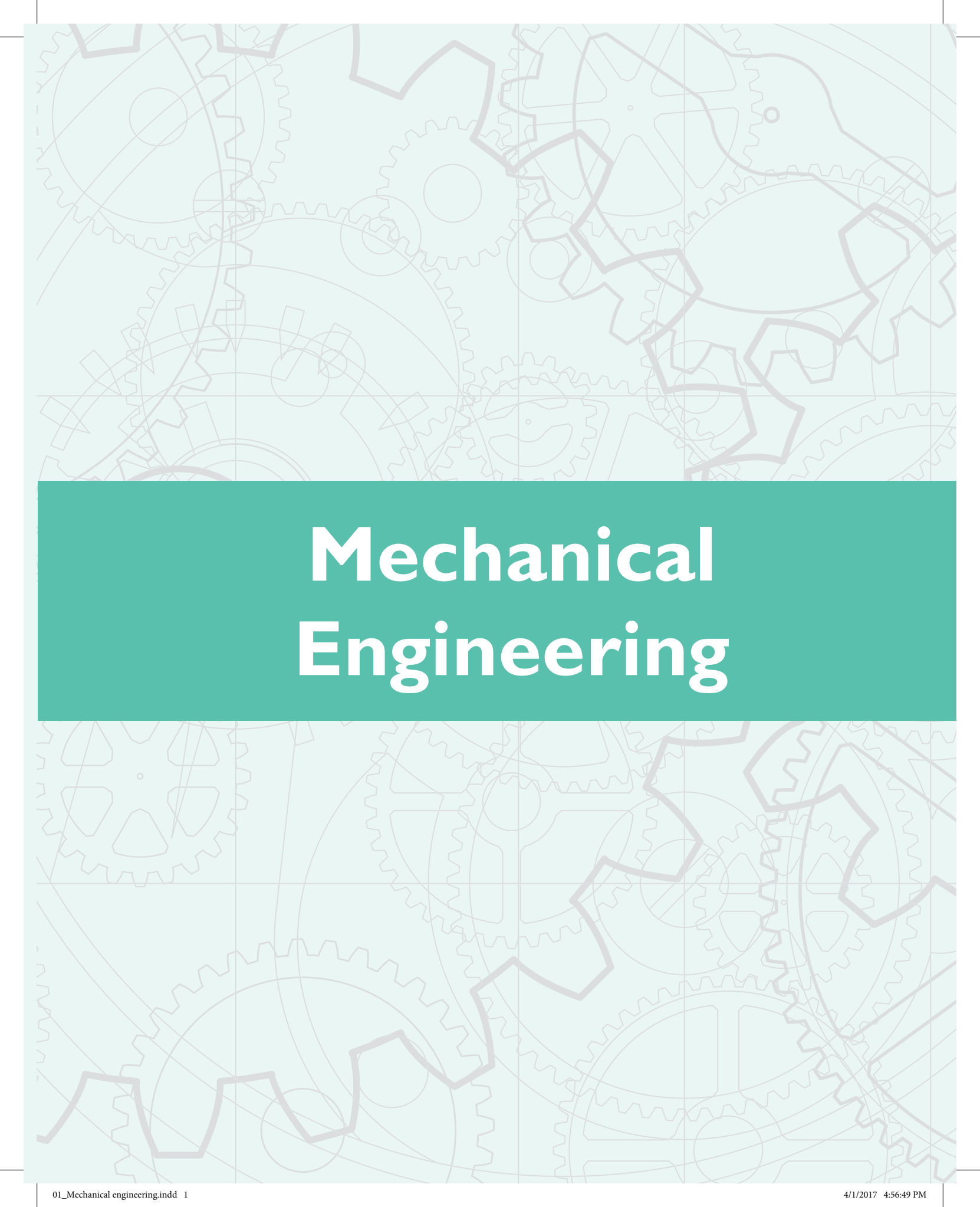
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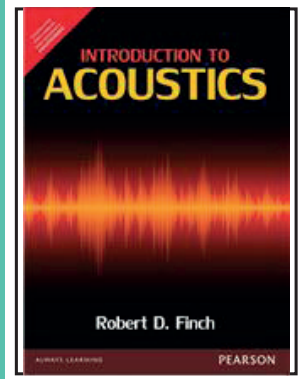
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Mechanical Engineering



Robert D. Finch

ISBN: 9789332571785

Copyright: 2016

Pages: 672

Introduction to Acoustics, 1/e

NEW

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
- Appendices
Index



Pravin Kumar

ISBN: TBA

Copyright: 2017

Pages: 656

Basic Mechanical Engineering, 2/e

New Edition

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.

>>>

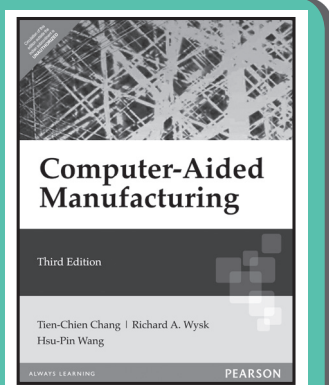


Contents

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

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.



Tien-Chien Chang
Richard A. Wysk
Hsu-Pin Wang

ISBN: 9788131721643

Copyright: 2008

Pages: 684

Computer-Aided Manufacturing, 3/e

About the Book

Using a strong science-based and analytical approach, this text provides a modern description of CAM from an engineering perspective to include design specification, process engineering, and production. It begins with discussions of part design and geometric modeling and then gives detailed coverage of individual technologies and building blocks to provide readers with a clear understanding of CAM technology.

Features

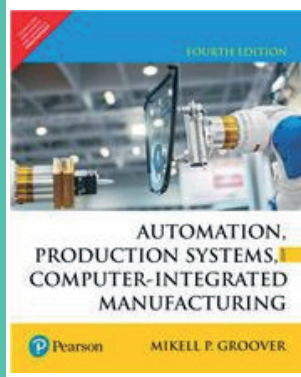
- Added material throughout-Includes discussions of CAD drafting, 3D CAD, surface modeling, solid modeling, feature-based modeling, variational and parametric modeling, tools for PLC logic design, kinematics of NC machines, and more to keep students informed of the latest developments in the field.
- 50% new problems; 20% revised-Gives students ample opportunity to practice the concepts learned.
- Focus on all engineering requirements of a product-Including design, process engineering, and automation.

Contents

1. Introduction to Manufacturing
2. Engineering Product Specification
3. Geometric Tolerancing
4. Computer-Aided Design
5. Geometric Modeling
6. Process Engineering
7. Tooling and Fixturing
8. Statistical-Based Process Engineering
9. Fundamentals of Industrial Control
10. Programmable Logic Controllers
11. Data Communications and LANs in Manufacturing
12. Fundamentals of Numerical Control
13. Numerical-Control Programming
14. Rapid Prototyping
15. Industrial Robotics

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

New Edition



Mikell P. Groover

ISBN: 9789332572492

Copyright: 2016

Pages: 816

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.

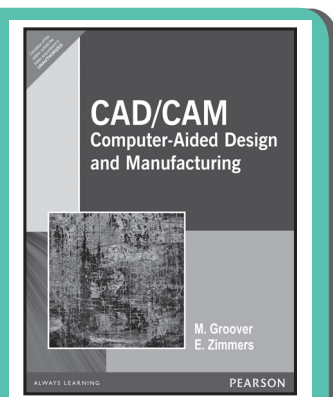
Contents

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

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.

CAD/CAM: Computer-Aided Design and Manufacturing



**M. Groover
E. Zimmers**

ISBN: 9788177584165

Copyright: 2003

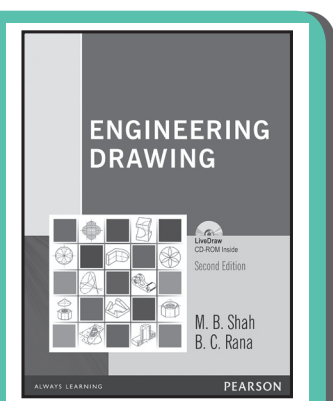
Pages: 512

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



**M. B. Shah
B. C. Rana**

ISBN: 9788131710562

Copyright: 2009

Pages: 580



**CD-ROM
INCLUDED**

Engineering Drawing, 2/e

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

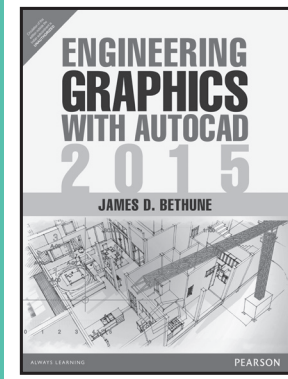
1. Basics of Engineering Drawing
2. Symbolic Lines and Lettering
3. Geometrical Constructions, Loci and Engineering Plane Curves
4. Scales
5. Projections of Points and Lines
6. Projections on Auxiliary Reference Planes
7. Projections of Planes
8. Projections of Solids
9. Sections of Solids
10. Intersection 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

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.

Engineering Graphics with AutoCAD 2015



James D. Bethune

ISBN: 9789332549340

Copyright: 2016

Pages: 840

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:

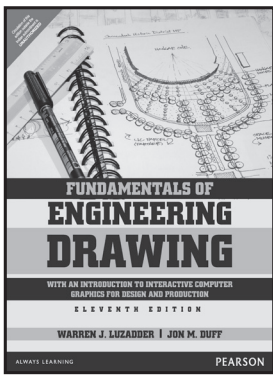
- **Step-by-step** format throughout the text allows students to work directly from the text to the screen and provides an excellent reference during and after the course.
- **Covers the latest** in dynamic blocks, user interface improvements, and productivity enhancements.
- Exercise, sample problems 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
- Index
16. Projects (online)



**Warren J. Luzadder
Jon M. Duff**

ISBN: 9789332549982

Copyright: 2015

Pages: 704

The Fundamentals of Engineering Drawing: With an Introduction to Interactive Computer Graphics for Design and Production, 11/e

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.

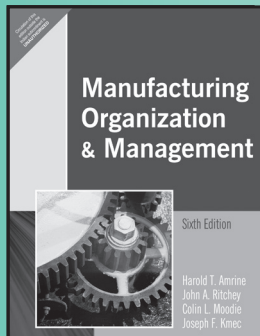
Features

- 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

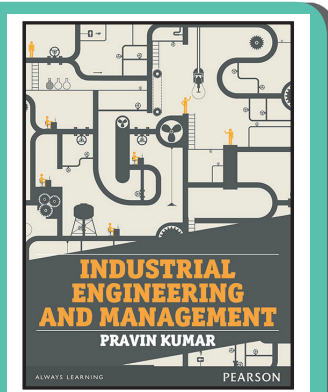
1. Introduction.
2. Drawing Instruments, Computer Drafting Equipment, and Techniques
3. Engineering Geometry
4. The Representation of Space Relationships: Two and Three Dimension
5. Multiview Representation for Design and Product Development
6. Freehand Sketching for Visualization and Communication
7. 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, Cams, Linkages, Springs, and Bearings
22. Electronic Drawings
23. Structural Drawings
24. Topographic and Engineering Map Drawings

Also Available



ISBN: 9788177582758

Pages: 640

**Pravin Kumar**

ISBN: 9789332543560

Copyright: 2015

Pages: 672

Industrial Engineering and Management

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.
 - o 350+ Figures and Illustrations.
 - o 100+ Solved Questions.
 - o 300+ Unsolved Questions.
 - o 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



Kenneth G. Budinski
Michael K. Budinski

ISBN: 9789332574045

Copyright: 2016

Pages: 784

Engineering Materials : Properties and Selection, 9/e

NEW

About the Book

This introductory text covers theory and industry-standard practices, providing students with the working knowledge to make an informed selection 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

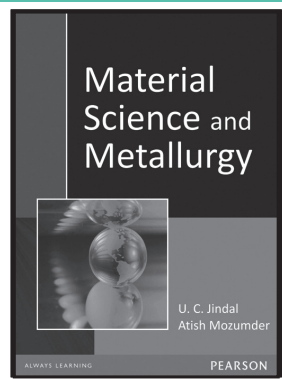
- Features the latest cost and usage data to reflect current worldwide conditions, materials, engineering theories, and practices.
- Recommends a repertoire of materials that meet most design needs.
- Includes critical concepts sections that outline the key concepts of each chapter and give students 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

Kenneth G. Budinski
Michael K. Budinski



U C Jindal
Atish Mozumder

ISBN: 9788131759110

Copyright: 2012

Pages: 552

Material Science and Metallurgy

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

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.

Material Science and Metallurgy

About the Book

Material Science and Metallurgy is designed to cater to the needs of first-year undergraduate mechanical engineering students. This book covers theory extensively, including an extensive examination of powder metallurgy and ceramics, accompanied by useful diagrams and derivations.

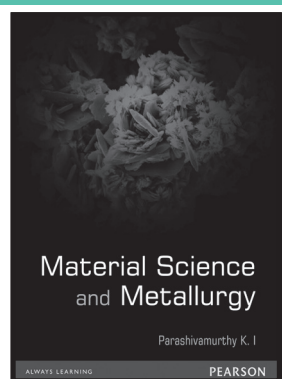
Features

- Solved problems in each chapter help the students relate to the core concepts easily.
- Numerous review questions and the multiple choice questions provide students with a systematic learning approach.
- Model question papers and their solutions have been included to equip the student with adequate practice material.

Contents

1. Atomic Structure
2. Crystal Structure
3. Crystal Imperfections
4. Atomic Diffusion
5. Mechanical Behaviour of Metals
6. Fracture
7. Creep
8. Fatigue
9. Solidification of Metals and Alloys
10. Solid Solutions

»»»



K I Parashivamurthy

ISBN: 9788131761625

Copyright: 2012

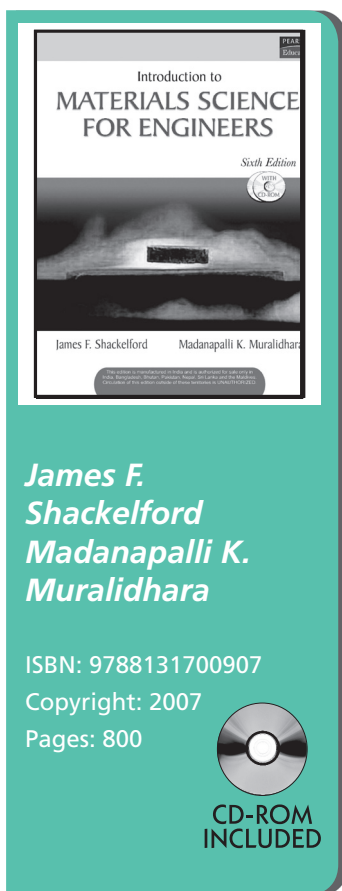
Pages: 284



- | | |
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| 11. Phase Diagrams | 16. Properties of Ferrous and Non-ferrous Materials |
| 12. Iron Carbon Equilibrium Diagram | 17. Powder Metallurgy |
| 13. Isothermal and Continuous Cooling Transformation Diagrams | 18. Ceramic Materials |
| 14. Heat Treatment | 19. Corrosion of Metals and Alloys |
| 15. Composite Materials | |

About the Author

K. I. Parashivamurthy obtained his B.E. in Mechanical Engineering during 1990, his M.Tech.



Introduction to Materials Science for Engineers, 6/e

About the Book

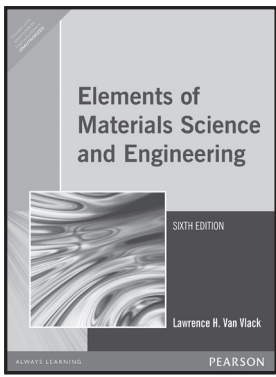
This text provides a balanced and current treatment of the full spectrum of engineering materials, covering all the physical properties, applications and relevant properties associated with the subject. It explores all the major categories of materials while offering detailed examinations of a wide range 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 | 11. Metals |
| I. The Fundamentals | 12. Ceramics and Glasses |
| 2. Atomic Bonding | 13. Polymers |
| 3. Crystalline Structure — Perfection | 14. Composites |
| 4. Crystal Defects and Noncrystalline Structure — Imperfection | III. The Electronic, Optical, and Magnetic Materials |
| 5. Diffusion | 15. Electrical Behavior |
| 6. Mechanical Behavior | 16. Optical Behavior |
| 7. Thermal Behavior | 17. Semiconductor Materials |
| 8. Failure Analysis and Prevention | 18. Magnetic Materials |
| 9. Phase Diagrams — Equilibrium Microstructural Development | IV. Materials in Engineering Design |
| 10. Kinetics — Heat Treatment | 19. Environmental Degradation |
| II. The Structural Materials | 20. Materials Selection |

Elements of Material Science and Engineering, 6/e

**Lawrence H.
Van Vlack**

ISBN: 9788131706008

Copyright: 1959

Pages: 610

About the Book

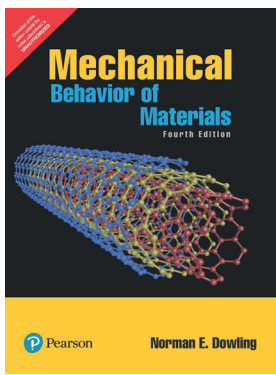
This classic textbook, Elements of Materials Science and Engineering, is the sixth in a series of texts that have pioneered in the educational approach to materials science engineering and have literally brought the evolving concept of the discipline to over one million students around the world.

Contents

1. Introduction to Materials Science and Engineering
2. Atomic Bonding and Coordination
3. Crystals (Atomic Order)
4. Disorder in Solid Phases
5. Phase Equilibria
6. Reaction rates
7. Microstructures
8. Deformation and Fracture
9. Shaping, Strengthening, and Toughening Processes
10. Polymers and Composites
11. Conduction Materials
12. Magnetic Properties of Ceramics and Metals
13. Dielectric and Optical Properties of Ceramics and Polymers
14. Performance of Materials in Service

Mechanical Behavior of Materials, 4/e

NEW



Norman E. Dowling

ISBN: TBA

Copyright: 2017

Pages: 960

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

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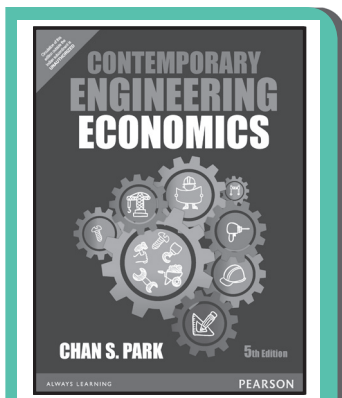
- | | |
|---|--|
| 8. Fracture of Cracked Members | Deforming Members |
| 9. Fatigue of Materials: Introduction and Stress-Based Approach | 14. Strain-Based Approach to Fatigue |
| 10. Stress-Based Approach to Fatigue: Notched Members | Appendix A Review of Selected Topics from Mechanics of Materials |
| 11. Fatigue Crack Growth | Appendix B Statistical Variation in Materials Properties |
| 12. Plastic Deformation Behavior and Models for Materials | 15. Time-Dependent Behavior: Creep and Damping |
| 13. Stress—Strain Analysis of Plastically | |

About the Author

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.



Chan S. Park

ISBN: 9789332550148

Copyright: 2015

Pages: 900

Contemporary Engineering Economics 5/e

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

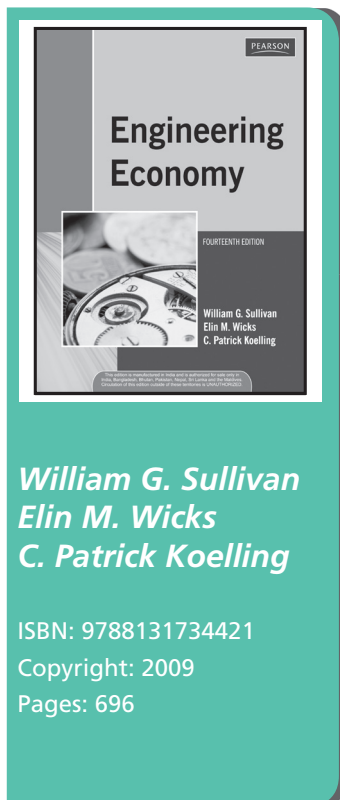
5. Present-Worth Analysis
6. Annual Equivalent-Worth Analysis
7. Rate-of-Return Analysis

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



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

ISBN: 9788131734421

Copyright: 2009

Pages: 696

Engineering Economy, 14/e

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

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

New Edition

R. C. Hibbeler

ISBN: TBA

Copyright: 2017

Pages: 1264

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.

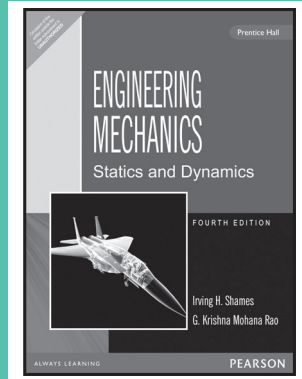
Contents

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

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.

Engineering Mechanics – Statics and Dynamics



**Irving H. Shames
G. Krishna Mohana
Rao**

ISBN: 9788177581232

Copyright: 2006

Pages: 864

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

Part Opener II (Dynamics)

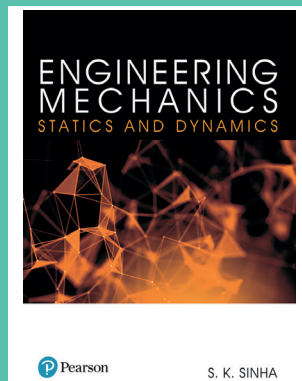
9. Kinematics of a Particle-Simple

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
16. Vibrations

Engineering Mechanics - Statics and Dynamics

NEW



S K Sinha

ISBN: TBA

Copyright: 2017

Pages: 848

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. It 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

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.

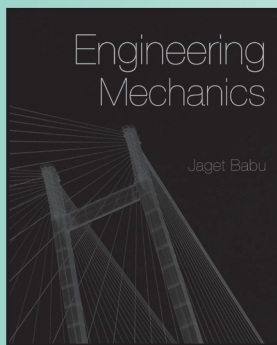
He has over 22 years of invaluable experience in teaching Engineering Mechanics to students and this book is the outcome of his great knowledge in this subject. He has also published number of research papers for national and international journals as well as conferences. He is also on the expert panel of Public Service Commission of several states, as well as at AICTE (All India Council of Technical Education).

Also Available



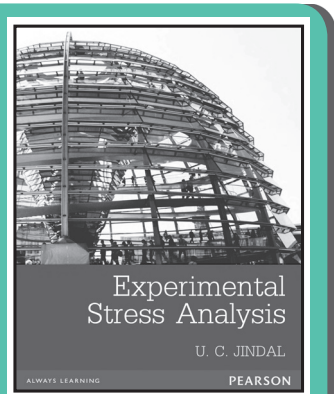
ISBN: 9788131732229

Pages: 624



ISBN: 9788131770504

Pages: 948



U C Jindal

ISBN: 9788131759103

Copyright: 2012

Pages: 412

Experimental Stress Analysis

About the Book

The book is presented in 12 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. The contents of the book are designed taking into account the syllabi of various universities and technical institutions. The text has been class tested in Delhi College of Engineering and Amity University, Noida.

Features

- 89 solved examples.
- 95 unsolved problems with answers.
- 62 review questions.
- 83 multiple-choice questions with answers.

Contents

- | | |
|--|--|
| 1. Introduction | 8. Strain Gages |
| 2. Mechanical Behaviour of Materials | 9. Photoelasticity |
| 3. Fixed Beams | 10. Brittle Coating Technique |
| 4. Continuous Beams | 11. Moire Fringes Technique |
| 5. Torsion of Non-Circular Shafts | 12. Aircraft Structures |
| 6. Statically Indeterminate Structures | 13. Experiments in Material Testing and Experimental Stress Analysis |
| 7. Rotational Stresses | |

About the Author

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.



**Akhtar S. Khan
Xinwei Wang**

ISBN: TBA
Copyright: 2001
Pages: 276

Strain Measurements and Stress Analysis

COMING
SOON

About the Book

The book is designed for use in junior/senior level undergraduate courses, as well as, introductory graduate courses in Experimental Stress Analysis offered in ME, CE, Aerospace Departments.

The authors realized that there are currently no texts in the marketplace that include sufficient solved examples, along with the ability to cover theories of experimental technique, in such a way as to promote self-teaching by the student. The authors' objective is to allow the student to review the materials before stepping into a laboratory situation. Chapters are written in a very concise, easily understandable manner and features the inclusion of ample solved equations, designed to test the students understanding of learned topics.

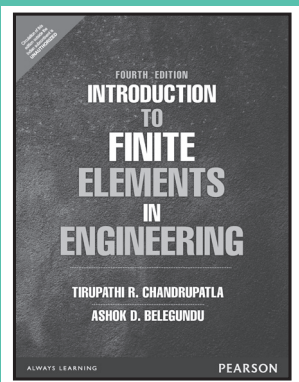
Features

- Introduction section at the beginning of each chapter—Summarizes the content and focus of each chapter.
- Sufficient solved examples and theory of experimental techniques—Explained at an undergraduate level.
- Worked out examples at the end of each chapter.
- Helps students learn the application on their own before entering the laboratory.
- Includes twenty laboratory exercises. Accompanies each text in order to assist instructor's who may be designing or modifying a laboratory course.

Contents

1. Stress, Strain, and Stress-Strain Relationships
2. Metal-Foil Resistance Strain Gages
3. Strain Gage Circuitry, Transducers, and Data Analysis
4. Photoelasticity
5. Photoelasticity-Coating Method
6. Geometric Moiré Techniques in Strain Analysis
7. Holographic Interferometry
8. Computer Data Acquisition and Control System

Introduction to Finite Elements in Engineering, 4/e



**Tirupathi R. Chandrupatla
Ashok D. Belegundu**

ISBN: 9789332551824
Copyright: 2015
Pages: 448

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.

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- 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



Finite Element Method with Applications in Engineering

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

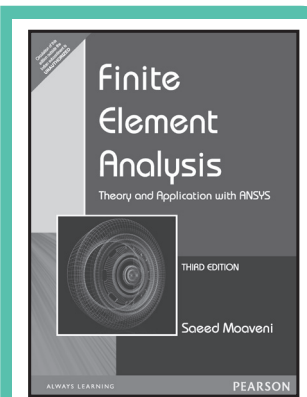
- Separate chapters are devoted to basic mathematical modeling, approximate method of analysis, introduction and different approaches to FEM.
- Comprehensive coverage of FEM interpolation functions.
- Finite element analysis for various problems in 1D, 2D and 3D.

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 Authors

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.

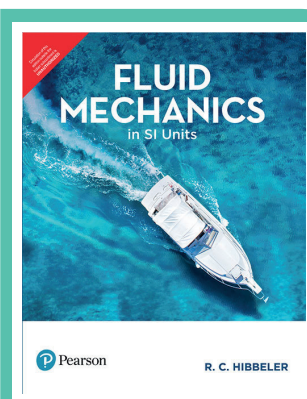


Saeed Moaveni

ISBN: 9788131760642

Copyright: 2008

Pages: 880



R C Hibbeler

ISBN: 9789332547018

Copyright: 2017

Pages: 864

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

About the Book

While many good textbooks cover the theory of finite element modeling, this is the only text available that incorporates ANSYS as an integral part of its content. Moaveni presents the theory of finite element analysis, explores its application as a design/modeling tool, and explains in detail how to use ANSYS intelligently and effectively

Fluid Mechanics in SI Units

NEW

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

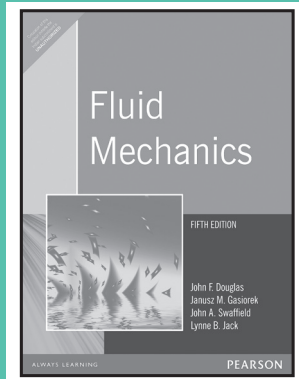
- Each chapter is organized into well-defined sections that contain an explanation of specific topics, illustrative example problems, and at the end of the chapter, a set of relevant homework problems.
- Fundamental Problems, selectively located after the example problems, offer students simple applications of the concepts and therefore provide them with the chance to 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. 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 Authors

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.



John F. Douglas
Janusz M. Gasiorek
John A. Swaffield
Lynne B. Jack

ISBN: 9788131721407
 Copyright: 2008
 Pages: 992

Fluid Mechanics, 5/e

About the Book

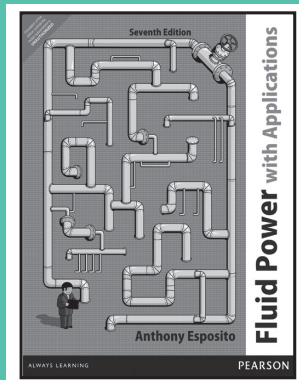
Written for courses in Fluid Mechanics in Civil and Mechanical Engineering, this text covers the fundamental principles of fluid mechanics, as well as specialist topics in more depth. The fundamental material relates to all engineering disciplines that require fluid mechanics.

Features

- The most comprehensive student text available on the market.
- Suitable for all years of an undergraduate course in mechanical or civil engineering.
- Worked examples throughout.
- Start of chapter objectives and end of chapter summaries.
- Highlighted key equations - for easy reference.
- References to other books.
- List of symbols - for clarity and ease of use.
- Written entirely in SI (metric) units.

Contents

1. Elements of Fluid Mechanics
2. Concepts of Fluid Flow
3. Dimensional Analysis and Similarity
4. Behaviour of Real Fluids
5. Steady Flow in Pipes, Ducts and open Channels
6. Fluid Mechanics for Environmental Change
7. Fluid Machinery Theory, Performance and Application



Anthony Esposito

ISBN: 9789332518544
 Copyright: 2014
 Pages: 648

Fluid Power with Applications, 7/e

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

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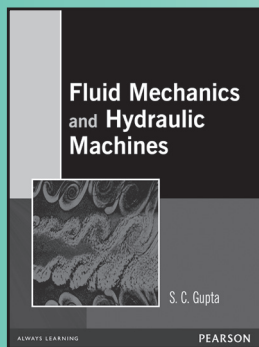
7. Hydraulic Motors
8. Hydraulic Valves
9. Hydraulic Circuit Design and Analysis.
10. Hydraulic Conductors and Fittings.
11. Ancillary Hydraulic Devices.
12. Maintenance of Hydraulic Systems.
13. Pneumatics: Air Preparation and Components.
14. Pneumatics: Circuits and Applications.
15. Basic Electrical 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 Authors

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.

Upon receiving a Masters Degree in Mechanical Engineering from Union College in 1965, Anthony left General Electric to begin a teaching career at Miami University within the Manufacturing Engineering Department. In 1969 he received his Professional Engineer's License from the State of Ohio. He served as Chairman of the Manufacturing Engineering Department from 1976 to 1992. During his career at Miami University, he authored four engineering technology college textbooks, including "FLUID POWER WITH APPLICATIONS" published by Prentice Hall. His current title at Miami University is Professor Emeritus.

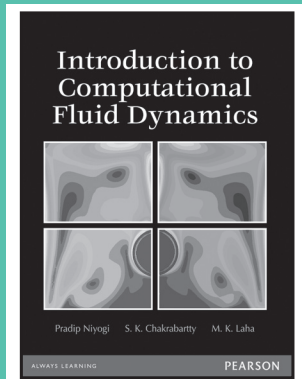
Also Available



ISBN: 9788177583649

Pages: 596

Introduction to Computational Fluid Dynamics



Pradip Niyogi
S. K. Chakrabarty
M.K. Laha

ISBN: 9788177587647

Copyright: 2005

Pages: 600

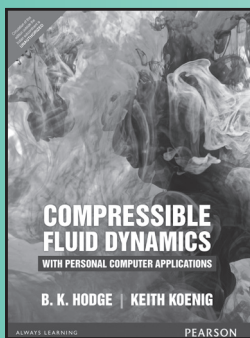
About the Book

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

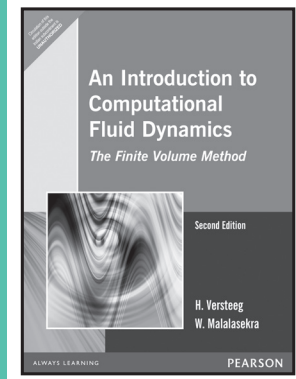
- It is a first course written with the specific background of Indian students in mind, that prepares the student with necessary prerequisites and mathematical foundation.
- It covers the basic concepts of the more important and useful finite-difference and finite-volume methods needed in the application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

Also Available



ISBN: 9789332559455

Pages: 648



**H. Versteeg
W. Malalasekera**

ISBN: 9788131720486

Copyright: 2008

Pages: 512

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

About the Book

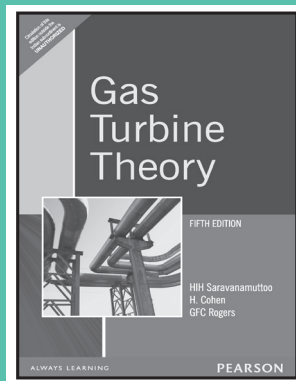
This established, leading textbook, is suitable for courses in CFD. The new edition covers new techniques and methods, as well as considerable expansion of the advanced topics and applications (from one to four chapters).

Features

- Presents a broad introduction to fluid and turbulence physics and computational modelling techniques.
- Incorporates an advanced applications section.
- Uses easy-to-programme computer algorithms for the PC.

Contents

1. Introduction
2. Conservation laws of fluid motion and their boundary conditions
3. Turbulence and its modeling
4. The finite volume method for diffusion problems
5. The finite volume method for convection-diffusion problems
6. Solution algorithms for pressure-velocity coupling in steady flows
7. Solution of systems of discretised equations
8. The finite volume method for unsteady flows
9. Implementation of boundary conditions
10. Uncertainty in CFD modeling
11. Methods for dealing with complex geometries
12. CFD modelling of combustion
13. Numerical calculation of radiative heat transfer



**HH
Saravanamuttoo
H. Cohen
GFC Rogers**

ISBN: 9788177589023

Copyright: 2001

Pages: 512

Gas Turbine Theory, 5/e

About the Book

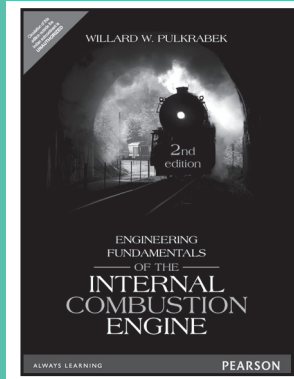
Despite the rapid advances in both output and efficiency, the basic theory of the gas turbine has remained unchanged. The layout of this new edition is broadly similar to the original, but greatly expanded and updated comprising an outline of the basic theory, aerodynamic design of individual components, and the prediction of off-design performance.

Features

- Completely updated to cover industry requirements and applications.
- Coverage of both aircraft and industrial gas turbines.
- Includes detailed treatment of off-design performance.
- Incorporates in-depth examples throughout.
- Based on the author's extensive teaching and professional experience.

Contents

1. Introduction
2. Shaft power cycles
3. Gas turbine cycles for aircraft propulsion
4. Centrifugal compressors
5. Axial flow compressors
6. Combustion systems
7. Axial and radial flow turbines
8. Prediction of Performance of simple gas turbines
9. Prediction of Performance-further topics



Willard W. Pulkrabek
University of Wisconsin-Platteville

ISBN: 9789332549494
Copyright: 2015
Pages: 504

Engineering Fundamentals of the Internal Combustion Engine, 2/e

About the Book

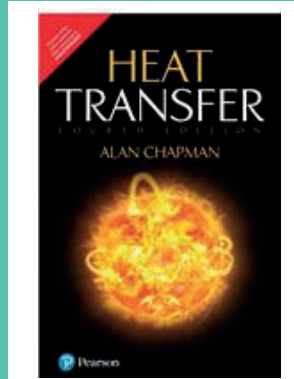
This applied thermoscience text explores the basic principles and applications of various types of internal combustion engines, with a major emphasis on reciprocating engines. It covers both spark ignition and compression ignition engines—as well as those operating on four-stroke cycles and on two stroke cycles—ranging in size from small model airplane engines to the larger stationary engines.

Features

- NEW - Added and expanded topics—i.e., variable valve control; fuel injection; hydrogen fuel; fuel cells; and noise pollution.
- NEW - Real data from actual engines.
- NEW - Over 50 new worked example and review problems—Combine with open-ended design problems in each chapter.
- NEW - Added and improved figures throughout.
- NEW - Added historical notes.
- Use of both SI units and English units—With a conversion tables of SI and English units of common parameters used in engine work found in the Appendix.
- Photographs, line drawings, and cycle diagrams.

Contents

1. Introduction
2. Operating Characteristics
3. Engine Cycles
4. Thermochemistry and Fuels
5. Air and Fuel Induction
6. Fluid Motion within Combustion Chamber.
7. Combustion
8. Exhaust Flow
9. Emissions and Air Pollution
10. Heat Transfer in Engines
11. Friction and Lubrication



Alan Chapman

ISBN: 9789332575066
Copyright: 2016
Pages: 624

Heat Transfer, 4/e

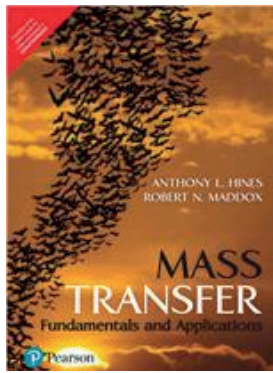
NEW

About the Book

This text 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.



Anthony L. Hines
Robert N. Maddox

ISBN: 9789332574069

Copyright: 2016

Pages: 560

Mass Transfer, 1/e

NEW

About the Book

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

Features

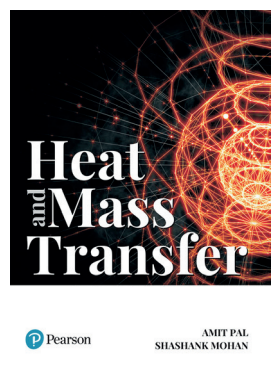
- Combines coverage of microscopic diffusional processes and macroscopic separation methods into a single volume.
- Gives mathematical methods for solving partial differential equations of diffusion -- including the use of the Method of Weighted residuals.
- Discusses multicomponent separations -- including 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

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



Amit Pal
Shashank Mohan

ISBN: TBA

Copyright: 2017

Pages: 736

Heat and Mass Transfer

NEW

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.
- Excellent Pedagogy including questions from GATE and IES.
- 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

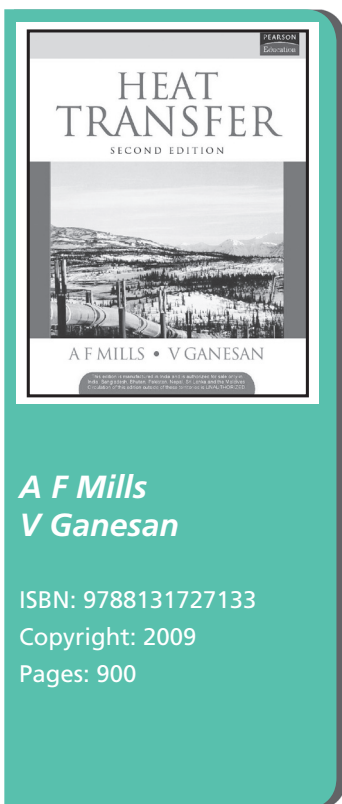
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- | | |
|---|-------------------|
| 10. Heat Exchangers | Transfer |
| 11. Radiation: Processes and Properties | 13. Mass Transfer |
| 12. Radiation Exchange Between Surfaces | |

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.



**A F Mills
V Ganesan**

ISBN: 9788131727133
 Copyright: 2009
 Pages: 900

Heat Transfer, 2/e

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.

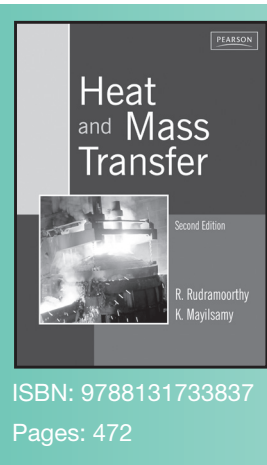
Features

- 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
- New chapter on Mass Transfer
- Over 350 exercises that reinforce fundamental concepts

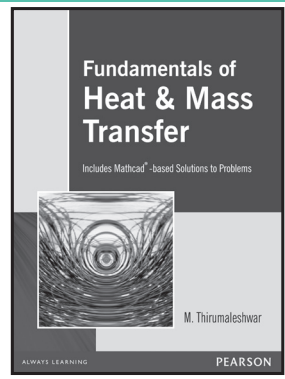
Contents

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

Also Available



ISBN: 9788131733837
 Pages: 472



M. Thirumaleshwar

ISBN: 9788177585193

Copyright: 2006

Pages: 800

Fundamentals of Heat and Mass Transfer

About the Book

This book is written as a Text Book for senior undergraduates in Engineering Colleges of Indian Universities, in the departments of Mechanical, Automobile, Production, Chemical, Nuclear and Aerospace Engineering.

Features

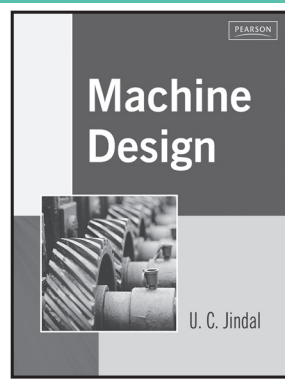
- It is a product of experience gained over many years in teaching the subject, refined with feed back from the students.
- The material is class tested, as stated above.

Contents

1. Introduction and Basic Concepts
2. Fourier's Law and Its Consequences
3. General Differential Equations for Heat Conduction
4. One-Dimensional, Steady-State Heat Conduction Without Heat Generation
5. One-Dimensional, Steady-State Heat Conduction With Heat Generation
6. Heat Transfer from Extended Surfaces (Fins)
7. Transient Heat Conduction
8. Numerical Methods in Heat Conduction
9. Forced Convection
10. Natural Convection
11. Boiling and Condensation
12. Heat Exchangers
13. Radiation
14. Mass Transfer

About the Author

M. Thirumaleshwar graduated in Mechanical Engineering from Karnataka Regional Engineering College, Surathkal in the year 1965. He obtained M.Sc (cryogenis) from University of Southampton, U.K. and Ph.D.(cryogenics) from Indian Institute of Science, Bangalore.



U. C. Jindal

ISBN: 9788131716595

Copyright: 2010

Pages: 892

Machine Design

About the Book

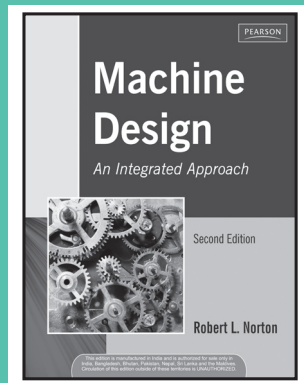
Machine Design is a text on the design of machine elements for the engineering undergraduates of mechanical/production/industrial disciplines. The book provides a comprehensive survey of machine elements and their analytical design methods. Besides explaining the fundamentals of the tools and techniques 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



Robert L. Norton

ISBN: 9788131705339

Copyright: 2000

Pages: 875

Machine Design: An Integrated Approach, 2/e

About the Book

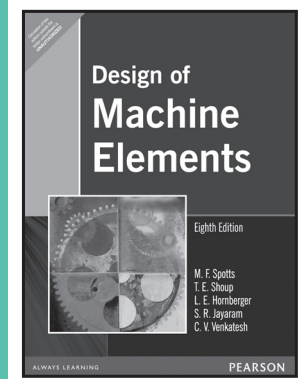
A thorough and comprehensive textbook dealing with machine design that emphasizes both failure theory and analysis as well as emphasizing the synthesis and design aspects of machine elements. The book points out the commonality of the analytical approaches needed to design a wide variety of elements 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



**M. F. Spotts
T. E. Shoup
L. E. Hornberger
S. R. Jayaram
C. V. Venkatesh**

ISBN: 9788177584219

Copyright: 2007

Pages: 680



**CD-ROM
INCLUDED**

Design of Machine Elements, 8/e

About the Book

Now in its eighth edition, this newly revised version of the classic machine-design text contains 12 self-contained chapters covering the fundamental principles of this important branch of mechanical engineering. The material is drawn from a variety of sources and makes extensive use of structured computational examples to illustrate design applications.

Features

- A chapter devoted to form-synthesis of machine parts to enable the reader to critique existing machine assemblages with a view toward creating improved designs.
- A CD-ROM containing 54 Microsoft Excel spreadsheet modules to assist with the implementation of complex design tasks. Most of these modules now feature drop-down menus, as well as dual-unit capabilities.
- A review of the fundamentals of the strength of materials.
- Independent chapters that can be studied in any order to accommodate a variety of learning modes.

Contents

1. Fundamental Principles
2. Working Stresses and Failure Theories
3. Design of Shafts
4. Springs
5. Screws
6. Belts, Clutches, Brakes, and Chains
7. Welded and Riveted Connections
8. Lubrication
9. Ball and Roller Bearings
10. Spur Gears
11. Helical, Bevel and Worm Gears
12. Miscellaneous Machine Elements



Arthur G. Erdman
George N. Sandor
Sridhar Kota

ISBN: TBA
 Copyright: 2017
 Pages: 688

Mechanism Design: Analysis and Synthesis

NEW

About the Book

For junior/senior-level courses in Kinematics, Mechanisms, and Dynamics.

This thorough and comprehensive web-enhanced edition has been updated and enhanced to meet the needs of today's students.

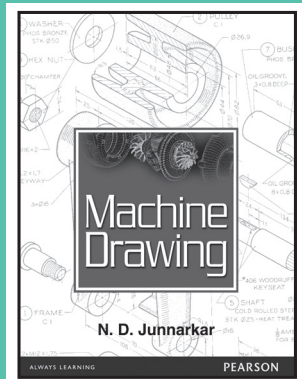
The software associated with the book makes it very useful for designing and analyzing linkage and CAM mechanisms. No other book has a web connection like this one.

Features

- Web Enhanced Features.
- To find out more about MSC.Adams® software and how it can be used to complement the use of this text, visit www.mscsoftware.com/university or send an email to university@mscsoftware.com.
- NEW - Over 200 animated movie files of mechanisms and machines.
- NEW - A new CAM design package.
- NEW - New problems, tutorials, and exercises.
- Self-check problems for students.
- NEW - New material—Includes coverage of type synthesis, robot grippers, and curvature cognates.
- Coverage of traditional material—With a significant treatment of kinematic synthesis.
- All material explored both graphically and analytically.
- Graphical methods are used to fully explain basic principles.
- Graphically-based methods grouped together—Followed by analytical and computer-based solutions.
- Flow charts for computer programs.
- In-depth and rigorous discussions—On displacement and velocity analysis; acceleration and force analysis; and cam design.
- Numerous real-life industrial examples.
- Over 300 multi-part problems that represent a mix of SI and English units.

Contents

1. Introduction to Kinematics and Mechanisms
 2. Computer-Aided Mechanism Design Philosophy
 3. Displacement and Velocity Analysis
 4. Acceleration Analysis
 5. Introduction to Dynamics of Mechanisms
 6. Cam Design
 7. Gears and Gear Trains
 8. Introduction to Kinematic Synthesis: Graphical and Linear Analytical Methods
- Appendix: Case Study-Type Synthesis of Casement Window Mechanisms
 Answers to Selected Problems
 References
 Index



N. D. Junnarkar

ISBN: 9788131706787

Copyright: 2004

Pages: 552

Machine Drawing

About the Book

This book on Machine Drawing is divided into three parts.

Part I deals with the basic principles of technical drawing, dimensioning, limits, fits and tolerances.

Part II provides details of how to draw and put machine components together for an assembly drawing.

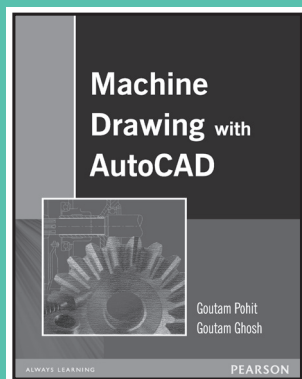
Part III contains problems on assembly drawings taken from the diverse fields of mechanical, production, automobile and marine engineering.

Features

- Strictly in accordance with the latest code of practice issued by BIS, SP-46.
- Chapters on Engineering Materials and Manufacturing Processes.
- Discusses conventional representation of common machine components.
- A chapter devoted on computer-aided approach to machine drawing.
- Solved and 40 practice problems on assembly drawing with hints.

Contents

1. Theoretical Concepts
2. Assembly Drawings
3. Problems on Assembly Drawings



**Goutam Pohit
Goutam Ghosh**

ISBN: 9788131706770

Copyright: 2004

Pages: 496

Machine Drawing with AutoCAD

About the Book

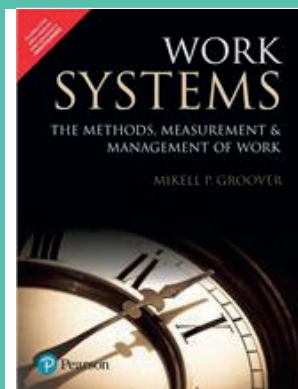
AutoCAD is one of the most powerful and economical software for drafting and designing available in the market today. Keeping this software as the platform, the book Machine Drawing with AutoCAD provides a comprehensive and practical overview of machine drawing. It follows an approach that first uses the manual mode of drafting and then AutoCAD. Starting from 2D drawing, the book takes the reader to the world of solid modeling in a 3D environment.

Features

- Uses the basic commands/features of AutoCAD unchanged from release 2000 onwards, making the book version-independent.
- Helps learn AutoCAD while drawing machine elements with no reference to any book/manual on AutoCAD.
- Exposure to working in paper space and model space.
- Drawings explained with 3-D solid models.

Contents

1. Introduction
2. Orthographic Projection
3. Computer-Aided Drafting Packages with AutoCAD
4. Dimensioning in AutoCAD
5. Section and Sectional Views
6. Thread and Fasteners
7. Keys, Cotter Joints, Pin Joints
8. Paper Space and Model Space
9. Solid Modelling
10. Pulleys
11. Shaft Coupling, Clutches
12. Pipe Joints
13. Valves
14. Gears
15. Production Drawing
16. Miscellaneous Machine Components



Mikell P. Groover

ISBN: 9789332581241

Copyright: 2017

Pages: 744

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

NEW

About the Book

Divided into two major areas of study - work systems, and work methods, measurement, and management - this guidebook provides up-to-date, quantitative coverage of work systems and how work is analyzed and designed. Thorough, broad-based coverage addresses nearly all of the traditional topics of industrial engineering that relate to work systems and work science. The author's quantitative approach summarizes many aspects of work systems, operations analysis, and work measurement using mathematical equations and quantitative examples.

Features

- Work systems discussion - Includes topics such as worker-machine systems, assembly lines, service operations, office work, projects, and material handling.
- Work methods, measurement, and management coverage -Addresses methods engineering, operations analysis, facilities planning, time study, ergonomics, lean production, six sigma quality programs, work organization, and compensation systems.
- Thirty chapters are organized into six parts - Work Systems and How They Work; Methods Engineering and Layout Planning; Time Study and Work Measurement; New Approaches in Process Improvement and Work Management; Ergonomics and Human Factors in the Workplace, and Traditional Topics in Work Management.
- Unique historical notes - Provide a valuable perspective on the various techniques and topics discussed.
- Emphasis on the management aspects of work - Covers topics such as organization theory, wage administration, worker motivation, and job evaluation.
- Broadened scope of time and motion study - Addresses the systems by which work is accomplished, such as worker-machine systems, manufacturing cells, assembly lines, projects, and office work pools.
- Extensive problem sets and review questions - Features nearly 500 end-of-chapter review questions and more than 400 end-of-chapter problems.
- Historical notes - Provide a historical perspective of the various techniques and topics.
- Solid instructional support - Features an online, downloadable solutions manual with answers to all review questions and solutions to all problems, plus a complete set of PowerPoint slides covering all chapters.
- Distinct coverage of ergonomics - Addresses physical ergonomics, cognitive ergonomics, work environment, and safety separately from the traditional techniques of methods engineering (such as charting techniques and motion economy principles).

Contents

1. Introduction
- Part I Work Systems and How They Work
2. Manual Work and Worker-Machine Systems
3. Work Flow, Batch Processing, and Work Cells
4. Manual Assembly Lines
5. Logistics Operations
6. Service Operations and Office Work
7. Projects and Project Management
- Part II Methods Engineering and Layout Planning
8. Introduction to Methods Engineering and Operations Analysis
9. Charting and Diagramming Techniques for Operations Analysis
10. Motion Study and Work Design
11. Facility Layout Planning and Design
- Part III Time Study and Work Measurement
12. Introduction To Work Measurement
13. Direct Time Study
14. Predetermined Motion Time Systems
15. Standard Data Systems

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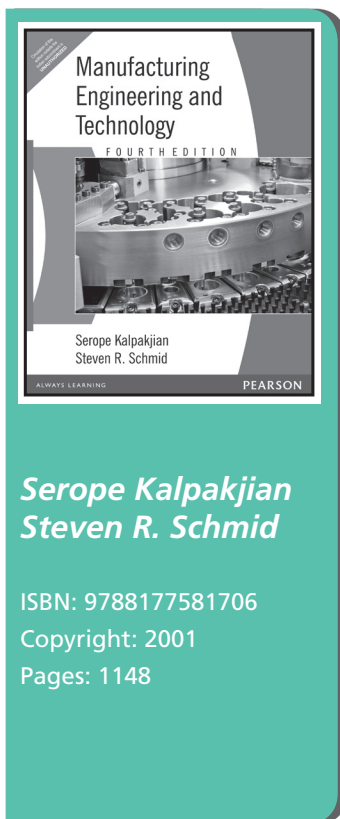
33



- 16. Work Sampling
- 17. Computerized Work Measurement and Standards Maintenance
- 18. The Economics and Applications of Time Standards
- 19. Learning Curves
- PART IV New Approaches in Process Improvement and Work Management
- 20. Lean Production
- 21. Six Sigma and Other Quality Programs
- Part V Ergonomics and Human Factors in the Workplace
- 22. Introduction to Ergonomics and Human Factors
- 23. Physical Ergonomics: Work Physiology and Anthropometry
- 24. Cognitive Ergonomics: The Human Sensory System and Information Processing
- 25. The Physical Work Environment
- 26. Occupational Safety and Health
- Part VI Traditional Topics in Work Management
- 27. Work Organization
- 28. Worker Motivation and the Social Organization at Work
- 29. Job Evaluation and Performance Appraisal
- 30. Compensation Systems

About the Book

Mikell P. Groover



**Serope Kalpakjian
Steven R. Schmid**

ISBN: 9788177581706
Copyright: 2001
Pages: 1148

Manufacturing Engineering and Technology, 4/e

About the Book

An indispensable text on the subject, the fourth edition of this book retains its emphasis on (a) the influence of materials and processing parameters in understanding manufacturing processes and operations; (b) design considerations, product quality, and manufacturing cost factors; and (c) the domestic and global competitive context of each manufacturing process and operation, highlighted with illustrative examples.

Features

- Presentation of each topic within a larger context of manufacturing engineering and technology, using extensive schematic diagrams and flowcharts.
- Emphasis on the practical uses of the concepts and information presented.
- Analogies, discussions and problems designed to stimulate the students' curiosity about consumer and industrial products and how they are manufactured.

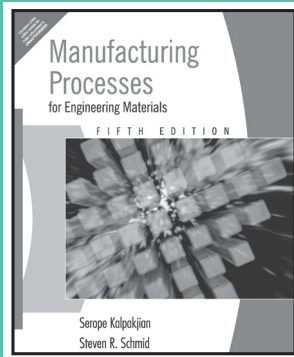
Contents

- 1. Fundamentals of Materials: Their Behavior and Manufacturing Properties
- 2. Metal-Casting Processes and Equipment
- 3. Forming and Shaping Processes and Equipment
- 4. Material-Removal Processes and Machines
- 5. Joining Processes and Equipment
- 6. Surface Technology
- 7. Common Aspects of Manufacturing
- 8. Manufacturing in a Competitive Environment

About the Authors

Professor Serope Kalpakjian has been teaching at the Illinois Institute of Technology since 1963.

Dr. 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 and manufacturing, machine design, and Tribology.



Serope Kalpakjian
Steven R. Schmid

ISBN: 9788131705667

Copyright: 2009

Pages: 1040

Manufacturing Processes for Engineering Materials, 5/e

About the Book

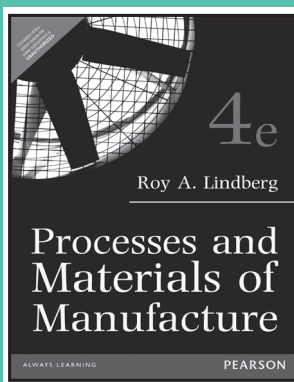
This comprehensive, up-to-date text has balanced coverage of the fundamentals of materials and processes, its analytical approaches, and its applications in manufacturing engineering. Students using this text will be able to properly assess the capabilities, limitations, and potential of manufacturing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



Roy A. Lindberg

ISBN: 9789332556973

Copyright: 2015

Pages: 880

Processes and Materials of Manufacture, 4/e

About the Book

The objective of this book is to provide engineering and management personnel with a background knowledge of processes and materials of manufacture as used in modern industry. The fact that computers now permeate the entire gamut of manufacturing has made it mandatory that this topic be integrated into an early discussion of all manufacturing processes. As examples, the lathe and milling machine are introduced in the traditional manner, but then the text emphasizes the lathe as a turning center and the milling machine as a machine center. To understand how these and other machines are using computer control, terminology such as NC, CNC and DNC are introduced. This terminology is then used throughout the book. The automatic factory and flexible manufacturing systems are discussed thoroughly. Basic subjects such as tool geometry, tool life, cutting forces and metal forming theory have not been neglected. The text presumes no previous manufacturing knowledge, however, a course in materials would be helpful.

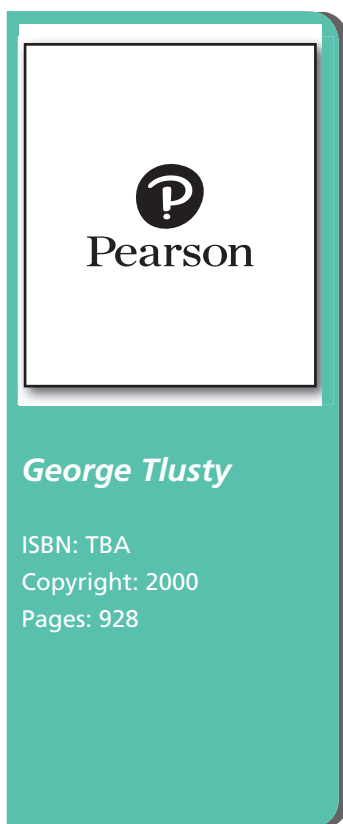
Contents

1. The Manufacturing Engineer
2. Classification and Fabricating Characteristics of Metals and Composites
3. Numerical Control (NC) and Computer Steps to the Automated Factory
4. Metrology and Quality Control
5. Metal-Cutting Theory and Practice
6. Turning and Related Operations
7. Hole Making and Related Operations
8. Milling, Broaching and Sawing
9. Grinding and Related Abrasive-finishing Processes

»»»



10. Metal-Casting Processes, Plastics and Adhesives
11. Power Metallurgy
12. Metal Stamping and Forming
13. Bulk Deformation of Metals
14. Welding Principles and Arc Welding
15. Gas Welding, Brazing, Cutting Systems and Weld Testing
16. Resistance, Specialized and Solid-state Welding
17. Nontraditional Machining
18. Process Planning
19. Table A: Properties of Metals
20. Table B: Application of Carbides
21. Table C: Materials Machinable by Ceramic
22. Table D: Recommended Starting Parameters for Machining with Polycrystalline Tools
23. Table E: Speeds to HSS Twist Drills
24. Table F: Feeds for HSS Twist Drills in Mild Steel
25. Table G: Work Material Constants for Calculating Torque and Thrust
26. Table H: Solder Shear Strength (psi)
27. Table I: Basic Welding Symbols and their Location Significance



Manufacturing Process and Equipment


 NEW

About the Book

Manufacturing Engineering describes and explains existing production processes and machinery. More importantly, it uses the powerful analytical tools of machine science (heat transfer, vibrations, control theory) and applies them to the solution of manufacturing problems. There is more emphasis on the analytical development and application of engineering theory to manufacturing problems and students are encouraged to generate their own computer solutions to gain understanding.

Features

- Integrates analytical tools from other machine science subjects (e.g., heat transfer, vibrations, control theory) and applies them to manufacturing processes.
- Includes chapters on machine tools and other production equipment discussing the aspects of performance and design of drives, structures, and controls.
- Emphasizes understanding of production machinery, its improvement and automation, so students can specify, select, install, and use new equipment.
- Presents analytical development and necessary derivations in some detail and encourages students to develop their own computer programs to solve problems.

Contents

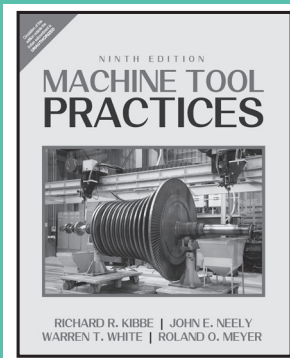
1. Manufacturing Management
2. Engineering Materials and Their Properties
3. Primary Metalworking
4. Metal Forming Technology
5. Metal Forming Mechanics
6. Processing of Polymers
7. Cutting Technology
8. Cutting Mechanics
9. Design of Machine Tools: Drives, and Structures
10. Automation
11. Assembly: Material Handling and Welding
12. Non-Traditional Processes

Also Available



ISBN: 9788131722275

Pages: 372



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

ISBN: 9789332550032

Copyright: 2015

Pages: 816

Machine Tool Practices, 9/e

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

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.

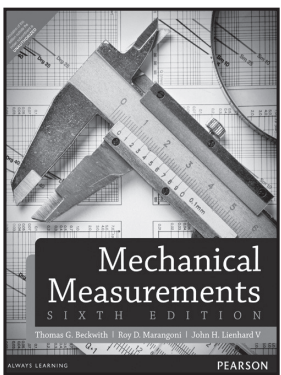
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He completed his apprenticeship as a tool and die maker at Siemens in Germany and continued there as a journeyman building progressive punching dies.

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.



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

ISBN: 9789332518520

Copyright: 2014

Pages: 762

Mechanical Measurements, 6/e

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

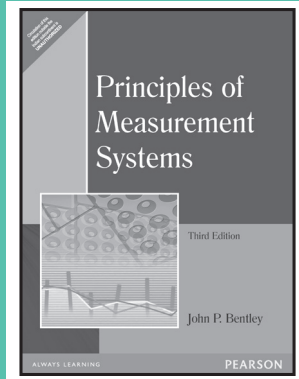
- | | |
|---|---|
| Part I: Fundamentals of Mechanical Measurement | Part II: Applied Mechanical Measurements |
| 1. The Process of Measurement: An Overview | 10. Measurement of Count, EPUT, Time Interval, and Frequency Measurement of Count, Events per Unit Time, Time Interval, and Frequency |
| 2. Standards and Dimensional Units of Measurement | 11. Displacement and Dimensional Measurement |
| 3. Assessing and Presenting Experimental Data | 12. Strain and Stress: Measurement and Analysis |
| 4. The Analog Measurand: Time-Dependent Characteristics | 13. Measurement of Force and Torque |
| 5. The Response of Measuring Systems | 14. Measurement of Pressure |
| 6. Sensors | 15. Measurement of Fluid Flow |
| 7. Signal Conditioning | 16. Temperature Measurements |
| 8. Digital Techniques in Mechanical Measurements | 17. Measurement of Motion |
| 9. Readout and Data Processing | 18. Acoustical Measurements |

About the Authors

Thomas G. Beckwith, University of Pittsburgh

Roy D. Marangoni, University of Pittsburgh

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



John P. Bentley

ISBN: 9788131701829

Copyright: 2000

Pages: 480

Principles of Measurement Systems, 3/e

About the Book

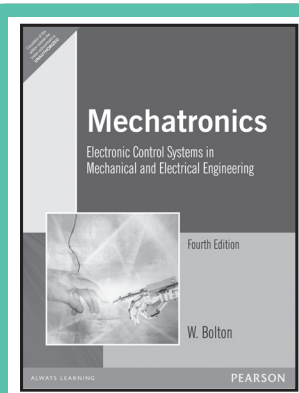
The third edition of this highly popular and well-established textbook has been extensively updated and expanded to take account of recent developments in computing, solid-state electronics, optoelectronics and other areas of measurement technology.

Features

- Covers all the techniques, applications and theory required up to degree level.
- Incorporates new material on two port networks, reliability, intelligent transmitters, digital signal processing, electronic intrinsically safe systems and communication protocols.
- Includes start-of-chapter objectives and end-of-chapter summaries.

Contents

- Part I: General principles
1. The general measurement system
 2. Static characteristics of measurement system elements
 3. The accuracy of measurement systems in the steady state
 4. Dynamic characteristics of measurement systems
 5. Loading effects and two-port networks
 6. Signals and noise in measurement systems
 7. Reliability, choice and economics of measurement systems
- Part II: Typical Measurement System elements
8. Sensing elements
 9. Signal conditioning elements
 10. Signal processing elements and software
 11. Data presentation elements
- Part III: Specialised measurement systems
12. Flow measurement systems
 13. Intrinsically safe measurement systems
 14. Heat transfer effects in measurement systems
 15. Optical measurement systems
 16. Ultrasonic measurement systems
 17. Gas chromatography
 18. Data acquisition and communications Systems



W. Bolton

ISBN: 9788131732533

Copyright: 2008

Pages: 604

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

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 interdisciplinary 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.

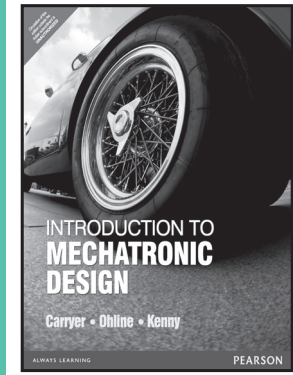
Features

- 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

Introduction to Mechatronic Design



**Carryer
Ohline
Kenny**

ISBN: 9788131788257

Copyright: 2012

Pages: 808

About the Book

Introduction to Mechatronic Design, 1e, takes a narrative approach, emphasizing the importance of building intuition and understanding before diving into the math. The authors believe that integration is the core of mechatronics and students must have a command of each of the domains to create the balance necessary for successful mechatronic design and devote sections of the book to each area, including mechanical, electrical, and software disciplines, as well as a section on system design and engineering. A robust package of teaching and learning resources accompanies the book.

Features

- A focus on developing intuition.
- Practical application information.
- Balanced coverage of each engineering domain.
- Software section of this text is devoted to software design.
- A section devoted to Systems Design.

Contents

1. Introduction
2. What's a Micro?
3. Microcontroller Math and Number Manipulation
4. Programming Languages
5. Program Structures for Embedded Systems
6. Software Design
7. Communications
8. Microcontroller Peripherals
9. Basic Circuit Analysis and Passive Components
10. Semiconductors
11. Operational Amplifiers
12. Real Operational Amplifiers and Comparators
13. Sensors

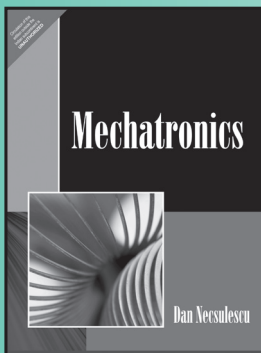
About the Author

Ed Carryer is the Director of the Smart Product Design Laboratory (SPDL) in the Design Division of Mechanical Engineering at Stanford University. He is currently a Consulting Professor in the Design Division of Mechanical Engineering.

Matt Ohline is an Associate Consulting Professor in the Design Division of Mechanical Engineering at Stanford University.

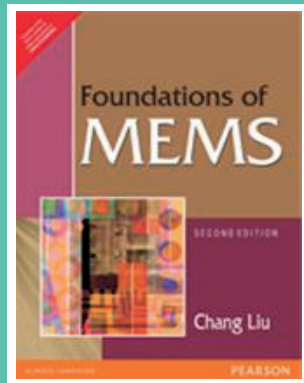
Thomas Kenny is a Professor in the Mechanical Engineering department at Stanford University. Dr. Kenny received his PhD in Physics from UC Berkeley.

Also Available



ISBN: 9788177585407

Pages: 320



Chang Liu

ISBN: 9788131764756

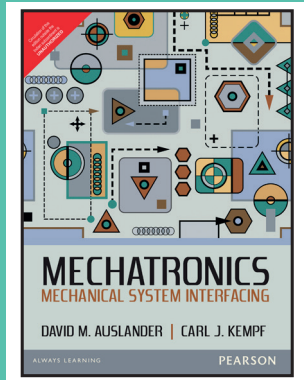
Copyright: 2011

Pages: 576

Foundations of MEMS, 1/e

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.



**David M. Auslander
Carl J. Kempf**

ISBN: 9789332559554

Copyright: 2016

Pages: 256

Mechatronics: Mechanical System Interfacing, 1/e

About the Book

For senior/graduate courses in Mechatronics and Mechanical System Interfacing. Using a practical engineering perspective and a hands-on approach, this text explores the critical interface technology necessary for the electronic control of mechanical systems. Written from the perspective of engineers expert in target mechanical systems, it provides concise coverage of signal and power level electronics as well as the instruments and actuators most successfully used in the interface between mechanical systems and control computers.

Features

- Considers the mechanical interface from the perspective of the application.
- Covers digital electronics — both combinational (Boolean) and sequential — and analog electronics through operational amplifiers (op-amps).
- Explores the interface of analog-to-digital and digital-to-analog conversion, including sigma-delta technology — technologies that deal with information and signals.
- Discusses major mechanical instruments and actuators — DC and stepping motors and mechanical instrumentation — e.g., encoders, resolvers, Hall effect, and the sensor technologies.
- Prepares students for systems they will find in manufacturing and industrial applications.
- Shows how to control the flow of electrical power (in a chapter on power amplifiers).
- Contains open-ended exercises and problems that require lab work for their solution.

Contents

1. Mechanical System Interfacing: Introduction.
2. Combinational Digital Logic.
3. Synchronous Sequential Logic.

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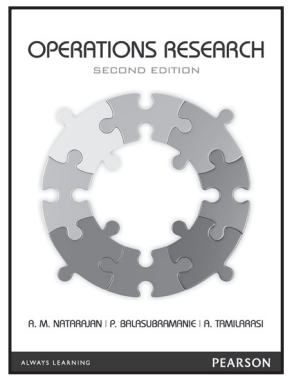


4. Asynchronous Sequential Logic.
5. Simple Computer Structure: Register Transfer Logic.
6. Embedded Control Computers.
7. Stepping Motors.
8. DC Motors.
9. Analog...139Digital Conversion.
10. Position and Velocity Measurement.
11. Operational Amplifiers for Analog Signal Processing.
12. Power Amplifiers.

About the Author

David M. Auslander

Carl J. Kempf, both at the University of California, Berkely



A. M. Natarajan
P. Balasubramani
A. Tamilarasi

ISBN: 9789332526471
 Copyright: 2014
 Pages: 744

Operations Research, 2/e

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.

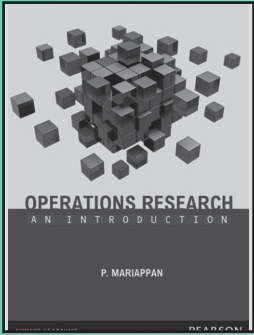
Features

- 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.

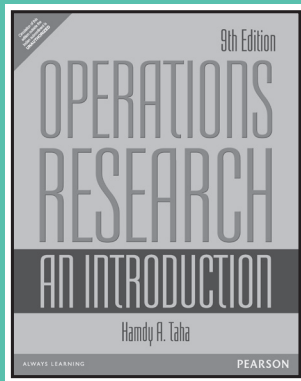
Contents

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 Simulation
- 15 Non-Linear Programming

Also Available



ISBN: 9788131799345
Pages: 392



Hamdy A Taha

ISBN: 9789332518223

Copyright: 2014

Pages: 818

Operations Research: An Introduction, 9/e

About the Book

Operations Research: An Introduction 9/e continues to streamline the coverage of the theory, applications, and computations of operations research. Numerical examples are effectively used to explain complex mathematical concepts. A separate chapter of fully analyzed applications aptly demonstrates the diverse use of OR. The popular commercial and tutorial software AMPL, Excel, Excel Solver, and Tora are used throughout the book to solve practical problems and to test theoretical concepts.

Features

- For the first time in this book, the new Section 3.7 provides a comprehensive (math-free) framework of how the different LP algorithms (simplex, dual simplex, revised simplex, and interior point) are implemented in commercial codes (e.g., CPLEX and XPRESS) to provide the computational speed and accuracy needed to solve very large problems.
- The new Chapter 10 covers efficient heuristics/metaheuristics designed to find good approximate solution for integer and combinatorial programming problems. The need for the heuristics/metaheuristics is in recognition of the fact that the performance of the exact algorithms has been less than satisfactory from the computational standpoint.
- The new Chapter 11 is dedicated to the important traveling salesperson problem. The presentation includes a variety of applications and the development of exact and heuristic solution algorithms.
- All the algorithms in the new Chapters 10 and 11 are coded in Excel in a manner that permits convenient interactive experimentation with the models.
- Numerous new problems have been added throughout the book.
- The TORA software has been updated.

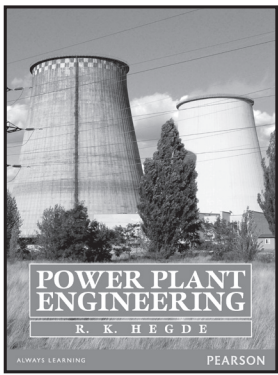
Contents

1. What Is Operations Research?
2. Modeling with Linear Programming
3. The Simplex Method and Sensitivity Analysis
4. Duality and Post-Optimal Analysis
5. Transportation Model and Its Variants
6. Network Models
7. Advanced Linear Programming
8. Integer Linear Programming
9. Heuristic and Constraint Programming
10. Traveling Salesperson Problem (TSP)
11. Deterministic Dynamic Programming
12. Deterministic Inventory Models
13. Decision Analysis and Games
14. Probabilistic Inventory Models
15. Markov Chains
16. Queuing Systems
17. Simulation Modeling
18. Classical Optimization Theory
19. Nonlinear Programming Algorithms
- Appendix A: AMPL Modeling Language

About the Author

Hamdy A. Taha is a University Professor Emeritus of Industrial Engineering with the University of Arkansas, where he taught and conducted research in operations research and simulation.

Power Plant Engineering



R. K. Hegde

ISBN: 9789332534100

Copyright: 2015

Pages: 888

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

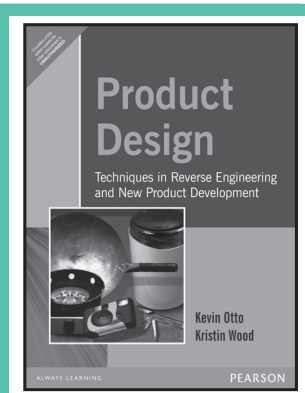
- Information on contemporary topics in power plant technology such as super critical boiler technology.
- Practical approach to delineate complex topics with visual aids and representational schemes.
- Exhaustive coverage of power generation from non-conventional sources of energy.
- Ample solved examples,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

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.



Kevin Otto
Kristin Wood

ISBN: 9788177588217

Copyright: 2001

Pages: 1088

Product Design

About the Book

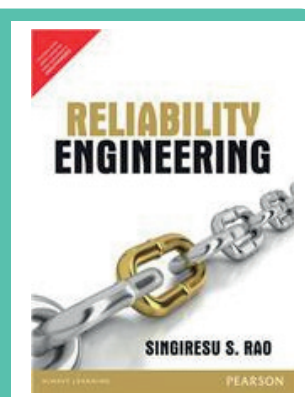
Product Design presents an in-depth study of structured design processes and methods. Its fundamental approach is that of reverse engineering and teardowns, which present a new paradigm for design instruction. This permits a modern learning cycle of experience, hypothesis, understanding, and then execution. 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



Singiresu S. Rao

ISBN: 9789332571075

Copyright: 2016

Pages: 552

Reliability Engineering, 1/e

NEW

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.

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- Computer programs for the reliability analysis and design of engineering systems are provided on the companion website.
- Solutions to selected problems

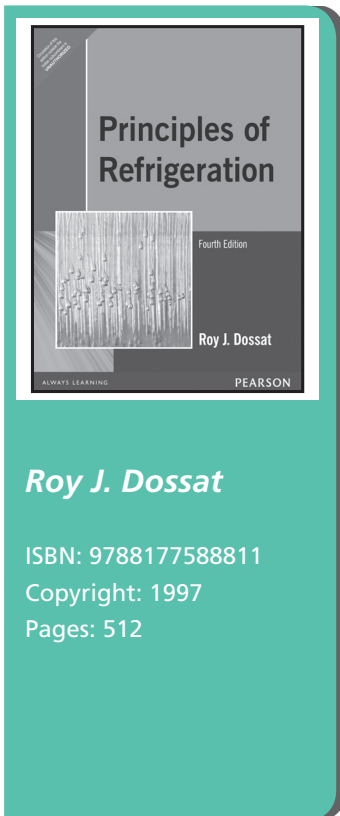
are available for Instructors in the Solutions Manual, which can be located on the Instructor Resource Center website at www.pearsonhighered.com"

Contents

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

About the Authors

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



Roy J. Dossat

ISBN: 9788177588811
 Copyright: 1997
 Pages: 512

Principles of Refrigeration, 4/e

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



Edward G. Pita

ISBN: TBA

Copyright: 2017

Pages: 552

Air Conditioning Principles and Systems: An energy approach

COMING
SOON

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 specifications.
- 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 field.

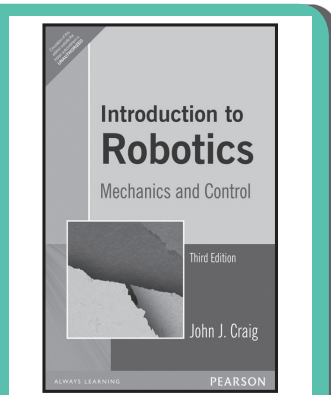
Contents

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. Psychometrics
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).

Introduction to Robotics: Mechanics and Control, 3/e



John J. Craig

ISBN: 9788131718360

Copyright: 2008

Pages: 408

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.

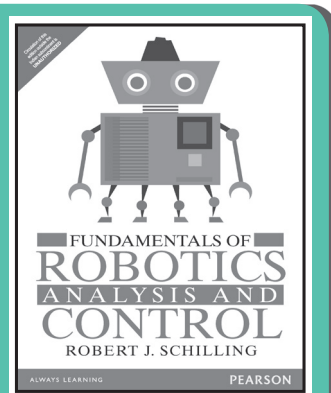
Features

- 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

Fundamentals of Robotics: Analysis and Control



Robert J. Schilling

ISBN: 9789332555235

Copyright: 2016

Pages: 464

About the Book

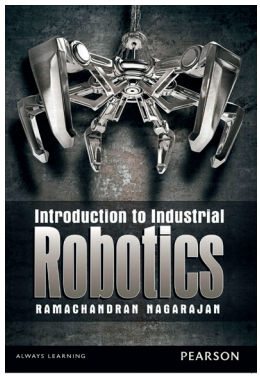
An introduction to the fundamentals of robotics, and to the analysis and control of industrial robots.

Features

- Uses case study examples of educational, industrial, and generic robots.
- Includes numerous case studies of various robot types — five-axis Rhino XR-3, four-axis Adept One, six-axis Intelledex 660, three-axis planar articulated manipulator.
- Provides complete kinematic solutions for several important generic classes of robotic arms.
- Covers robot vision and task planning.

Contents

1. Robotic Manipulation
2. Direct Kinematics: The Arm Equation
3. Inverse Kinematics: Solving the Arm Equation
4. Workspace Analysis and Trajectory Planning
5. Differential Motion and Statics
6. Manipulator Dynamics
7. Robot Control
8. Robot Vision
9. Task Planning



**Ramachandran
Nagarajan**

ISBN: 9789332544802

Copyright: 2016

Pages: 320

Robotics

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

Preface

About the Author

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

Appendix

Index

Mechanics of Materials in SI Unit, 9/e**New Edition****R C Hibbeler**

ISBN: TBA

Copyright: 2017

Pages: 896

About the Book

Containing Hibbeler's hallmark student-oriented features, this text comes 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

- 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

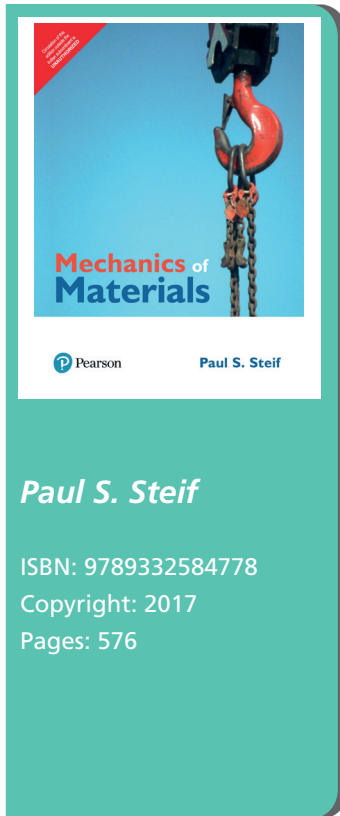
1. Stress
2. Strain
3. Mechanical Properties of Materials
4. Axial Load
5. Torsion
6. Bending
7. Transverse Shear
8. Combined Loadings
9. Stress Transformation
10. Strain Transformation
11. Design of Beams and Shafts
12. Deflection of Beams and Shafts
13. Buckling of Columns
14. Energy Methods

About the Author

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.

Mechanics of Materials

NEW



Paul S. Steif

ISBN: 9789332584778

Copyright: 2017

Pages: 576

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).
- A conceptual overview at the start of each chapter features a map that locates the chapter in the overall structure of the subject.
- **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.
- **Visualization:** Artwork, including appropriate vectors and notation illustrating a concept, is used throughout the book to explain how the principles of mechanics apply to real-world situations. These figures provide a strong connection to the 3-D nature of engineering. The view of the object, its dimensions, and the vectors are presented in a manner that can be easily understood. Refer to the Visual Table of Contents as well as pages 139, 148, 149, and 367.
- **Steif Explained:** Author, Paul S. Steif, answers frequently asked questions about his Mechanics of Materials textbook and teaching approach. <http://www.pearsonhighered.com/steif>

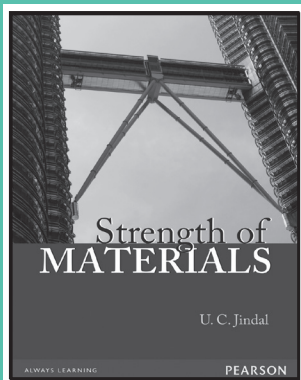


Contents

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

About the Author

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.



U. C. Jindal

ISBN: TBA

Copyright: 2012

Pages: 832

Strength of Materials, 2/e

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

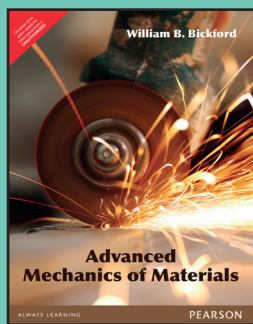
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|--|--|
| 1. Simple Stresses and Strains | 13. Deflection of Cantilevers |
| 2. Elastic Constants | 14. Conjugate Beam Method, Propped Cantilevers and Beams |
| 3. Principal Stresses and Strains | 15. Fixed and Continuous Beams |
| 4. Strain Energy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

About the Author

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.

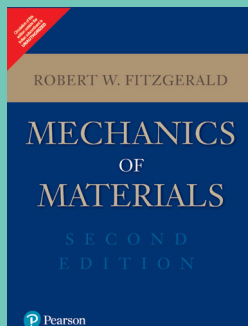
For the last 50 years, Dr Jindal has been involved in teaching, research and development activities in the mechanics group of subjects such as engineering mechanics, strength of materials, machine design, theory of machines and materials science. He is the author of nine books, and has also published numerous research papers in the field 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.

Also Available



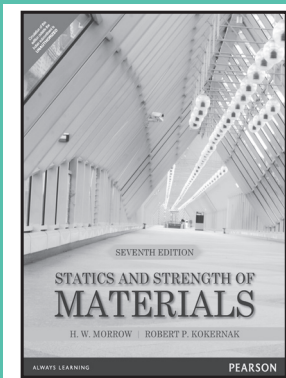
ISBN: 9789332559448

Pages: 472



ISBN: 9789332581272

Pages: 584



Harold I Morrow
Robert P Kokernak

ISBN: 9789332509351

Copyright: 2013

Pages: 528

Statics and Strength of Materials, 7/e

About the Book

This fully updated text presents logically organized, clear coverage of all major topics in statics and strength of materials, including the latest developments in materials technology and manufacturing/construction techniques. A basic knowledge of algebra and trigonometry are the only mathematical skills it requires, although several optional sections using calculus are provided for instructors teaching in ABET accredited programs. A new introductory section on catastrophic failures shows students why these topics are so important, and 25 full-page, real-life application sidebars demonstrate the relevance of theory. To simplify understanding and promote student interest, the book is profusely illustrated.

Features

- Coverage of the newest applications and materials technologies.
- Strong linkage between theory and practice through multiple real-life examples throughout.
- Nearly 1,000 student problems including problems at all levels of difficulty.
- Coverage of international system of units (SI) and US customary system.
- Utilizes numerous illustrations from industry designed to maintain student interest and make the book more accessible.

New to this edition

- Expanded introductory section includes powerful examples of catastrophe failures.
- New! Cable analysis coverage demystifies an important but complex topic that is omitted from many texts.
- New! More Full-Page Application

Sidebars now includes 25 Application Sidebars, each drawing on the book's concepts and techniques to describe a real-life example.

- New! CD-ROM presents animated worked examples.

Contents

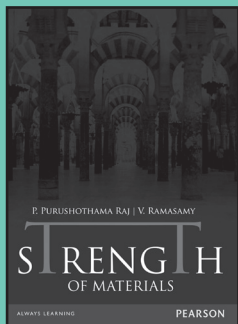
1. Basic Concepts
2. Resultant of Concurrent Forces in a Plane
3. Equilibrium of Concurrent Forces in a Plane
4. Resultant of Nonconcurrent Forces in a Plane
5. Equilibrium of a Rigid Body
6. Force Analysis of Structures and Machines
7. Forces in Space
8. Friction
9. Center of Gravity, Centroids, and Moments of Inertia of Areas

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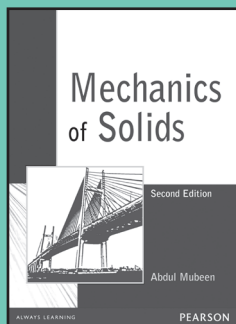


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| 10. Internal Reactions; Stress for Axial Loads | 15. Deflection of Beams Due to Bending |
| 11. Strain for Axial Loads: Hooke's Law | 16. Combined Stresses and Mohr's Circle |
| 12. Shear Stresses and Strains; Torsion | 17. Columns |
| 13. Shear Forces and Bending Moments in Beams | 18. Bolted, Riveted, and Welded Structural Connections |
| 14. Bending and Shearing Stresses in Beams | |

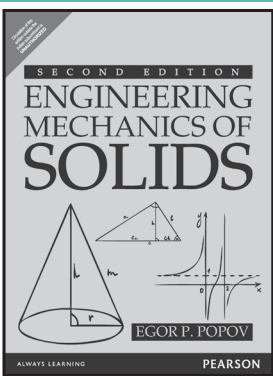
Also Available



ISBN: 9788131768549
Pages: 488



ISBN: 9788131758885
Pages: 668



Egor P. Popov

ISBN: 9789332550216
Copyright: 2015
Pages: 864

Engineering Mechanics of Solids, 2/e

About the Book

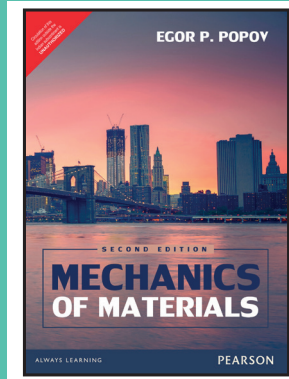
For civil, mechanical, and aeronautical engineering courses. This book is a comprehensive, cross-referenced examination of engineering mechanics of solids. Traditional topics are supplemented by an exposure to several newly-emerging disciplines, such as the probabilistic basis for structural analysis, 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 | 10. Shear Stresses in Beams |
| 2. Strain | 11. Stress and Strain Transformation |
| 3. Axial Deformation of Bars: Statically Determinate Systems | 12. Yield and Fracture Criteria |
| 4. Axial Deformation of Bars: Statically Indeterminate Systems | 13. Elastic Stress Analysis |
| 5. Generalized Hooke's Law: Pressure Vessels | 14. Beam Deflections by Direct Integration |
| 6. Torsion | 15. Beam Deflections by the Moment-area Method |
| 7. Beam Statics | 16. Columns |
| 8. Symmetric Beam Bending | 17. Energy and Virtual Work |
| 9. Unsymmetric (Skew) Beam Bending | 18. Classical Energy Methods |
| | 19. Elastic Analysis of Systems |
| | 20. Plastic Limit Analysis |



Egor P. Popov

ISBN: 9789332559547

Copyright: 2016

Pages: 608

Mechanics of Materials, 2/e

NEW

About the Book

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

Features

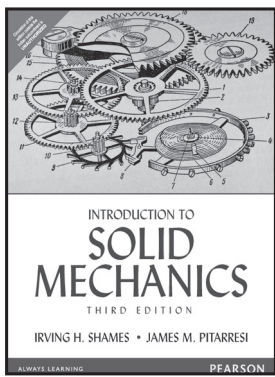
- Includes numerous solved examples.
- Uses English and SI units throughout.

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

Egor P. Popov, University of California, Berkeley.



**Irving H. Shames
James M. Pitarresi**

ISBN: 9789332549906

Copyright: 2015

Pages: 769

Introduction to Solid Mechanics, 3/e

About the Book

For second or third-year solids courses, and a valuable reference for subsequent coursework in Mechanical Engineering, Civil Engineering or Material Science.

Rather than a rote “cookbook” approach to problem-solving, this book offers a rigorous treatment of the principles behind the practices, asking students to harness their sound foundation of theory when solving problems. A wealth of examples illustrate the meaning of the theory without simply offering recipes or maps for solving similar problems.

Features

- NEW - Greatly expanded, full-semester coverage of algebraic topology—Extensive treatment of the fundamental group and covering spaces. What follows is a wealth of applications—to the topology of the plane (including the Jordan curve theorem), to the classification of compact surfaces, and to the classification of covering spaces. A final chapter provides an application to group theory itself.
- Advanced topics—Such as metrization and imbedding theorems, function spaces, and dimension theory are covered after connectedness and compactness.
- Order of topics proceeds naturally from the familiar to the unfamiliar—Begins with the familiar set theory, moves on to a thorough and careful treatment of topological spaces, then explores connectedness and compactness (with their many ties to calculus and analysis), and then branches out to the new and different topics mentioned above.
- One-or two-semester coverage—Provides separate, distinct sections on general topology and algebraic topology.
- Each of the text’s two parts is suitable for a one-semester course, giving

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instructors a convenient single text resource for bridging between the courses. The text can also be used where algebraic topology is studied only briefly at the end of a single-semester course.

- Many examples and figures—Exploits

Contents

- | | |
|---|--|
| 1. Fundamental Notions | 11. Stresses in Beams |
| 2. Stress | 12. Deflection of Beams |
| 3. Strain | 13. *Singularity Functions |
| 4. Introduction to Mechanical Properties of Solids | 14. Torsion |
| 5. One-Dimensional Problems | 15. Three Dimensional Stress Properties at a Point |
| 6. Generalized Hooke's Law and Introduction to Energy Methods | 16. Three-Dimensional Strain Relations at a Point |
| 7. Plane Stress | 17. Introduction to Elastic Stability |
| 8. Plane Strain | 18. * Energy Methods |
| 9. Failure Criteria | 19. Introduction to Finite Elements |
| 10. Section Forces in Beams | |

six basic counterexamples repeatedly.

- Exercises—Varied in difficulty from the routine to the challenging. Supplementary exercises at the end of several chapters explore additional topics.



Thomas Bevan

ISBN: 9788131729656

Copyright: 2009

Pages: 630

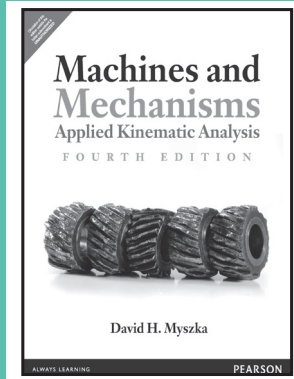
The Theory of Machines, 3/e

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



David H. Myszka

ISBN: 9789332555204

Copyright: 2015

Pages: 576

Machines & Mechanisms: Applied Kinematic Analysis, 4/e

About the Book

For all courses in machine motion, theory of machines, industrial mechanisms, mechanism analysis, mechanism design, and kinematics in departments of engineering technology and application-oriented mechanical engineering programs.

This up-to-date introduction to kinematic analysis ensures relevance by using actual machines and mechanisms throughout. It provides the techniques necessary to study the motion of machines while emphasizing the application of kinematic theories to real-world problems. State-of-the-art techniques and tools are utilized, and analytical techniques are presented without complex mathematics. Reflecting instructor and student feedback, this Fourth Edition's extensive improvements include: a new section introducing special-purpose mechanisms; expanded descriptions of kinematic properties; clearer identification of vector quantities through standard boldface notation; new timing charts; analytical synthesis methods; and more. All end-of-chapter problems have been reviewed, and many new problems have been added.

Features

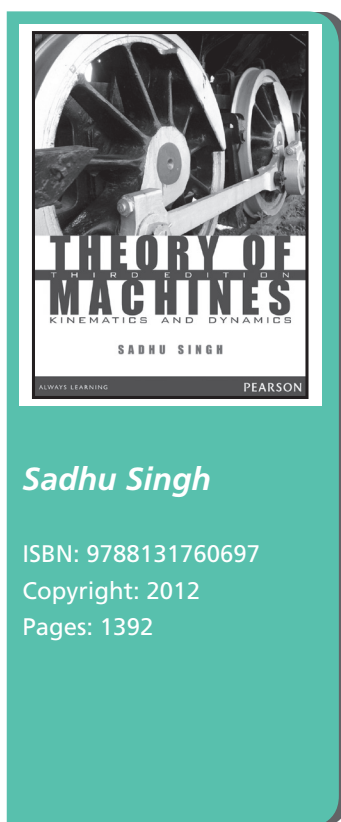
- For all courses in machine motion, theory of machines, industrial mechanisms, mechanism analysis, mechanism design, and kinematics in departments of engineering technology and application-oriented mechanical engineering programs.
- This up-to-date introduction to kinematic analysis ensures relevance by using actual machines and mechanisms throughout. It provides the techniques necessary to study the motion of machines while emphasizing the application of kinematic theories to real-world problems. State-of-the-art techniques and tools are utilized, and analytical techniques are presented without complex mathematics. Reflecting instructor and student feedback, this Fourth Edition's extensive improvements include: a new section introducing special-purpose mechanisms; expanded descriptions of kinematic properties; clearer identification of vector quantities through standard boldface notation; new timing charts; analytical synthesis methods; and more. All end-of-chapter problems have been reviewed, and many new problems have been added.
- Hallmark Features.
- Early emphasis on mechanism design—addressing design principles, not just analysis.
- Enables students to go beyond analysis of existing machinery, and invent unique mechanisms.
- A focus on real, working machinery—beginning each example problem by introducing an actual machine that relies on the mechanism being analyzed.
- Continually reminds students of the practical applications of motion and force analysis.
- Introduction to basic analytical techniques—requiring only minimal preparation in mathematics (trigonometry).
- Gives students an alternative method of analysis that is especially helpful when evaluating design changes.
- Hands-on computer analysis using Working Model software—through an extensive collection of integrated tutorials and problems appearing throughout the book.
- Gives students a hands-on introduction to computer analysis using a leading commercial tool.
- Application of kinematic theories to practical mechanisms—bridging the gap between theory and practice.
- Guides students in understanding essential theoretical concepts and then applying them in real machines.
- Self-contained format—including an introduction to the fundamental principles required in machine analysis.
- Develops students' skills for determining and optimizing the motion characteristics of machines.
- Chapter-ending case studies—illustrating mechanisms widely used on industrial equipment.
- Challenges students to understand and discuss the rationales behind designs, and suggest possible.

»»»



Contents

1. Introduction to Mechanisms and Kinematics
2. Building Computer Models of Mechanisms Using Working Model® Software
3. Vectors
4. Position and Displacement Analysis
5. Mechanism Design
6. Velocity Analysis
7. Acceleration Analysis
8. Computer-Aided Mechanism Analysis
9. Cams: Design and Kinematic Analysis
10. Gears: Kinematic Analysis and Selection
11. Belt and Chain Drives
12. Screw Mechanisms
13. Static Force Analysis
14. Dynamic Force Analysis



Sadhu Singh

ISBN: 9788131760697

Copyright: 2012

Pages: 1392

Theory of Machines, 3/e

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

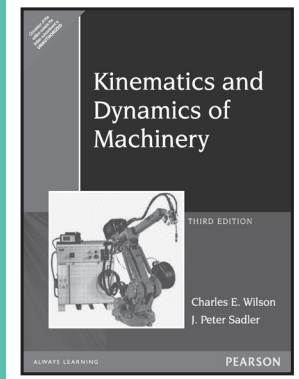
- An exclusive chapter on mechanical vibrations and automatic control explained in detail
- A separate chapter on velocity and acceleration in mechanisms is
- 615 solved examples
- 210 practice problems with answers

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

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



Charles E. Wilson
J. Peter Sadler

ISBN: 9788131720226

Copyright: 2008

Pages: 900

Kinematics and Dynamics of Machinery, 3/e

About the Book

It is a tool for professors who wish to develop the ability of students to formulate and solve problems involving linkages, cams, gears, robotic manipulators and other mechanisms. There is an emphasis on understanding and utilizing the implications of computed results. Students are expected to explore questions like “What do the results mean?” and “How can you improve the design?”.

Features

- It is a tool for professors who wish to develop the ability of students to formulate and solve problems involving linkages, cams, gears, robotic manipulators and other mechanisms.
- Coverage of a broad range of machines and mechanisms with practical applications given top consideration.

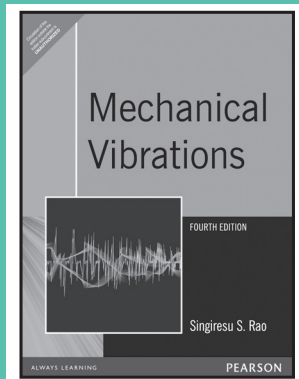
Contents

1. Mechanisms and Machines: Basic Concepts.
2. Motion in Machinery.
3. Velocity Analysis of Planar and Spatial Mechanisms.
4. Acceleration Analysis of Planar and Spatial Mechanisms.
5. Design and Analysis of Cam and Follower Systems.
6. Spur Gears: Design and Analysis.
7. Helical, Worm, and Bevel Gears: Design and Analysis.
8. Drive Trains: Design and Analysis.
9. Static-Force Analysis.
10. Dynamic-Force Analysis.
11. Synthesis.
12. Introduction to Robotic Manipulators.

About the Authors

Charles E. Wilson is a Professor with the Department of Mechanical Engineering, New Jersey Institute of Technology.

J. Peter Sadler is a Professor with the Department of Mechanical Engineering, University of Kentucky.



Singiresu S. Rao

ISBN: 9788177588743

Copyright: 2003

Pages: 1110

Mechanical Vibrations, 4/e

About the Book

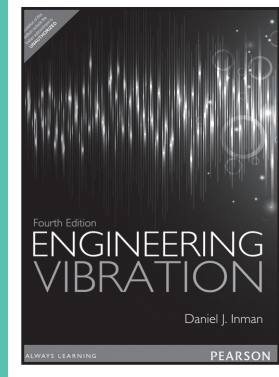
Retaining the style of its previous editions, this text presents the theory, computational aspects, and applications of vibrations in as simple a manner as possible. With an emphasis on computer techniques of analysis, it gives expanded explanations of the fundamentals, focusing on physical significance and interpretation that build upon students' previous experience. Each self-contained topic fully explains all concepts and presents the derivations with complete details. Numerous examples and problems illustrate principles and concepts.

Features

- Interactive C++ and Fortran programs, and problems involving MATLAB, C++, and Fortran—Included in every chapter.
- Companion Website—Provides answers to all review questions, source codes of all programs, all figures in the book and more.

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

Engineering Vibrations, 4/e

Daniel J. Inman

ISBN: 9789332518483

Copyright: 2014

Pages: 705

About the Book

Serving as both a text and reference manual, *Engineering Vibration, 4e*, connects traditional design-oriented topics, the introduction of modal analysis, and the use of MATLAB, Mathcad, or Mathematica. The author provides an unequalled combination of the study of conventional vibration with the use of vibration design, computation, analysis and testing in various engineering applications.

Features

- Special-interest windows are placed throughout the text where prior or background information summaries are required. This helps remind students of essential information pertinent to the text material, so they don't have to flip back to previous chapters or consult a reference text for formulas or other information.
- Examines topics that reflect some of the recent advances in vibration technology, changes in ABET criteria and the increased importance of both engineering design and modal analysis.
- In the Design for Vibration Suppression Chapter, students put vibration analysis into practice by learning how to use vibration theory to design systems, structures and devices. Use of computational codes throughout fully integrates modern software tools into the study of vibration, satisfying ABET criteria.
- To help students relate design and analysis, nearly every topic contains design-related examples or discussions.
- Prepare Students For Their Career
- Computational software packages are integrated the text material to provide students with skills required by industry. This also allows early introduction to nonlinear vibration.
- Incorporates MATLAB, Engineering Vibration Toolbox, Mathematica, and Mathcad throughout to allow students to conduct and explore vibration analysis, "what if" studies, and design.
- Toolbox offers professional quality computer analyses, including basics, introduction to modal analysis with actual experimental data files and finite elements. Students are challenged with over 65 computer problems including use of manufacture's design charts, measurement analysis, and matrix eigen value computing for frequencies and modes

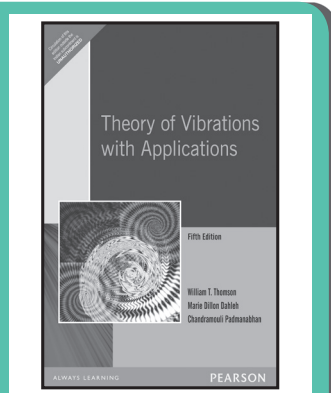
Contents

1. Introduction To Vibration and the Free Response
2. Response To Harmonic Excitation
3. General Forced Response
4. Multiple-Degree-of-Freedom Systems
5. Design for Vibration Suppression
6. Distributed-Parameter Systems
7. Vibration Testing and Experimental Modal Analysis
8. Finite Element Method

About the Authors

Daniel J. Inman, Virginia Polytechnic Institute and State University

Theory of Vibrations with Applications, 5/e



William T. Thomson
Marie Dillon Dahleh

ISBN: 9788131704820

Copyright: 2008

Pages: 534

About the Book

A thorough treatment of vibration theory and its engineering applications, from simple degree to multi degree-of-freedom system.

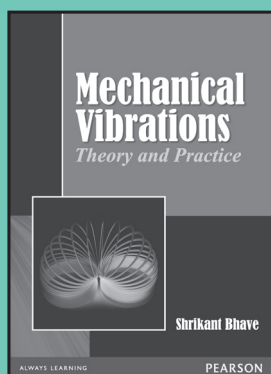
Features

- Focuses on the physical aspects of the mathematical concepts necessary to describe the vibration phenomena.
- Provides many example applications, including typical problems faced by practicing engineers.
- MATLAB... has been introduced where appropriate to take advantage of this industry-standard software for necessary calculations.
- Mass and stiffness matrices are now defined alongside the discussion of normal mode vibrations, free vibrations, forced vibrations, absorbers, and dampers (Ch. 5).

Contents

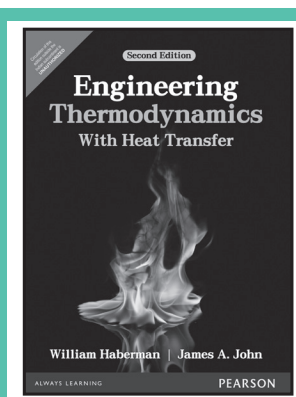
1. Oscillatory Motion
2. Free Vibration
3. Harmonically Excited Vibration
4. Transient Vibration
5. Systems with Two or More Degrees of Freedom
6. Properties of Vibrating Systems
7. Lagrange's Equation
8. Computational Methods
9. Vibration of Continuous Systems
10. Introduction to the Finite Element Method
11. Mode-Summation Procedures for Continuous Systems
12. Classical Methods
13. Random Vibrations
14. Nonlinear Vibrations

Also Available



ISBN: 9788131732489

Pages: 359



William Haberman
James E.A. John

ISBN: 9789332559578

Copyright: 2016

Pages: 799

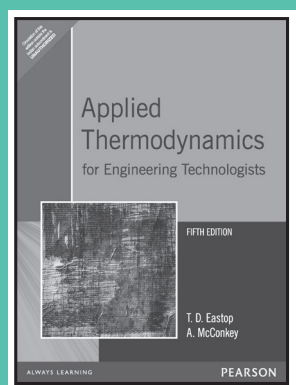
Engineering Thermodynamics with Heat Transfer, 2/e

About the Book

This book is intended to provide undergraduate engineering student with an understanding of the basic principles of thermodynamics and to introduce the student to the concepts of heat transfer.

Contents

1. Introduction
2. The First Law of Thermodynamics for Closed Systems
3. The First Law of Thermodynamics for Open Systems
4. Thermodynamic Properties of Substances
5. Gas and Gas-Vapor Mixtures
6. The Second Law of Thermodynamics
7. Second Law Analysis
8. Thermodynamic Processes
9. The Thermodynamics of Fluid Flow
10. Power of Refrigeration Cycles
11. Combustion Processes
12. Thermodynamics of Some New Energy Conversion Systems
13. Fundamentals of Engineering Heat Transfer
14. Heat Transfer Applications
- Appendix A: Thermodynamic Properties (English Units)
- Appendix B: Thermodynamic Properties (SI Units)
- Appendix C: Compressible Flow Tables
- Appendix D: Thermo-Physical Properties
- Appendix E: Conversion Factors



T. D. Eastop
A. McConkey

ISBN: 9788177582383

Copyright: 1993

Pages: 736

Applied Thermodynamics for Engineering Technologists, 5/e

About the Book

Applied Thermodynamics for Engineering Technologists provides a complete introduction to the principles of thermodynamics for degree level students on courses in mechanical, aeronautical, environmental and energy gathering and engineering science courses. The fifth edition has been thoroughly revised to take account of modern teaching methods and perspectives.

Features

- Practical applications of thermodynamics are stressed throughout.
- The comprehensive coverage provides all the information students will need to complete their study of thermodynamics.

Contents

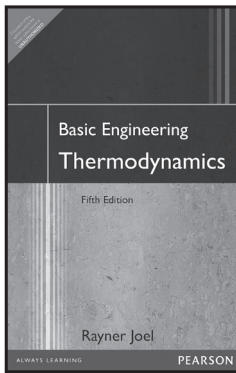
1. Nomenclature
2. The Working Fluid
3. Reversible and Irreversible Processes
4. Mixtures
5. Steam Cycles
6. Nozzles and Jet Propulsion
7. Positive Displacement Machines
8. Refrigeration and Heat Pumps
9. Psychrometry and Air-conditioning
10. The Sources, Use and Management of Energy
11. Acknowledgements
12. Introduction and the First Law of Thermodynamics
13. The Second Law
14. The Heat Engine Cycle
15. Combustion
16. Gas Turbine Cycles
17. Rotodynamic Machinery
18. Reciprocating and Internal-combustion Engines
19. Heat Transfer

About the Authors

Tom Eastop was Head of the School of Engineering at Wolverhampton Polytechnic. He is now Honorary Research Fellow at the University of Exeter.

The Late Allan McConkey was head of the Department of Mechanical & Industrial Engineering at Dundee College of Technology.

Basic Engineering Thermodynamics, 5/e



Rayner Joel

ISBN: 9788131718889

Copyright: 2008

Pages: 660

About the Book

The fifth edition of this well-established and popular text has been extensively revised and updated and provides a comprehensive introduction to the fundamentals and principles governing the successful conversion of heat into energy. Providing a basic non-mathematical approach to the subject, the book emphasizes the effective and efficient use of energy. The illustrations have all been updated and some new diagrams and photographs added. The number of revision questions at the end of each chapter has been increased.

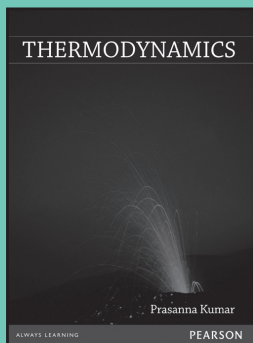
Features

- Provides a basic non-mathematical approach to the subject.
- Emphasizes the effective and efficient use of energy.
- Illustrations have all been updated and some new diagrams and photographs added.
- Includes numerous worked examples.
- Includes increased number of revision questions at the end of each chapter.

Contents

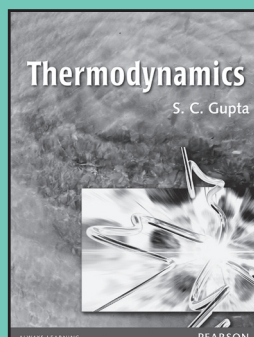
- | | |
|-----------------------------------|---------------------------------|
| 1. General Introduction | 10. Nozzles |
| 2. Systems | 11. Steam Turbines |
| 3. Laws Of Thermodynamics | 12. Air And Gas Compressors |
| 4. Steam And Two-Phase Systems | 13. Ideal Gas Power Cycles |
| 5. Gases And Single Phase Systems | 14. Internal Combustion Engines |
| 6. Thermodynamic Reversibility | 15. Engine Trials |
| 7. Entropy | 16. Combustion |
| 8. Steam Plant | 17. Refrigeration |
| 9. Steam Engine | 18. Heat Transfer |

Also Available



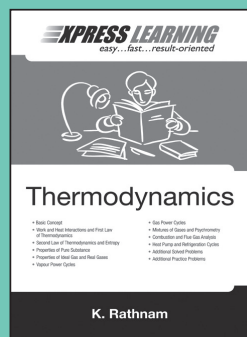
ISBN: 9788131771853

Pages: 616



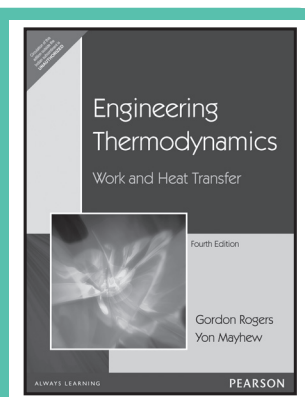
ISBN: 9788131717950

Pages: 552



ISBN: 9788131795507

Pages: 256



**Gordon Rogers
Yon Mayhew**

ISBN: 9788131702062

Copyright: 1967

Pages: 736

Engineering Thermodynamics, 4/e

About the Book

This well-established text covers the fundamentals of engineering thermodynamics, their application to particular fluids and the ways in which work and heat transfer are affected.

Features

- Uses the alternative and increasingly popular sign convention for work transfer.
- Provides a thorough revision for the treatment of perfect gas or combustion, particularly disassociation and several aspects of heat transfer.

Contents

I. Principles of Thermodynamics

II. Fundamental Concepts

1. The First Law of Thermodynamics
2. Non-Flow Processes
3. Flow Processes
4. The Second Law of Thermodynamics and Reversibility
5. Corollaries of the Second Law
6. General Thermodynamics Relations

III. Applications to Particular Fluids

7. Properties of Fluids
8. Non-Flow Processes
9. Flow Processes
10. Vapour Power Cycles
11. Gas Power Cycles
12. Heat Pump and Refrigeration Cycles
13. Properties of Mixtures
14. Combustion Processes

IV. Work Transfer

15. Reciprocating Examples and Compressors
16. Reciprocating Internal-Combustion Engines
17. One-Dimensional Steady Flow and Jet Propulsion
18. Rotary Expanders and Compressors
19. Direct Conversion

V. Heat Transfer

20. Conduction
21. Convection
22. Radiation
23. Combined Modes of Heat Transfer

VI. Appendices

Thermal Engineering

NEW



**Sadhu Singh (Late)
Sukumar pati**

ISBN: TBA

Copyright: 2017

Pages: 896

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 Thermal Engineering focusing on the applications of basic Thermodynamics principles.

Features

- Comprehensive coverage including Easy to understand and lucid language.
- Each chapter is saturated with self-explanatory diagrams to explain concepts better.
- A large number of solved examples, questions selected from various universities, U.P.S.C., GATE etc. have been added in the book.

Contents

1. Fuels and Combustion
2. Properties of Steam
3. Steam Generators
4. Steam Power Cycles
5. Steam Engines
6. Flow through Steam Nozzles
7. Steam Turbines
8. Steam Condensers
9. Gas Power Cycles
10. Internal Combustion Engine Systems
11. Performance of Internal Combustion Engines
12. Reciprocating Air Compressors
13. Rotary Air Compressors
14. Centrifugal Air Compressors
15. Axial Flow Air Compressors
16. Gas Turbines
17. Jet Propulsion
18. Introduction to Refrigeration
19. Vapour Compression and vapour absorption systems
20. Air Conditioning & Psychometrics

»»»



About the Authors

Dr. Sadhu Singh was formerly Director (Colleges), Punjab Technical University, Jalandhar. He is B.Sc. Mechanical Engineering (Honours) from Punjab University, Chandigarh, M.Sc. (Mechanical Design and Production Engineering) and PhD from Kurukshetra University. His teaching experience spans 15 years at Regional Engineering College, Kurukshetra and 19 years at Pantnagar University. He has been Professor and Head of Mechanical Engineering Department and Dean, Faculty of Engineering and technology at G. B. Pant University of Agriculture and Technology, Pantnagar.



Dale H. Besterfield

ISBN: 9789332534452

Copyright: 2015

Pages: TBA

Total Quality Management (2 Color), 4/e

About the Book

Total Quality Management refers to an integrated approach by management to focus all the functions and levels of an organization on quality and continuous improvement. Over the years, total quality management has become very important for improving a firm's processing capabilities in order to sustain competitive advantages. This book focuses on encouraging a continuous flow of incremental improvements from the bottom of the organization's hierarchy. This fourth edition includes a historical perspective of the quality movement in India. Updated information on various standards and a wider spectrum of quality-related standards has also been included.

Features

- More case studies and examples from the Indian context for the benefit of readers.
- Pedagogical tools such as chapter objectives, summaries and multiple-choice questions, as well as expanded content on new management tools have been added.
- Failure Mode and Effects Analysis (FMEA) and quality standards like the ISO 9000, ISO 14000 and TL 9000 have been revised.
- Addition of concepts and information on product life cycle and Weibull, Design for Six Sigma (DFSS), Balanced Scorecard, Measurement Systems Analysis, Occupational Health and Safety Assessment Series (OHSAS) 18001 and 18002.
- Information about business excellence awards such as Ramkrishna Bajaj National Quality Award (RBNQA), the Malcolm Baldrige Award, CII Exim Award and Deming Award will provide readers with a comprehensive perspective on the topic.
- Concept of Part Level Quality Plans (PPAP), which is an integral part of most automotive companies has been added.

Contents

Part 1: PRINCIPLES AND PRACTICES

1. Introduction
2. Leadership
3. Customer Satisfaction
4. Employee Involvement
5. Continuous Process Improvement
6. Supplier Partnership
7. Performance Measures

Part 2: TOOLS AND TECHNIQUES

8. Benchmarking
9. Information Technology
10. Quality Management Systems
11. Environmental and Occupational Health and Safety Management System
12. Quality Function Deployment
13. Quality by Design
14. Failure Mode and Effect Analysis
15. Products Liability
16. Total Productive Maintenance
17. Management Tools
18. Statistical Process Control
19. Experimental Design
20. Taguchi's Quality Engineering





About the Author

Dale H. Besterfield, Professor Emeritus, Southern Illinois University

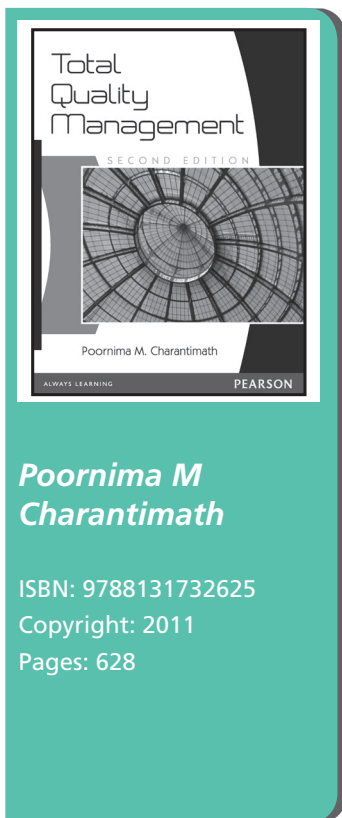
Carol Besterfield-Michna

Glen H. Besterfield, Associate Professor, University of South Florida

Mary Besterfield-Sacre, Associate Professor, University of Pittsburgh

Hemant Urdh wareshe, Director, Institute of Quality and Reliability, Fellow, American Society for Quality

Rashmi urdh wareshe, Director, Automotive Research Association of India



**Poornima M
Charantimath**

ISBN: 9788131732625

Copyright: 2011

Pages: 628

Total Quality Management, 2/e

About the Book

The enlarged and revised second edition of Total Quality Management blends the fundamental principles and historical foundation of total quality with practical applications and examples. The coverage of high-performance practices and developments in the quality management arena enables students to develop a basic appreciation of quality management concepts while retaining their focus on the goal of continuous improvement.

Features

- Eleven new chapters: The second edition comprises 18 chapters with revised and expanded coverage on the latest techniques and practices followed in total quality management.
- Balanced coverage of the manufacturing and service sectors: The manufacturing and service sectors have been covered in greater detail by showcasing real-world practices from the Indian scenario.
- New chapters on Six Sigma and TPM: Completely new chapters on Six Sigma and TPM discuss the most recent trends and practices in total quality management.

Contents

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

About the Author

Poornima M. Charantimath is a professor of total quality management, entrepreneurship development and small business enterprises at the Karnataka Law Society's Institute of Management Education and Research, Belgaum.



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

ISBN: TBA

Copyright: 2017

Pages: 656

Welding, 2e

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



**Howard B. Cary
Scott Helzer**

ISBN: TBA
Copyright: 2005
Pages: 736

Modern Welding Technology

COMING
SOON

About the Book

For courses in Basic Welding and Welding Technology.


This well-respected, introductory welding text contains coverage of the latest codes, materials, and processes necessary to become proficient in an ever more complex industry. The technology of welding is growing and the book's focus on arc welding processes and the use of steel in construction reflect those changes—while continuing to provide a comprehensive coverage of basic principles and theory.

Features

- **NEW**—Updated and revised content throughout—Specifically content on hybrid welding and stir friction welding.
- Provides students with the latest welding technical information and advancements in technology—in a rapidly moving field becoming more improved and productive.
- Background concepts and basic welding techniques.
- Builds a strong foundation for students' knowledge and continuing study.
- The latest standards, codes, and specifications provided by the AWS.
- Keeps students current with the most recent information on the use of high strength metals, laser welding, and arc and oxyacetylene welding.
- Specifications for filler materials, electrodes, brazing fluxes, etc.
- Assembles material that is becoming more consistent with international standards.
- Examples of welding problems, solutions, and failure analysis.
- Assists students in their handling of welding trouble spots.
- Examination of the use of steel for industry and construction—Emphasizes the arc welding processes.
- Demonstrates the importance of selecting the proper application of welding, and gives students a more thorough understanding of what is needed.
- Exploration of computer-aided processes.
- Alerts students to the popular and complex changes transforming and cleaning up the welder's environment.
- Coverage of qualification and certification.
- Presents students with the latest information on the training of welding personnel.
- An entire chapter devoted to welding power sources.
- Introduces new concepts that familiarize students with the current machines such as the inverter power source.
- A focus on the stir friction welding process.
- Enables students to look at an important innovative laser process.

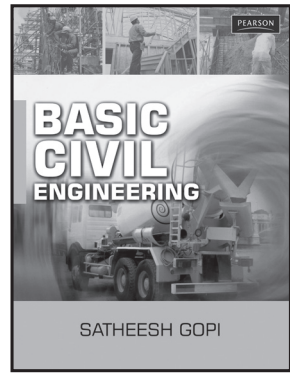
Contents

1. Welding Background
2. Fundamentals of Welding
3. Welding Personnel, Training, and Certification
4. Safety and Health of Welders
5. Arc Welding With a Nonconsumable Electrode
6. Arc Welding with a Consumable Electrode
7. Gas Welding, Brazing, Soldering, and Solid-State Welding
8. Resistance, Electron Beam, and Laser Beam Welding and Cutting
9. Welding-Related Processes
10. Power Sources for Arc Welding
11. Other Welding Equipment.
12. Mechanized, Automated, and Robotic Arc Welding
13. Electrodes and Filler Materials
14. Gases Used in Welding
15. Metals and Their Weldability
16. Welding Steels
17. Welding Nonferrous Metals
18. Welding Special and Dissimilar Metals
19. Design for Welding
20. Cost of Welding
21. Quality Control and Evaluation of Welds
22. Welding Specifications, Procedures, and Qualifications
23. Welding Problems and Solutions
24. Failure Analysis, Repair Welding, and Surfacing
25. Welding Pipe and Tubing
26. Special Welding Applications



Civil Engineering

Basic Civil Engineering



Sathesh Gopi

ISBN: 9788131729885

Copyright: 2009

Pages: 348

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.

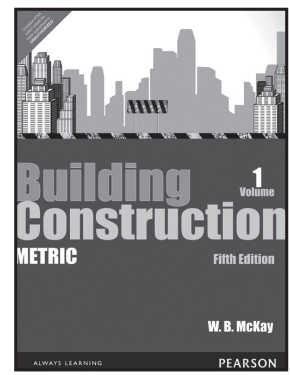
Contents

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

About the Author

Sathesh 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.

Building Construction, Metric Volume 1, 5/e



W. B. McKay

ISBN: 9789332508231

Copyright: 2013

Pages: 178

About the Book

A well-established series of reference books covering various aspects of building construction. Volumes I II and III are concerned essentially with the principles and sound methods of construction chiefly traditional in character. Volume IV describes more advanced building techniques with the latest systems well illustrated.

Features

- In metric units.

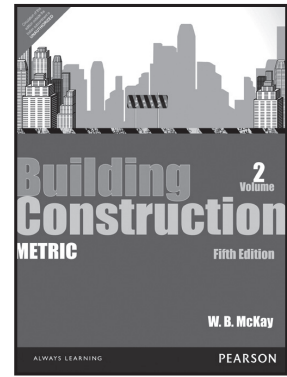
Contents

1. Brick Walls, Foundations
 2. Masonry Walls
 3. Timbers, Floors and Roofs
 4. Doors, Windows, Stairs
 5. Roof Coverings
 6. Plumbing
 7. Mild Steel Sections: Bolts and Rivets
- Homework Programme

About the Author

W. B. McKay, former registered architect and chartered structural engineer and Head of the Department of Building and Structural Engineering in the Manchester University Institute of Science and Technology

Building Construction, Metric Volume II, 4/e



W. B. McKay

ISBN: 9789332509344

Copyright: 2013

Pages: 152

About the Book

A well-established series of reference books covering various aspects of building construction. Volumes I II and III are concerned essentially with the principles and sound methods of construction chiefly traditional in character. Volume IV describes more advanced building techniques with the latest systems well illustrated.

Features

- In metric units.

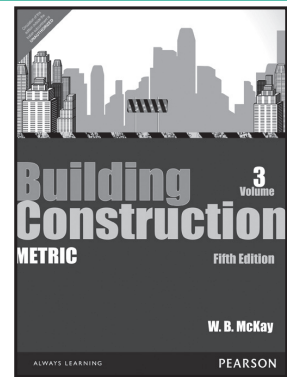
Contents

1. Brickwork
2. Drainage
3. Masonry
4. Mild Steel Roof Trusses
5. Homework Programme

About the Author

W. B. McKay, former registered architect and chartered structural engineer and Head of the Department of Building and Structural Engineering in the Manchester University Institute of Science and Technology.

Building Construction, Metric Volume III, 5/e



W. B. McKay

ISBN: 9789332508248

Copyright: 2013

Pages: 172

About the Book

A well-established series of reference books covering various aspects of building construction. Volumes I II and III are concerned essentially with the principles and sound methods of construction chiefly traditional in character. Volume IV describes more advanced building techniques with the latest systems well illustrated.

Features

- In metric units.

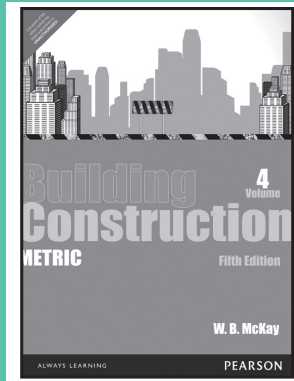
Contents

1. Carpentry
2. Joinery
3. Roof Coverings
4. Paintings
5. Homework Programme

About the Author

W. B. McKay, former registered architect and chartered structural engineer and Head of the Department of Building and Structural Engineering in the Manchester University Institute of Science and Technology.

Building Construction, Metric Volume IV, 4/e



J. K. McKay

ISBN: 9789332508255

Copyright: 2013

Pages: 283

About the Book

A well-established series of reference books covering various aspects of building construction. Volumes I II and III are concerned essentially with the principles and sound methods of construction chiefly traditional in character. Volume IV describes more advanced building techniques with the latest systems well illustrated.

Features

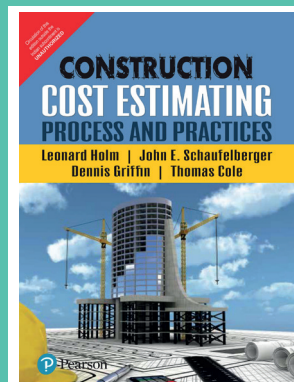
- In metric units.

Contents

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| 1. Site Preparations and Foundations | 7. Balconies and Canopies |
| 2. Steel and Reinforced Concrete Construction | 8. Internal Finishes to Walls and Ceilings |
| 3. Fire Protection | 9. Special Doors and Windows |
| 4. Walls | 10. Internal Plumbing |
| 5. Timber Roofs | 11. Electrical and Gas Services |
| 6. Light-weight Roofing Materials | 12. Thermal Insulation and Heating Systems |

About the Author

J. K. McKay, registered architect and chartered structural engineer and lecturer in Building construction at the Manchester University Institute of Science and Technology.



**Leonard Holm
John E. Schaufelberger
Dennis Griffin
Thomas Cole**

ISBN: 9789332552623

Copyright: 2017

Pages: 368

Construction Cost Estimating: Process and Practices

NEW

About the Book

For an undergraduate introductory or advanced course in construction cost estimating.

This text comprehensively covers the fundamental cost estimating principles and processes used in commercial construction today. It covers theory, types of estimates, estimating procedures and contractual aspects as well as providing practical tips on how to estimate. Using a single case study, the book shows readers how to prepare their estimates and to develop the necessary skills needed to be successful in the construction industry. The text illustrates the process for developing three separate types of estimates: a budget estimate during design development, a guaranteed-maximum-price estimate for a cost-plus contract, and a bid for a lump-sum contract. The book also discusses analysis of subcontractor quotations as well as estimating job site general conditions and company overhead costs.

Features

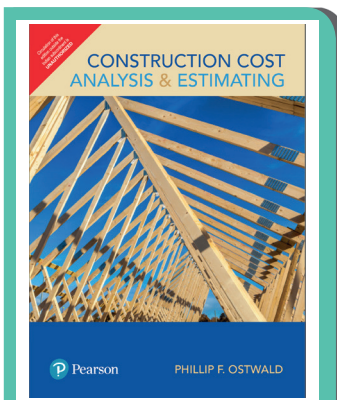
- A single commercial case study—With selected drawings and specifications.
- Helps reinforce processes and procedures by providing a realistic context for discussion.
- Summary and Review Questions—In each chapter.
- Allow students to review and assess their understanding of the material presented.
- Exercises—In each chapter.
- Allow students to apply the principles learned.
- Instructors Manual—Contains the answers to the review questions.
- Provides advice to instructors regarding the use of the text and how to create a simulated bid-day experience for their students.
- Glossary of terms.
- Supplies students with a quick reference regarding estimating terminology.
- Discussion of fee determination for a cost-plus construction contract—In Chapter 17.
- Students are presented with thorough coverage of a major topic not addressed in most books.

>>>



Contents

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| 1. Introduction | 13. Pre-Bid Day Activities |
| 2. Case Study: Training Center | 14. Bid Day Activities |
| 3. Budget Estimates | 15. Post-Bid Day Activities |
| 4. Budget Estimates for the Training Center | 16. Guaranteed Maximum Price Estimates |
| 5. Estimates for Preconstruction Services | 17. Fee Determination |
| 6. Pre-Estimate Activities | 18. Guaranteed Maximum Price Estimate for the Case Study |
| 7. Quality Take-Off | 19. Cost Proposals for Negotiated Contracts |
| 8. Pricing Self-Performed Work | 20. Automated Estimating Techniques |
| 9. Estimating Subcontractor Work | 21. Other Types of Estimates |
| 10. Estimating General Conditions | 22. Project Management Issues |
| 11. Completing the Estimate | Appendices |
| 12. Unit Price Estimates | |



Phillip F. Ostwald

ISBN: TBA
 Copyright: 2001
 Pages: 462

Construction Cost Analysis and Estimating



About the Book

For an undergraduate/graduate course in Construction Cost Analysis and Estimating offered in civil engineering, civil engineering technology, architectural engineering, and construction management programs.

Providing the very latest principles and techniques for the evaluation of construction design, this thorough guide emphasizes the importance of building strong analysis skills before proceeding to a study on estimation, and presents students with a balanced and cohesive study of the these two areas. It begins with four chapters devoted to analysis of labor, material, accounting, and forecasting, then systematically segues into the area of estimating, with in-depth discussions on how it applies to methods, work, and projects. Appropriate for a variety of teaching situations and approaches—as well as different student academic levels and backgrounds—it contains a great number of practical exercises and problems throughout to give students opportunities to absorb concepts and hone their skills, plus adds interest and insight with realistic, open-ended case studies found in every chapter. Internet exercises are provided.

Features

- The latest features and principles of construction cost analysis.
- Gives students a solid foundation in the fundamentals of construction analysis and informs them of the newest developments in the field. Ex.____
- New models and techniques for cost estimating.
- Keeps students up-to-date with current industry practices. Ex.____
- Statistics for cost analysis.
- Presents students with a substantial treatment of statistics. Ex.____
- Construction work and projects considered separately—Concentrates on the needs of owners and contractors.
- Teaches bid elements and work breakdown structure. Ex.____
- General cost analysis and bidding strategies for construction—Covers bidding, estimate assurance, engineering economy, benefit cost, and life cycle.
- Considers principles for construction tradeoffs. Ex.____
- Minimal math requirement—Limits math to algebra and introductory calculus.
- Allows students to concentrate more freely and fully on the topic at hand, without being bogged down with difficult mathematical concepts. Ex.____
- Solid pedagogy—Integrates an extensive array of exercises, qualitative questions, and basic and more advanced problems.
- Enriches and reinforces students learning endeavor, and helps them





build skills they will use on an everyday basis. Ex.____

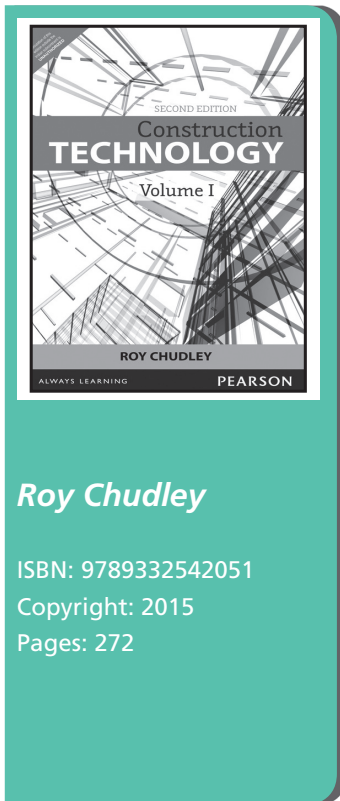
- Practical applications—Encourages field trips and communication through the Internet; found at the end of each chapter.
- Takes students beyond books, libraries, and the classroom and introduces them to experiences in the real world. Ex.____
- Case studies—Concludes each chapter with an open-ended case study that

may have several solutions (e.g., “Highway Construction,” “Chemical Process Plant,” “Market Basket Index for Groceries,” “Estimating a Small Design,” “High Voltage Transmission Line Project,” and more).

- Actively engages students in realistic scenarios, and helps them apply their critical thinking skills to devise the best solution possible for a given situation. Ex.____

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| 1. Importance | 10. Cost Analysis |
| 2. Labor Productivity and Analysis | 11. Contracts and Ethics |
| 3. Material Resources and Analysis | Picture Lessons |
| 4. Accounting Analysis | Appendix: Standard Normal and t Distributions |
| 5. Forecasting | Appendix: 10% and 20% Tables of Interest |
| 6. Estimating Methods | References |
| 7. Work Estimating | Selected Answers |
| 8. Project Estimating | Index |
| 9. Bid Assurance | |



Roy Chudley

ISBN: 9789332542051

Copyright: 2015

Pages: 272

Construction Technology - Volume-1, 2/e

About the Book

Construction Technology is a four volume set that comprehensively covers the subject of Construction Technology through all technician levels. This book help prepare in a concise note form with ample illustrations.

Features

- Ample drawings to illustrate the text.
- Metric system used.

Contents

Part I: Substructure

1. Site Works and Setting out
2. Excavation and Timbering
3. Foundations
4. Concrete
5. Subsoil Drainage

Part II: Superstructure

6. Stonework, brickwork, and blockwork
7. Cavity Walls
8. Openings in walls
9. Arches
10. Flooring—Solid ground, suspended timber
11. Roofs—timber, flat and pitched

12. Roof tiling and slating
13. Fireplaces, chimneys, and flues

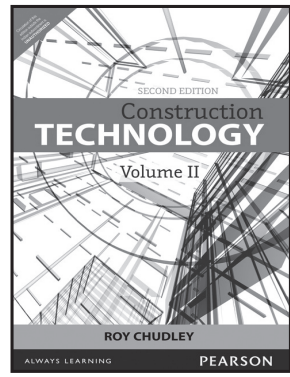
Part III: Finishes and fittings

14. Doors, door frames and linings
15. Windows, glass and glazing
16. Timber stairs
17. Partitions
18. Finishes—floor, wall and ceiling
19. Internal fixing and shelves
20. Ironmongery
21. Painting and decorating

Part IV: Water Supply and Drainage

22. Domestic water supply
23. Simple domestic drainage

Construction Technology - Volume-2, 2/e



Roy Chudley

ISBN: 9789332542068

Copyright: 2015

Pages: 248

About the Book

Construction Technology is a four volume set that comprehensively covers the subject of Construction Technology through all technician levels. This book help prepare in a concise note form with ample illustrations.

Contents

- Ample drawings to illustrate the text.
- Metric system used.

Features

Part I: Site and Temporary works

1. Accommodation, storage and security
2. Trench and Basement Excavations
3. Shoring
4. Scaffolding

Part II: Substructures

5. Retaining Walls
6. Basements
7. Reinforced Concrete Foundations

Part III: Simple Framed Buildings

8. Framed Buildings
9. Reinforced Concrete Frames
10. Formwork
11. Precast Concrete frames
12. Structural steelwork frames
13. Claddings

Part IV: Floors and roofs

14. Precast Concrete Floors
15. Hollow Block and Waffle Floors

16. Steel roof trusses and coverings
17. Asphalt flat roofs
18. Lead-covered flat roofs
19. Copper-covered flat roofs

Part V: Finishes and Fittings

20. Timber Stairs
21. Simple Reinforced Concrete Stairs
22. Simple Precast Concrete Stairs
23. Windows

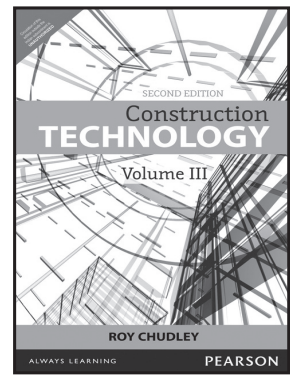
Part VI: Insulation

24. Rooflights in pitched roofs
25. Sound Insulation
26. Thermal Insulation

Part VII: Services

27. Drainage
28. Domestic Sanitary Fittings and Pipework
29. Domestic Electrical Installations
30. Domestic Gas Installations

Construction Technology . Volume-3, 2/e



Roy Chudley

ISBN: 9789332542075

Copyright: 2015

Pages: 256

About the Book

Construction Technology is a four volume set that comprehensively covers the subject of Construction Technology through all technician levels. This book help prepare in a concise note form with ample illustrations.

Features

- Ample drawings to illustrate the text.
- Metric system used.

Contents

Part I: Site works

1. Deep Trench Excavations
2. Tunnelling
3. Demolition

Part II: Foundations

4. Underpinning
5. Piled Foundations

Part III: Frameworks

6. Portal Frame Theory
7. Concrete portal frames
8. Steel portal frames
9. Timber portal frames

Part IV: Fire

10. The Problem of Fire
11. Structural Fire Protection
12. Means of escape in case of fire

Part V: Claddings to framed structures

13. Cladding Panel
14. Infill Panels
15. Jointing
16. Mastics and sealants

Part VI: Factory Buildings

17. Roofs
18. Walls
19. Wind Pressures

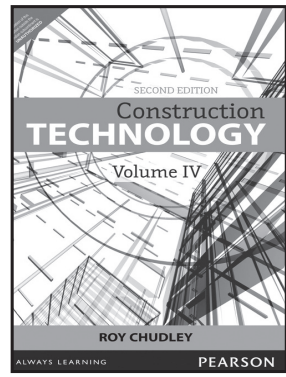
Part VII: Formwork

20. Wall formwork
21. Patent formwork
22. Concrete Surface Finishes

Part VIII: Stairs

23. Concrete Stairs
24. Metals stairs

Construction Technology . Volume-4, 2/e



Roy Chudley

ISBN: 9789332542082

Copyright: 2015

Pages: 304

About the Book

Construction Technology is a four volume set that comprehensively covers the subject of Construction Technology through all technician levels. This book help prepare in a concise note form with ample illustrations.

Features

- Ample drawings to illustrate the text.
- Metric system used.

Contents

Part I: Site works

1. Site Layouts
2. Electricity on Building Sites
3. Lighting Building Sites
4. Winter Building
5. Ground Water Control
6. Cofferdams and caissons

Part II: Substructure

7. Foundations
8. Deep basements

Part III: Prestressed Concrete

9. Principles and Applications
10. Prestressed Concrete Systems

Part IV: Claddings

11. Curtain walling

Part V: Roofs

12. Roof structures

Part VI: Finishes

13. Internal finishes and decorations

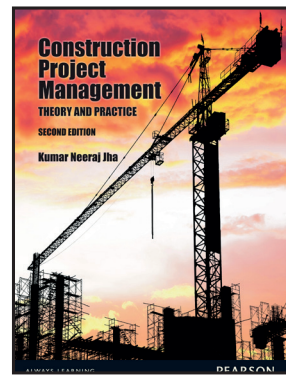
Part VII: Builders' Plant

14. General Considerations
15. Small Powered Plant
16. Earth-moving and excavation plant
17. Transporting Plant
18. Concrete mixers and pumps
19. Scaffolding

Part VIII: External works and internal slabs

20. Roads and pavings

Construction Project Management, Theory and Practices, 2/e



Kumar Neeraj Jha

ISBN: 9789332542013

Copyright: 2015

Pages: 904

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

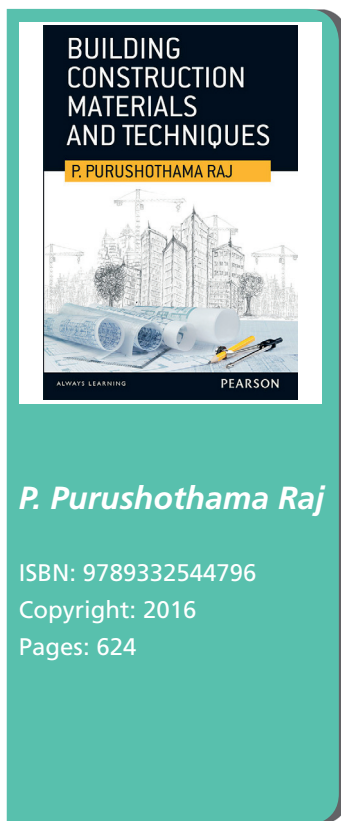
- Computer applications (Primavera and MS Project) are used to explain planning, scheduling, resource leveling, monitoring and reporting.
- Line diagrams, cash-flow diagrams, bar diagrams and line graphs make the book interactive and easy to understand.
- Real-life examples from the construction sites 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



Building Construction Materials and Techniques



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

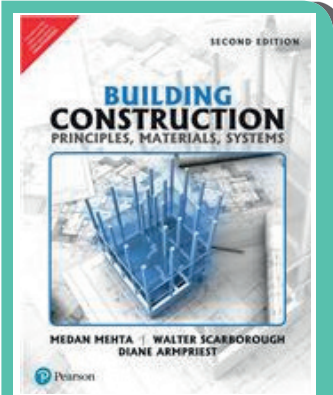
- Preface
About the Author
1. Construction materials
 2. Building Stones
 3. Bricks
 4. Tiles and ceramic materials
 5. Lime
 6. Cement
 7. Mortar
 8. Concrete
 9. Precast concrete units
 10. Wood and wood-based products
 11. Metals and alloys
 12. Building finishes
 13. Other building materials
 14. 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
- Index





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.



**Medan Mehta
Walter Scarborough
Diane Arm Priest**

ISBN: 9789332575097

Copyright: 2016

Pages: 984

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

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 book's 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.
- Now FULL COLOR throughout!
- 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.
- An extra large trim size of 9" × 12" allows for an open and inviting layout so students can learn easily and effortlessly.
- 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.
- End of chapter Key Terms, Review Questions, Selected Websites and suggestions for Further Reading make studying for exams or doing additional research a breeze.

- Author Team and Development Process.
- A uniquely qualified author team builds on the professional experience of an architect, engineer, construction site manager and academic.
- A team of expert technical reviewers participated in an unparalleled review process—one where field experts reviewed raw manuscript for technical and conceptual accuracy.
- Another team of experienced educators contributed exhaustive insights during the development process—insights and suggestions that were later incorporated into the book.

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

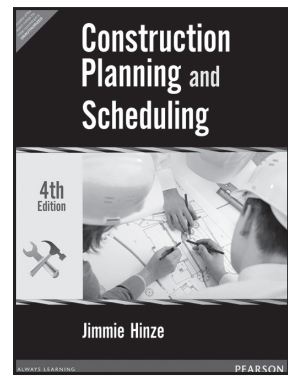


**About the Authors**

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 Arm Priest, 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.



Jimmie Hinze

ISBN: 9789332505735
 Copyright: 2013
 Pages: 264

Construction Planning and Scheduling, 4/e

About the Book

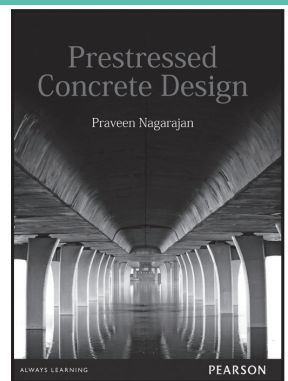
Construction Planning and Scheduling, Fourth Edition offers broad coverage of all major scheduling subjects. This comprehensive resource is designed for construction management, planning and scheduling. It follows a logical progression, introducing precedence diagramming early and following with chapters on activity durations, resource allocations, network schedules, and more. It reflects current trends in scheduling (short-interval scheduling, computer scheduling, linear scheduling etc.) and includes chapters on arrow diagramming and PERT. With an eye on application, it includes a unique discussion of contract provisions related to scheduling and incorporates a sample project throughout.

Features

- A major emphasis on precedence diagramming-is a hallmark of the text.
- A chapter devoted to arrow diagramming shows how to perform time calculations with arrow diagrams, represent the relationships between various tasks, understand the concepts of free float/total float and more.
- Unique discussion of contract provisions related to scheduling.
- Coverage of short-interval scheduling discusses how contractors use short-interval schedules.

Contents

1. Introduction
2. Developing a Network Model
3. Precedence Diagrams
4. Determining Activity Durations
5. Time in Contract Provisions
6. Resource Allocation and Resource Leveling
7. Money and Network Schedules
8. Project Monitoring and Control
9. Computer Scheduling
10. Earned Value: A Means for Integrating Costs and Schedule
11. The Impact of Scheduling Decisions on Productivity
12. CPM In Dispute Resolution and Litigation
13. Short-Interval Schedules
14. Linear Scheduling
15. PERT: Program Evaluation and Review Technique
16. Arrow Diagrams



Praveen Nagarajan

ISBN: 9789332513754
 Copyright: 2013
 Pages: 328

Prestressed Concrete Design

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

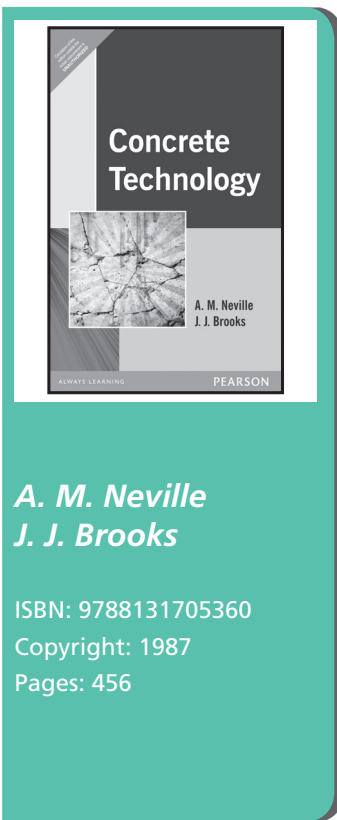




- | | |
|----------------------|-----------------------------|
| 7. Anchorage Zones | 10. Composite Materials |
| 8. Deflections | 11. Intermediate Structures |
| 9. Design of Members | 12. Slabs |

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.



A. M. Neville
J. J. Brooks

ISBN: 9788131705360
Copyright: 1987
Pages: 456

Concrete Technology

About the Book

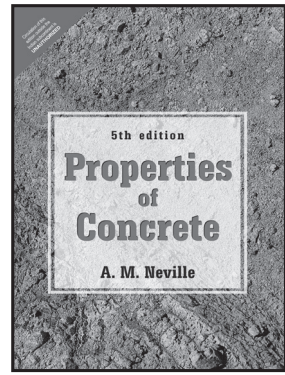
This book gives students of concrete structure and designs a thorough understanding of all aspects of concrete design and technology from first principles. Examples and problems are given throughout to emphasize the important aspects of each chapter. An excellent course book for all students of Civil 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 | 13. Deformation and Cracking Independent of Load |
| 2. Cement | 14. Permeability and Durability |
| 3. Normal Aggregate | 15. Resistance to Freezing and Thawing |
| 4. Quality of Water | 16. Testing |
| 5. Fresh Concrete | 17. Compliance with Specifications |
| 6. Strength of Concrete | 18. Lightweight Concrete |
| 7. Mixing, Handling, Placing, and Compacting Concrete | 19. Mix Design |
| 8. Admixtures | 20. Special Concretes |
| 9. Temperature Problems in Concreting | 21. An Overview |
| 10. Development of Strength | 22. Relevant American and British Standards |
| 11. Other Strength Properties | |
| 12. Elasticity and Creep | |



A. M. Neville

ISBN: 9788131791073

Copyright: 2013

Pages: 872

Properties of Concrete, 5/e

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

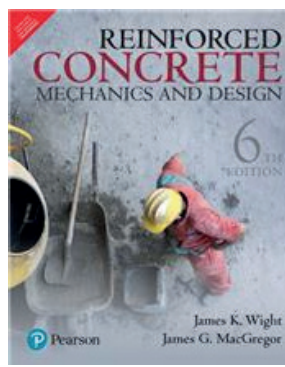
- New material includes such topics as self-compacting (self-consolidating) concrete, recycled concrete aggregate, thaumasite sulfate attack, compactability test, and delayed ettringite formation.
- Standards, both American (ASTM) and British/European updated to 2010 are used.
- Both SI and American (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.



James K. Wight
James G. MacGregor

ISBN: 9789332575714

Copyright: 2016

Pages: 1176

Reinforced Concrete: Mechanics and Design, 6/e

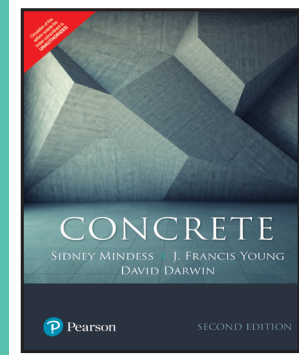
NEW

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



**Sidney Mindess
J. Francis Young
David Darwin**

ISBN: TBA

Copyright: 2017

Pages: 644

Concrete, 2/e

About the Book

Designed for undergraduate courses in civil engineering and construction materials and for practicing professional engineers. Also serves as an excellent resource in upper level concrete materials courses.

The text provides a cohesive presentation of practical applications supported by detailed background information.

Features

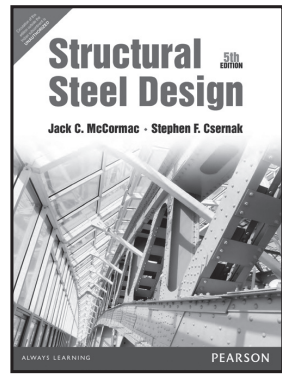
- NEW - The most up-to-date information available on new concrete materials.
- Provides students with current information.
- NEW - SI units used as primary system.
- Keeps students current to the unit system being adopted in the United States.
- NEW - New, separate chapters on mineral admixtures, cement-polymer composites, and fiber-reinforced concrete.
- Provides students with detailed information on these subjects.
- NEW - Major revisions throughout reflecting the latest developments in concrete science and technology.
- Offers students updated, current information.
- NEW - New chapter on high-strength concrete.
- NEW - The latest ASTM specifications.
- Keeps students updated on the most current editions of the standards and recommendations available.
- Exercises at the end of each chapter.
- Emphasizes for students the important aspects of each chapter.
- Materials science approach.
- Enables students to learn concrete behavior from the basic principles that they learned in materials science course.
- Mix design calculations presented in detail.
- Helps students develop critical thinking skills.
- Performance relationships introduced for all concrete constituent materials.
- Enables students to learn intelligent assessment of materials selection.

Contents

1. Concrete as a Material
2. Historical Development of Concrete
3. Cements
4. Hydration of Portland Cement
5. Mineral Admixtures and Blended Cements
6. Water
7. Aggregates
8. Chemical Admixtures
9. Fresh Concrete
10. Proportioning Concrete Mixes
11. Concrete Construction Practices
12. Curing
13. Response of Concrete to Stress
14. Testing Hardened Concrete
15. Quality Control
16. Time-Dependent Behavior
17. Other Properties of Concrete
18. Durability
19. High-Strength Concrete
20. Concretes for Special Applications
21. Cement-Polymer Composites
22. Fiber-Reinforced Concrete
- Appendix

About the Authors

Sidney Mindess, University of British Columbia , **J. Francis Young**, University of Illinois, **David Darwin**, University of Kansas



**Jack C. McCormac
Stephen F. Csernak**

ISBN: 9789332505711
Copyright: 2013
Pages: 736

Structural Steel Design, 5/e

About the Book

Both Load and Resistance Factor Design (LRFD) and Allowable Stress Design (ASD) methods of designing steel structures are presented throughout the book. The book is carefully designed so that an instructor can easily teach LRFD or ASD (material exclusively pertaining to ASD is shaded).

This text is presented using an easy-to-read, student-friendly style.

Features

- The load factors and load combinations defined in the textbook and used throughout the book in example problems and end of chapter problems for solution have been revised to meet those given in the ASCE 7-10 and Part 2 of the AISC Steel Construction Manual.
- The classification of compression sections for local buckling has been revised to the new definition of the new AISC Specification.

Contents

1. Introduction to Structural Steel Design
2. Specifications, Loads, and Methods of Design
3. Analysis of Tension Members
4. Design of Tension Members
5. Introduction to Axially Loaded Compression Members
6. Design of Axially Loaded Compression Members
7. Design of Axially Loaded Compression Members (Continued) and Column Base Plates
8. Introduction to Beams
9. Design of Beams for Moments
10. Design of Beams—Miscellaneous Topics (Shear, Deflection, etc.)
11. Bending and Axial Force
12. Bolted Connections
13. Eccentrically Loaded Bolted Connections and Historical Notes on Rivets
14. Welded Connections
15. Builditener
16. Composite Beams
17. Composite Columns
18. Cover-Plated Beams and Built-up Girders
19. Design of Steel Buildings

About the Authors

Jack C. McCormac, Clemson University / **Stephen F. Csernak**

Design of Steel Structures, 2/e

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

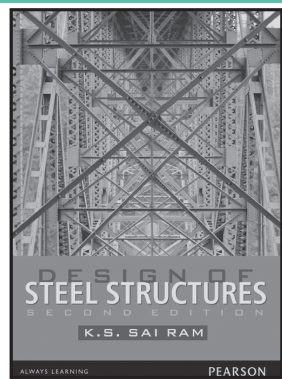
- Uses Limit State Design principles.
- Latest BIS Codes: IS: 800: 2007.
- Includes a wide variety of solved and unsolved problems.
- A new chapter on Steel Buildings which includes details of Roof Trusses.
- Detailed coverage of Fillet Weld.
- A new chapter of Steel Bridges.

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

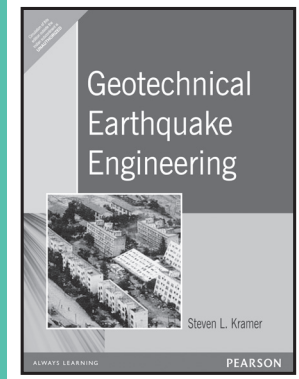
About the Author

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



K. S. Sai Ram

ISBN: 9789332542105
Copyright: 2015
Pages: 464



Steven L. Kramer

ISBN: 9788131707180

Copyright: 1996

Pages: 672

Geotechnical Earthquake Engineering

About the Book

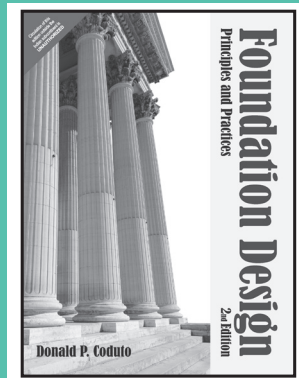
This is the first book on the market focusing specifically on the topic of geotechnical earthquake engineering. Also covers fundamental concepts in seismology, geotechnical engineering, and structural engineering.

Features

- **Heavily referenced**—allows detailed exploration of background or more advanced material.
- **Chapter Summaries** emphasize the most important points.
- Broad, Interdisciplinary point of view, drawing from the fields of seismology and structural engineering.

Contents

1. Introduction to Geotechnical Earthquake Engineering
2. Seismology and Earthquakes
3. Strong Ground Motion
4. Seismic Hazard Analysis
5. Wave Propagation
6. Dynamic Soil Properties
7. Ground Response Analysis
8. Local Site Effects and Design Ground Motions
9. Liquefaction
10. Seismic Slope Stability
11. Seismic Design of Retaining Walls
12. Soil Improvement for Remediation of Seismic Hazards



Donald P. Coduto

ISBN: 9789332535008

Copyright: 2014

Pages: 892

Foundation Design: Principles and Practices, 2/e

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

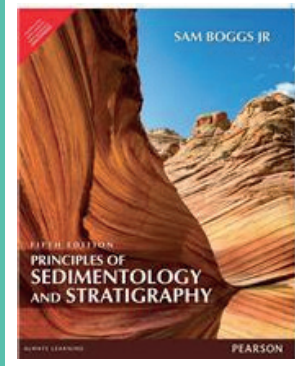
18. Foundations on Weak and Compressible Soils
19. Foundations on Expansive Soils
20. Foundations on Collapsible Soils
21. Reliability-Based Design

V. Earth Retaining Structure Analysis And Design

22. Earth-Retaining Structures
 23. Lateral Earth Pressures
 24. Cantilever Retaining Walls
 25. 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



Sam Boggs

ISBN: 9789332570955

Copyright: 2016

Pages: 568

Principles of Sedimentology and Stratigraphy, 5/e



About the Book

This concise treatment of the fundamental principles of sedimentology and stratigraphy highlights the important physical, chemical, biological and stratigraphic characteristics of sedimentary rocks. It emphasizes the ways in which the study of sedimentary rocks is used to interpret depositional environments, changes in ancient sea level, and other intriguing aspects of Earth's history.

Features

- Comprehensive yet concise coverage of all aspects of sedimentology and stratigraphy enables students to obtain complete information on both topics without purchasing additional texts.
- Current coverage of important topics and recent findings saves instructors time by eliminating the need for supplementary materials.
- Numerous illustrations, photos, and diagrams throughout the text provide students with visual representation of concepts to help their understanding.
- Extensive references provide students

- with the most authoritative sources available to conduct in-depth research projects, further investigations, and term papers.
- Additional readings at the end of each chapter encourage students to conduct further investigations outside of the classroom.
- Photomicrographs provide students with essential visual references for understanding the makeup of sedimentary rocks at the microscopic scale.





Contents

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| 1. Weathering and Soils | 9. Marginal-Marine Environments |
| 2. Transport and Deposition of Siliciclastic Sediment | 10. Siliciclastic Marine Environments |
| 3. Sedimentary Textures | 11. Carbonate and Evaporite Environments |
| 4. Sedimentary Structures | 12. Lithostratigraphy |
| 5. Siliciclastic Sedimentary Rocks | 13. Biostratigraphy |
| 6. Carbonate Sedimentary Rocks | 14. Seismic, Sequence, and Magnetic Stratigraphy |
| 7. Other Chemical/Biochemical and Carbonaceous Sedimentary Rocks | 15. Chronostratigraphy and Geologic Time |
| 8. Continental (Terrestrial) Environments | 16. Basin Analysis, Tectonics, and Sedimentation |

About the Author

Sam Boggs received his B.S. degree from the University of Kentucky in 1956 and a Ph.D. degree from the University of Colorado in 1964. He worked as a petroleum exploration geologist (1956-61) and a research geologist (1964-65) before coming to the University of Oregon in 1965. He is currently professor emeritus at the University. He also held one-year appointments at the University of Tokyo and National Taiwan University, and a six-month appointment at Argonne National Laboratory, University of Chicago. In addition, he worked intermittently (summers) as a research geologist for the U. S. Geological Survey. He has published numerous articles in professional journals as well as four books, including two textbooks in several editions each. His publications cover a wide variety of scientific disciplines: oceanography, sedimentology, stratigraphy, sedimentary petrology, cathodoluminescence imaging, and backscattered electron microscopy.

Geotechnical Engineering; Principles & Practices, 2e



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

- | | |
|---|---|
| Preface | 7. Groundwater–Fundamentals and One-Dimensional Flow |
| 1. Introduction to Geotechnical Engineering | 8. Groundwater–Multidimensional Flow and Applications |
| 2. Engineering Geology | 9. Stress |
| 3. Site Exploration and Characterization | 10. Compressibility and Settlement |
| 4. Soil Composition | 11. Rate of Consolidation |
| 5. Soil Classification | 12. Soil Strength |
| 6. Excavation, Grading, and Compacted Fill | 13. Stability of Earth Slopes |



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

ISBN: TBA
Copyright: 2017
Pages: 844





- 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

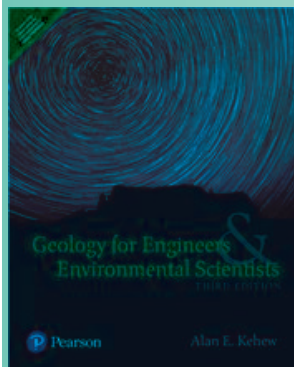
About the Authors

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.

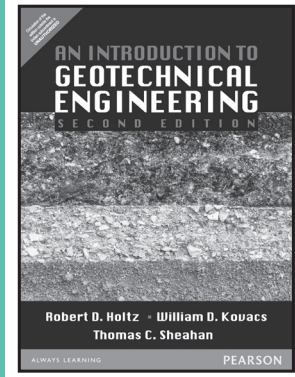
Also Available



ISBN: 9789332581289

Pages: 712

An Introduction to Geotechnical Engineering, 2/e



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

ISBN: 9789332507616
 Copyright: 2013
 Pages: 864

About the Book

An Introduction to Geotechnical Engineering 2e 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 compression, liquefaction, and an extensive use of the stress path method.

Features

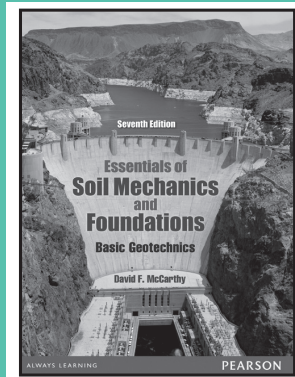
- Focuses on the engineering classification, behavior, and properties of soils necessary for the design and construction of foundations and earth structures.
- Introduces vibratory and dynamic compaction, the method of fragments,

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

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



David F. McCarthy

ISBN: 9789332542020
 Copyright: 2015
 Pages: 848

About the Book

Essentials of Soil Mechanics and Foundations: Basic Geotechnics, Seventh Edition, provides a clear, detailed presentation of soil mechanics: the background and basics, the engineering properties and behavior of soil deposits, and the application of soil mechanics theories. Appropriate for soil mechanics courses in engineering, architectural and construction-related programs, this new edition features a separate chapter on earthquakes, a more logical organization, and new material relating to pile foundations design and construction and soil permeability. It's rich applications, well-illustrated examples, end-of-chapter problems and detailed explanations make it an excellent reference for students, practicing engineers, architects, geologists, environmental specialists and more.

Features

- NEW TOPICS-Covers new developments in geotechnical topics such as:
 - Soil Properties and Analyses, Pile Foundation Design and Testing, Micropiles, Soil Nail Walls, Launched Soil Nails, Soil Improvement.
 - NEW- Presents Soil Types and Structure before Soil Composition.
- NEW- Includes a separate chapter on earthquakes.
- More application to real-world situations-appears in this text than in many others.
- Illustrative problems-appear within the body of the text.

»»»



Contents

Part I: Background And Basics

1. The Soil and Rock of Planet Earth: Geologic Overview
2. Soil Types and Soil Structure
3. Soil Composition: Terminology and Definitions
4. Index Properties and Classification Tests, and Soil Classification Systems
5. Site Investigations: Purpose and Methods, Information and Procedures Available

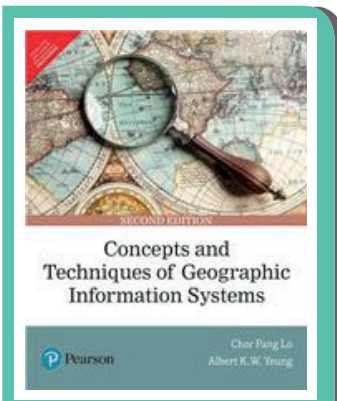
Part II: Engineering Properties And Behavior Of Soil Deposits

6. Movement of Water Through Soil: Basic Hydrogeology, Subsurface Flow, Permeability, Capillarity
7. Movement of Water Through Soil: Practical Effects: Seepage, Drainage, Frost Heave, Contamination
8. Combined Stresses in Soil Masses: Stress at a Point and Mohr's Circle

9. Subsurface Stresses
10. Settlement: Soil Compression, Volume Distortion, Consolidation
11. Shear Strength Theory
12. Earthquakes and the Affects

Part III: Application Of Soil Mechanics Theories

13. Foundations: Introductory Concepts
 14. Foundations: Design Considerations and Methods
 15. Site Improvement: Earth Moving, Compaction, and Stabilization
 16. Stability of Unsupported Slopes
 17. Lateral Pressures and Retaining Structures
- APPENDIX B: Laboratory Procedure to Determine Coefficient of Consolidation



Rob Yeung

ISBN: 9789332581883

Copyright: 2017

Pages: 544

Concepts and Techniques of Geographic Information Systems, 2/e



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

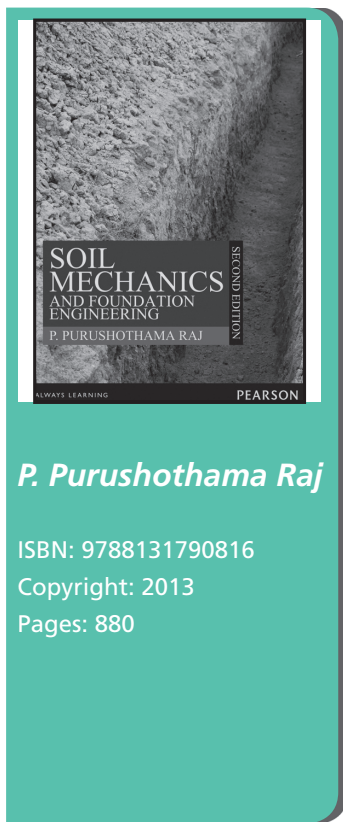




5. Raster Geoprocessing
 6. Vector Geoprocessing
 7. Geovisualization and Geospatial Information Products
 8. Remote Sensing and GIS Integration
 9. Digital Terrain Modeling
 10. Spatial Data Analysis, Modeling and Mining
 11. GIS Implementation and Project Management
 12. GIS Issues and Prospects
- Appendix A: Internet Resources for GIS
Appendix B: Glossary of GIS Terms
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About the Authors

Chor Pang Lo, Albert K.W. Yeung



P. Purushothama Raj

ISBN: 9788131790816
Copyright: 2013
Pages: 880

Soil Mechanics and Foundation Engineering, 2/e

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
22. Introductory Rock Mechanics
24. Pavements

About the Author

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

Soils and Foundations, 8e**NEW**

Cheng Liu
Jack Evett

ISBN: TBA
Copyright: 2014
Pages: 288

About the Book

For all courses in soils and foundations, geotechnical engineering, soil mechanics, and foundation engineering.

Ideal for beginners, SOILS AND FOUNDATIONS, 8/e presents all essential aspects of soils and foundations in as simple and direct a manner as possible. Filled with worked examples, step-by-step solutions, and hands-on practice problems, it emphasizes design and practical applications supported by basic theory. Throughout, the authors promote learning through the extensive use of diagrams, charts, and illustrations. Coverage includes: engineering properties of soils: soil exploration, compaction, stabilization, and consolidation; water in soil; subsurface stresses; settlement of structures; shear strength; shallow and deep foundations; lateral earth pressure; retaining structures, and stability analysis of slopes. This edition's new coverage includes Pressuremeter and Dilatometer tests, water flow characterization with Bernoulli's Theorem, dewatering, uplift pressure on dams, and subsurface stresses caused by overlying soil masses.

Features

- Easy to read and understand. Well organized and presented in the simplest language possible, to help beginners start quickly and stay engaged as the material becomes more challenging.
- Uses proven pedagogical features to help students learn faster and retain more. Chapters start with background, overviews, key terms, and clear learning objectives.
- Offers extensive opportunities for hands-on practice. Presents worked examples in step-by-step detail throughout, and then concludes each chapter with many realistic problems designed to help students practice with both concepts and methods.
- Teaches visually and intuitively. Promotes learning through the extensive use of diagrams, charts, and illustrations,

Contents

Preface	9. Shallow Foundations
1. Introduction	10. Deep Foundations
2. Engineering Properties of Soils	11. Lateral Earth Pressure
3. Soil Exploration	12. Retaining Structures
4. Soil Compaction and Stabilization	13. Stability Analysis of Slopes
5. Water in Soil	Answers to Selected Problems
6. Subsurface Stresses in Soils	Appendix: Conversion Factors
7. Consolidation of Soil and Settlement of Structures	References Cited
8. Shear Strength of Soil.	Index



Petros P. Xanthakos

ISBN: TBA
 Copyright: 1996
 Pages: 864

Bridge Substructure and Foundation Design



About the Book

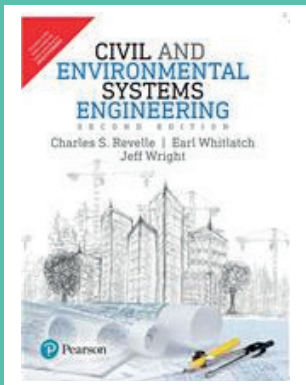
A comprehensive book that covers all aspects of bridge substructure including analysis, design and detailing as used by both structural and geotechnical engineers involved in bridge engineering.

Features

- Book conforms to the latest edition (1992) of the standard American Association of State Highway and Transportation Officials (AASHTO) Bridge Specifications, and the 1994 LRFD Bridge Design Specifications.
- Presents criteria for selecting substructure and foundation types according to functions, structural requirements and cost.
- Explains the development of loads and force effects, provides commentary and presents examples.
- Explains when to use allowable stress design methods and when to use load and resistance factor methodology.
- Explains and illustrates the use of small deflection theories, moment magnification techniques, and stress-strain relationships.
- Includes extensive illustration and references.

Contents

- | | |
|--|--------------------------------------|
| 1. Introduction and General Principles | 7. Abutments |
| 2. Loads and Loading Groups | 8. Footings |
| 3. Methods Of Analysis and Design | 9. Driver Piles |
| 4. Piers For Conventional Bridges | 10. Drilled Shaft Foundations |
| 5. Piers For Special Bridges | 11. Prismatic and Linear Foundations |
| 6. Wall Systems. | 12. Strengthening and Rehabilitation |



**Charles S Revelle
 Earl Whitlatch
 Jeff Wright**

ISBN: 9789332575752
 Copyright: 2016
 Pages: 520

Civil and Environmental Systems Engineering, 2/e



About the Book

For junior/senior-level courses in Systems Analysis or Systems Analysis and Economics as applied to civil engineering.

With a reorganization and new material, the Second Edition of this acclaimed text is designed to enhance the student's learning experience by providing exposure to modeling ideas and concepts. Network flow problems are emphasized by highlighting their study separately from the general integer programming models that are considered. With a wider range of examples and exercises that conclude many chapters, this text offers students an extremely practical, accessible study on the most modern skills available for the design, operation and evaluation of civil and environmental engineering systems.

Features

- NEW - Reorganized and updated material—Provides a smoother and more student-friendly structure.
- Offers students a highly accessible presentation of the subject matter so they can master the material at an ambitious yet comfortable pace.
- NEW - First chapter devoted to a combination of historical development of systems analysis and the steps that a model builder must follow in structuring an optimization model.
- Provides students with further opportunities to develop formulation skills without the necessity of employing mathematics.
- NEW - A number of end-of-chapter and text example problems.
- NEW - Verbal descriptions of settings where models can be employed in Chapter 1.
- Challenges students to identify the needed parameters and problem objectives as well as constraints and





appropriate decision variables.

- NEW - Network flows presented in its own chapter—Contains all of the major network flow concepts for ease of access.
- Provides a more consistent flow of material so that students can absorb the subject matter more easily.
- NEW - Topics of integer programming, branch and bound, and applications of integer programming treated in their own chapter—Without the network flow models.
- Offers the instructor flexibility with these topics while allowing independent study of the classical and widely applicable models of network flows.
- An abundance of substantive examples and problems.
- Helps students apply the concepts they are learning so they can be equipped with a working knowledge of the material.

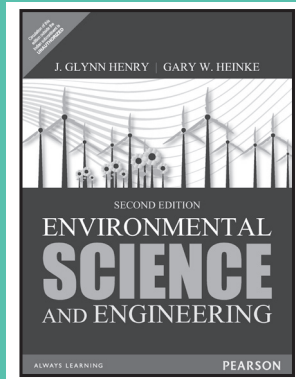
Contents

1. Explaining Systems Analysis
2. Models in Civil and Environmental Engineering
3. A Graphical Solution Procedure and Further Examples
4. The Simplex Algorithm for Solving Linear Programs
5. Linear Programs with Multiple Objectives
6. Linear Programming Models of Network Flow
7. Integer Programming and Its Applications
8. Scheduling Models: Critical Path Method
9. Decision Theory
10. Lessons in Context: Simulation and the Statistics of Prediction
11. Lessons in Context: A Multigoal Water Resources Problem Utilizing Multiple Techniques
12. Lessons in Context: Transportation Systems
13. Dynamic Programming and Nonlinear Programming
14. Engineering Economics I: Interest and Equivalence
15. Engineering Economics II: Choice Between Alternatives
16. Engineering Economics III: Depreciation, Taxes, Inflation, and Personal Financial Planning

About the Author

Charles S. Revelle, Johns Hopkins University, Earl Whitlatch, Ohio State University, Jeff Wright, University of California, Merced

Environmental Science and Engineering



**J. Glynn Henry
Gary W. Heinke**

ISBN: 9789332551749

Copyright: 2015

Pages: 778

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

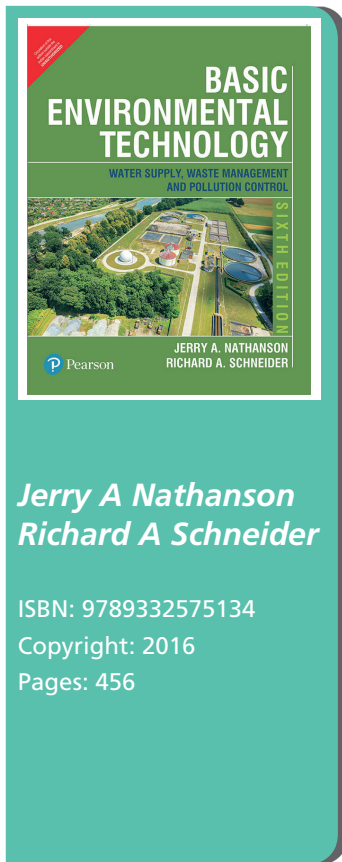
1. The Nature and Scope of Environmental Problems
2. Population and Economic Growth
3. Energy Growth
4. Natural Environmental Hazards
5. Human Environmental Disturbances

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.
- Appendix D. Special Environmental Problems



**Jerry A Nathanson
Richard A Schneider**

ISBN: 9789332575134
Copyright: 2016
Pages: 456

Basic Environmental Technology, 6e



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



Gilbert M. Masters
Wendell P. Ela

ISBN: 9789332549760

Copyright: 2015

Pages: 720

Introduction to Environmental Engineering and Science, 3/e

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.

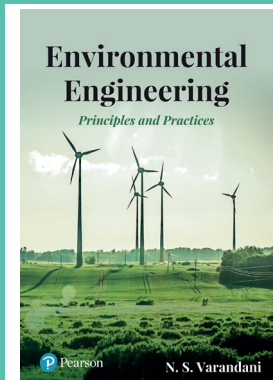
Contents

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

Environmental Engineering; Principles and Practices**NEW****N. S. Varandani**

ISBN: 9789332581951

Copyright: 2017

Pages: 592

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

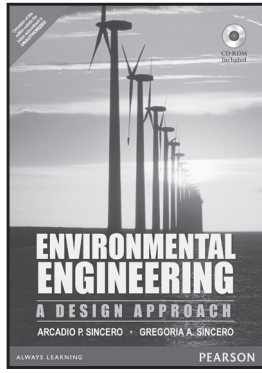
Preface	9. Solid Waste Management: Generation, Collection and Transportation
About the Author	10. Solid Waste Management: Processing, Treatment and Landfilling
1. Environment and Its Components	11. Noise: Sources and Control
2. Environmental Microbiology	12. House Drainage
3. Quantity of Water	13. Environmental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

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.

Environmental Engineering: A Design Approach

NEW



Arcadio P. Sincero
Gregoria A. Sincero

ISBN: 9789332549630

Copyright: 2016

Pages: 795

About the Book

Suitable for use in undergraduate Environmental Engineering courses found predominantly in Civil Engineering, but also in Chemical and Environmental Engineering. The book may also be used by a variety of professional engineers and scientists.

This new text provides an exceptionally thorough treatment of environmental engineering. The most thorough text of its kind, it encompasses environmental chemistry and biology, hydraulics, and pneumatics; water treatment; wastewater treatment, both conventional and advanced; solid waste management; air pollution control; hazardous waste management and risk assessment; noise pollution and control; and environmental quality modeling. Through clear, straightforward writing, the authors provide incisive and insightful coverage while approaching the subject matter in a direct analytical manner. The text makes use of many practical, hands-on examples throughout to realistically demonstrate the applied nature of the field. This text, perhaps better than any other, combines comprehensive and authoritative coverage with current applications.

Features

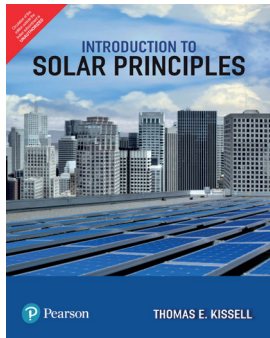
- **Presents a no-nonsense, analytical approach to environmental engineering**, avoiding qualitative and blanket statements. This approach results in optimum accuracy, and gives students a better sense of the proper analytical tools that must be used to practice environmental engineering.
- **Complete coverage of the applications of chemical reactions** is included to allow the fullest possible understanding of a number of relevant processes such as wastewater treatment, decomposition in a landfill, composting, and burning fuel.
- **Exceptionally practical, realistic examples** are included throughout the text, clearly illustrating principles and concepts at work while demonstrating the applied nature of the discipline.
- **Provides a unified approach to the concept of settling**, treating the settling of air and of water together—giving students a clearer understanding that the process is the same in both mediums.
- **Treats surface water, subsurface water, and air quality modeling as part of the concept of conservation of mass.** The fundamental concept in modeling is simply the conservation of mass, so this approach reflects the clearest, most logical grouping of these types of modeling.

Contents

1. Introduction
2. Environmental Chemistry and Biology
3. Environmental Engineering Hydrology
4. Environmental Engineering Hydraulics and Pneumatics
5. Introduction to Environmental Quality Modeling
6. Conventional Water Treatment
7. Conventional Wastewater Treatment
8. Sludge Treatment and Disposal
9. Advanced Wastewater and Water Treatment and Land Treatment Systems
10. Pollution from Combustion and Atmospheric Pollution
11. Solid Waste Management
12. Air Pollution Control
13. Hazardous Waste Management and Risk Assessment
14. Noise Pollution and Control

Introduction to Solar Principles

NEW



Thomas E. Kissell

ISBN: 9789332583825

Copyright: 2012

Pages: 312

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. Electrical 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

Introduction to Finite Elements in Engineering, 4/e

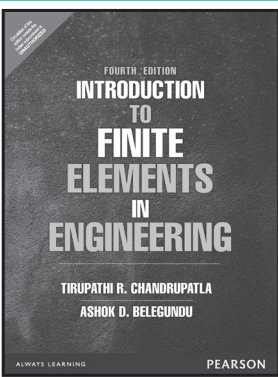
About the Book

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



**Tirupathi R.
Chandrupatla
Ashok D. Belegundu**

ISBN: 9789332551824

Copyright: 2015

Pages: 448

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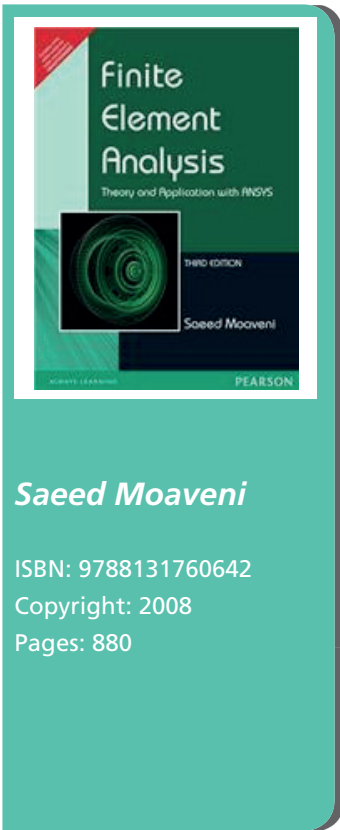


in their presentations.

- 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



Saeed Moaveni

ISBN: 9788131760642

Copyright: 2008

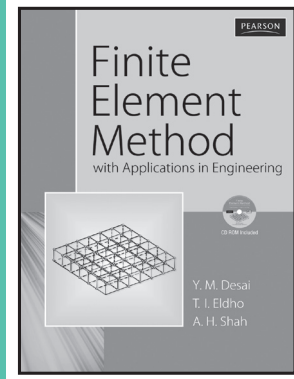
Pages: 880

Finite Element Analysis, 3e

About the Book

While many good textbooks cover the theory of finite element modeling, this is the only text available that incorporates ANSYS as an integral part of its content. Moaveni presents the theory of finite element analysis, explores its application as a design/modeling tool, and explains in detail how to use ANSYS intelligently and effectively.

Finite Element Method with Applications in Engineering



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

ISBN: 9788131724644

Copyright: 2011

Pages: 492

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. Finally, the applications of FEM to real-world problems are presented in 1D, 2D and 3D for structural analysis, heat and mass transfer, geo-mechanical, fluid flow and other problems.

Features

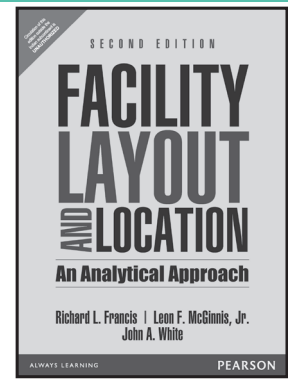
- Separate chapters are devoted to basic mathematical modeling, approximate method of analysis, introduction and different approaches to FEM.
- Comprehensive coverage of FEM interpolation functions.
- Finite element analysis for various problems in 1D, 2D and 3D.
- Comprehensive coverage of computer implementation of FEM and FEM software and web resources.
- Large number of solved problems and exercise questions.
- More than 200 figures for better understanding of the concepts.

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 Authors

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.



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

ISBN: 9789332551787
Copyright: 2015
Pages: 592

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

About the Book

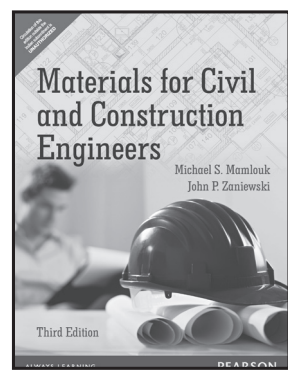
A comprehensive introduction to quantitative methods for facility layout and location.

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



**Michael S. Mamlouk
John P. Zaniewski**

ISBN: 9789332535220
Copyright: 2014
Pages: 624

Materials for Civil and Construction Engineers, 3/e

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:
 - o 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.
 - o 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.
 - o 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

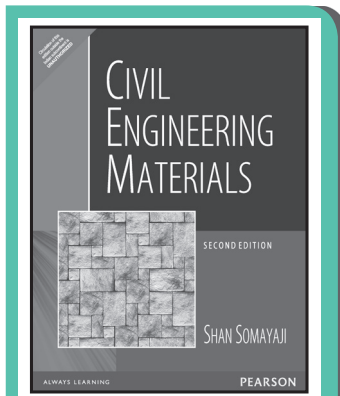
About the Authors

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.



Shan Somayaji

ISBN: 9788131766316

Copyright: 2012

Pages: 496

Civil Engineering Materials, 2/e

About the Book

This book deals with properties, applications and analysis of important materials of construction/civil engineering. It offers full coverage of how materials are made or obtained, their physical properties, their mechanical properties, how they are used in construction, how they are tested in the lab, and their strength characteristics—information that is essential for material selection and elementary design.

Features


- Updated code provisions.
- Introduction to materials science wherever appropriate.
- The chemical nature of a material.
- A brief introduction to several important engineering materials.
- A detailed discussion on the types and properties of rocks.
- Rewritten sections on Mortar, Structure of Wood, Physical Properties of Wood, and Reinforcing Steel.
- Expanded section on effects of variables on compressive strength of portland cement concrete.
- Several new tables and figures.
- Additional illustrative examples.
- Chapter-end homework or review problems.
- A focus on all common materials of civil engineering/construction.
- In-depth coverage of each material.
- Step-by-step solution technique.
- Self-contained sections and purposeful repetition.
- A brief review of properties of soil as a construction material.
- Laboratory testing procedures for selected tests.





Contents

1. Introduction
2. Aggregates
3. Concrete and Other Cementitious Materials
4. Masonry
5. Wood and Wood Products
6. Bituminous Materials and Mixtures
7. Iron and Steel
8. Plastics and Soils



Pearson

Kenneth N. Derucher
George Korfiatis
Samer Ezeldin

ISBN: TBA
 Copyright: 1999
 Pages: 470

Materials for Civil and Highway Engineers



About the Book

For sophomore/junior-level introductory courses in Civil Engineering Materials or Materials of Construction. Updated to include current environmental concerns and construction trends, this introductory text covers the basic concepts of civil and highway engineering materials. Providing theory with an emphasis on practical applications, the authors outline the appropriate laboratory test procedures for quality control and provide a complete list of ASTM standards.

NEW TO THIS EDITION

- NEW - New features center around the use of Fiber Reinforced Plastics including:
- The potential of advanced composites in construction. Pg.____
- The use of FRP in reinforced concrete and prestressed structures. Pg.____
- Production of FRP in North America. Pg.____
- Mechanical properties of FRP. Pg.____
- Test methods. Pg.____
- Fundamental design philosophy. Pg.____
- NEW - Increased coverage of environmental concerns, emphasizing considerations regarding hazardous materials and waste disposal, contaminated soil, and remedial options. Pg.____
- NEW - Chapter on Miscellaneous Material, which includes glass, concrete block, brick, and mortar, rounds out the coverage of materials most widely used by Civil and Highway Engineers. Pg.____
- Discusses the engineering performance of concrete, cements, asphalt, soil, aggregate, timber, metals, and plastics. Pg.____
- Addresses soil as a material and covers both soil and concrete extensively. Pg.____
- Presents full-chapter coverage of proportioning structural concrete mixtures with fly ash and other pozzolans. Pg.____
- Expands coverage of concrete durability and additives in concrete. Pg.____
- Presents material on creep, shrinkage, biaxial behavior, high-strength and fiber-reinforced concrete, and by-products in concrete. Pg.____
- Includes additional ASTM standards in the appendices eliminating the need for any other source material in lecture and labs. Pg.____

Contents

1. Soil
2. Mineral Aggregates
3. Cements
4. Concrete: Strength and Behavior
5. Design Procedure in Making Concrete
6. Proportioning Structural Concrete Mixtures with Fly Ash and Other Pozzolans
7. Advances in Concrete Technology
8. Timber
9. Asphalt Cements
10. Metallic State
11. Ferrous Metals
12. Plastics
13. Miscellaneous Materials
14. Design for Environment
15. Environmental Considerations in Construction
- Appendices
- Index

Strength and Fracture of Engineering Solids

NEW

**David K. Felbeck**

ISBN: TBA

Copyright: 1996

Pages: 535

About the Book

Offering a self-contained approach that develops topics from the simple to the complex throughout, this text combines a rigorous exposition of the fundamentals of the strength and toughness of engineering solids with practical applications to engineering problems. It provides extensive data on real materials and features accessible coverage of important new and developing topics not often presented at this level.

Features

- Reviews material from chemistry, physics, and materials science.
- Covers fundamentals of dislocation theory — showing how microstructure influences strength by reflecting dislocation motion.
- Incorporates three new and developing subjects that are not usually found in fundamental texts:
- The fundamentals and applications of high-performance composite materials.
- The brittle fracture from the perspective of both the classic Griffith-Orowan-Irwin analysis and the more general fracture toughness approach of Gurney. Shows how all of the classic approaches are just different parts of the same entity.
- The fundamentals of failure analysis — procedures and examples of actual cases — which is emerging as a separate and growing field of specialization as a result of stricter product and worker safety laws.
- Simplifies the procedures for solving Mohr's circle problems.
- Discusses the field emission scanning electron microscope (FEM) and contains several electronic micrographs — including those from the authors' own failure analyses that depict special characteristics of the several fracture modes.
- Describes K_{Ic} testing using ASTM E399 Standard for fracture toughness, and describes the procedure for evaluating the Weibull modulus.
- Surveys recent advances in ceramics and composites and in high-strength low alloy steel.
- Incorporates a simpler version of specific strength = strength/specific gravity.
- Features very thorough appendices with conversions, properties of elements, and many materials.
- Incorporates exercises and solutions into text discussions and provides an extensive set of problems for each chapter.

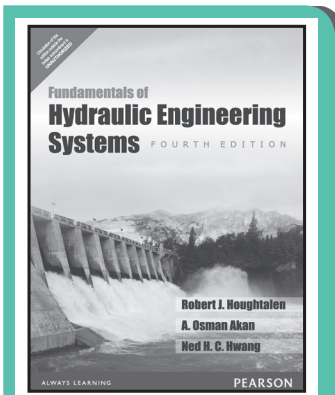
Contents

1. Engineering Design with Materials, and the International System of Units
2. Traditional Strength Tests and Mechanical Processing
3. Classes of Properties of Engineering Materials
4. Structure of Solids
5. Crystal Imperfections and Slip
6. Pure Elements
7. Single Phases
8. Phase Diagrams
9. Multiple Phases
10. Martensites and Tempered Martensites
11. Stainless and Heat-Resistant Steels
12. Rate and Temperature-Dependent Mechanical Properties: Creep and Viscoelasticity
13. Polymers and Design with Time-Dependent Solids
14. Fracture
15. Cast Irons
16. Ceramics and Glasses
17. Composites
18. Fracture by Gradual Crack Growth: Fatigue and Stress-Corrosion Cracking
19. Failure Analysis
- Appendix 1: Prefixes for Use with SI Units
- Appendix 2: Factors for Conversion to SI Units
- Appendix 3: Plastic Stress-Strain Constants for Metals
- Appendix 4: Approximate Hardness Conversions for Metals
- Appendix 5: Mechanical Property Ranges for Common Engineering Materials at ...~20...°C
- Appendix 6: Properties of Pure Metals at ...~20...°C.
- Appendix 7: Compositions of Some Stainless Steels

>>>



- Appendix 8: Representative Mechanical Properties of Polymers
- Appendix 9: Typical Values of Quasi-Static Toughness and Yield Stress
- Appendix 10: Typical Compositions and Mechanical Properties of Cast Irons
- Appendix 11: Representative Room-Temperature Mechanical Properties of Ceramics and Glasses
- Appendix 12: Density and Mechanical Properties of Bulk Materials and Filaments
- Appendix 13: Density and Mechanical Properties of Composites
- Appendix 14: Energy Consumption in Manufacture of Various Engineering Solids
- Appendix 15: Some Common Known Stress-Corrosion Cracking (and Hydrogen-Embrittlement) Environment-Material Combinations
- Index



Robert J. Houghtalen
A. Osman Akan
Ned H. C. Hwang

ISBN: 9789332507593
 Copyright: 2013
 Pages: 494

Fundamentals of Hydraulic Engineering Systems, 4/e

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.

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.

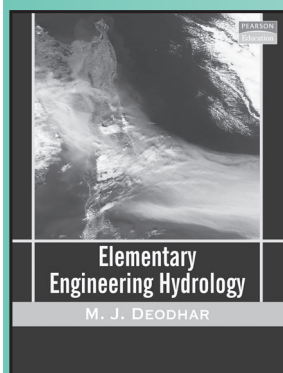
Contents

- | | |
|------------------------------------|---|
| 1. Fundamental Properties Of Water | 8. Hydraulic Structures |
| 2. Pressure And Pressure Forces | 9. Water Pressure, Velocity, And Discharge Measurements |
| 3. Water Flow In Pipes | 10. Hydraulic Similitude And Model Studies |
| 4. Pipelines And Pipe Networks | 11. Hydrology For Hydraulic Design |
| 5. Water Pumps | 12. Statistical Methods In Hydrology |
| 6. Water Flow In Open Channels | |
| 7. Ground Water Hydraulics | |

About the Authors

Robert J. Houghtalen, Rose-Hulman Institute of Technology.
A. Osman Akan, Old Dominion University.
Ned H. C. Hwang, National Health Research Institutes.

Also Available



ISBN: 9788131708057

Pages: 408



**CAPT(Center for the
Advancement of
Process Tech)**

ISBN: TBA

Copyright: 2010

Pages: 464

Process Technology Equipment

About the Book

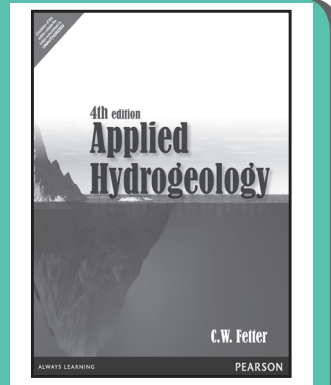
Appropriate for Process Technology Equipment courses.

Process Equipment is designed to teach students about equipment used in the process industries. This text includes a variety of topics including, valves, tanks, pumps, turbines, motors, heat exchangers, cooling towers, furnaces, boilers, separation equipment, reactors, filters, dryers and solids handling equipment. Each chapter contains objectives, key terms, a summary, review questions and activities to enhance the learning experience. Students will find this textbook to be a valuable resource throughout their process technology career.

Features

- | | |
|---|---|
| 1. Introduction to Process Equipment | 12. Cooling Towers |
| 2. Process Drawings and Equipment Standards | 13. Furnaces |
| 3. Piping, Tubing, Hoses, and Fittings | 14. Boilers |
| 4. Valves | 15. Auxiliary Equipment |
| 5. Tanks and Vessels | 16. Tools |
| 6. Pumps | 17. Separation Equipment |
| 7. Compressors | 18. Reactors |
| 8. Turbines | 19. Filters and Dryers |
| 9. Electrical Distribution and Motors | 20. Solids Handling Equipment |
| 10. Engines | 21. Environmental Control Equipment |
| 11. Heat Exchangers | 22. Mechanical Power Transmission and Lubrication |

Applied Hydrogeology, 4/e



C.W. Fetter

ISBN: 9789332535114

Copyright: 2014

Pages: 616

About the Book

This best selling text gives students a balanced examination of all facets of hydrogeology. The text stresses the application of mathematics to problem solving rather than derivation of theory. It provides a balance between physical and chemical hydrogeology. Numerous case studies cultivate student understanding of the occurrence and movement of ground water in a variety of geologic settings.

Features

- NEW - Excel-based project included in the ground water modeling chapter.
- NEW - Five new case histories: The Dakota Aquifer, Fractures Sedimentary Rocks—Newark basin, Faults as Aquifer Boundaries, Desert Hydrology—Azraq basin, Jordan, and Use of multiple geophysical techniques to determine the extent and thickness of a critical confining layer.
- NEW - “Analysis” section in select chapters—Student is directed to a problem or issue that will require independent thought and problem solving techniques illustrated in the solved example problems.
- NEW - New Chapter 2, “Elements of the Hydrologic Cycle,” combines the old chapters 2 and 3.
- NEW - Use of Internet to obtain hydrogeologic data and information.
- NEW - Brief introduction to ASTM Standards.
- Provides students with numerous example problems accompanied by step-by-step solutions.
- Incorporates an introduction to the methods of problem solving—Using dimensional analysis as well as a discussion of significant digits.
- Includes many more chapter problems throughout—Provides answers to odd numbered problems.

New to this Edition

- Updated references throughout the new edition.
- Excel-based project included in the ground water modeling chapter.
- Five new case histories: The Dakota Aquifer, Fractures Sedimentary Rocks—Newark basin, Faults as Aquifer Boundaries, Desert Hydrology—Azraq basin, Jordan, and Use of multiple geophysical techniques to determine the extent and thickness of a critical confining layer.
- “Analysis” section in select chapters—Student is directed to a problem or issue that will require independent thought and problem solving techniques illustrated in the solved example problems.
- New Chapter 2, “Elements of the Hydrologic Cycle,” combines the old chapters 2 and 3.
- Use of Internet to obtain hydrogeologic data and information.
- Brief introduction to ASTM Standards.

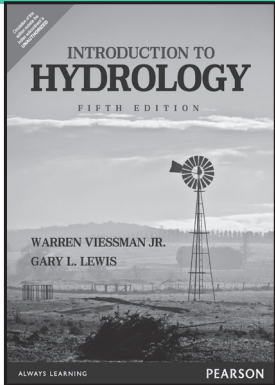
Contents

1. Water
2. Elements of the Hydrologic Cycle
3. Properties of Aquifers
4. Principles of Ground-Water Flow
5. Ground-Water Flow to Wells
6. Soil Moisture and Ground-Water Recharge
7. Regional Ground-Water Flow
8. Geology of Ground-Water Occurrence
9. Water Chemistry
10. Water Quality and Ground-Water Contamination
11. Ground-Water Development and Management
12. Field Methods
13. Ground-Water Models

About the Author

C.W. Fetter Jr., Emeritus, University of Wisconsin, Oshkosh

Introduction to Hydrology, 5/e



**Warren Viessman Jr.
Gary L. Lewis**

ISBN: 9789332555297

Copyright: 2015

Pages: 624

About the Book

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

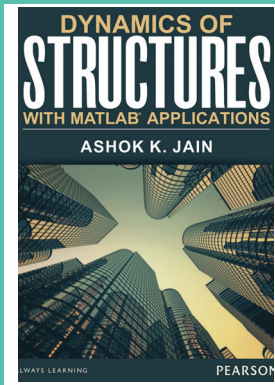
The Fifth Edition of Introduction to Hydrology has been redesigned to better acquaint future water engineers, scientists and managers with the basic elements of the hydrologic cycle. Its focus is on presenting the principles of hydrology in the context of their application to real-world problems. The 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



Dr. Ashok Jain

ISBN: 9789332558557

Copyright: 2016

Pages: 672

Dynamics of Structures with MATLAB® Applications

NEW

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

Preface

Acknowledgements

About The Author

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

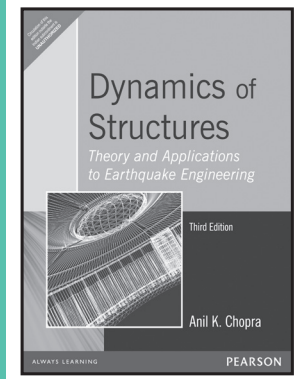
Answers to Selected Problems

Index

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.

Dynamics of Structures, 3/e



Anil K. Chopra

ISBN: 9788131713297

Copyright: 2007

Pages: 914

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

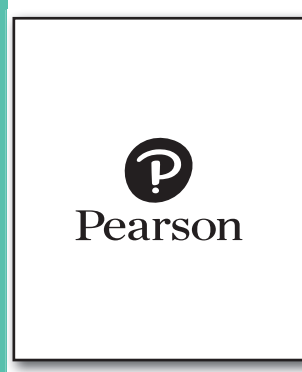
- Section on application of the inelastic design spectrum to structural design—For allowable ductility, seismic evaluation of existing structures, and displacement-based structural design.
- Examples on dynamics of bridges and their earthquake response.
- Incorporation of three building codes and inclusion 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

Structural Analysis, (In SI Units)

New Edition



R. C. Hibbeler

ISBN: TBA

Copyright: 2008

Pages: 732

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

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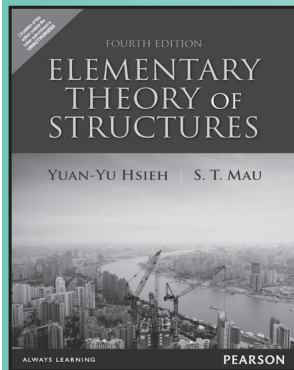


6. Influence Lines for Statically Determinate Structures
7. Approximate Analysis of Statically Indeterminate Structures
8. Deflections
9. Deflections Using Energy Methods
10. Analysis of Statically Indeterminate Structures by the Force Method
11. Displacement Method of Analysis: Slope-Deflection Equations
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

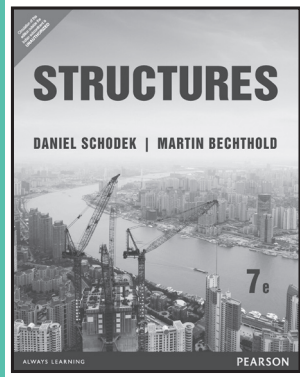
R. C. Hibbeler currently teaches both civil and mechanical engineering courses at the University of Louisiana, Lafayette. In the past he has taught at the University of Illinois at Urbana, Youngstown State University, Illinois Institute of Technology, and Union College.

Also Available



ISBN: 9789332559479

Pages: 432



Daniel Schodek
Martin Bechthold

ISBN: 9789332549869

Copyright: 2015

Pages: 576

Structures, 7/e

About the Book

For courses in Structures or Structural Analysis and Design.

Structures, Seventh Edition, offers single-volume coverage of all major topics in structural analysis and design. Focusing on how structures really work, the text discusses concepts from both engineering and architectural perspectives, exploring structural behavior, structural analysis, and design within a building context.

Features

For courses in Structures or Structural Analysis and Design.

- Structures, Seventh Edition, offers single-volume coverage of all major topics in structural analysis and design. Focusing on how structures really work, the text discusses concepts from

both engineering and architectural perspectives, exploring structural behavior, structural analysis, and design within a building context.

Hallmark Features:

Integrative approach discusses structures from both an engineering and architectural perspective.

- Reinforces the larger goal of the text—to explore structural behavior, analysis and design within a building context.
- Softens the boundaries between statics, strength of materials, and architectural design

Part I Introductory Concepts focuses on fundamental concepts of analysis and design.

- Introduces readers to the invariant set of physical principles that underlie the behavior of structures under load.
- Discusses basic analysis and design criteria, processes, modeling techniques, and more.

Part II Analysis and Design of Structural Elements introduces readers to most of the primary structural elements used in buildings and their analysis and design.

- Discusses the elements role in building, its behavior under load (both qualitative and quantitative), and methods for designing the element.

Contents

Part I: Introductory Concepts

- Structures: An Overview
- Principles of Mechanics
- Introduction to Structural Analysis and Design

Part II: Analysis And Design Of Structural Elements

- Trusses
- Funicular Structures: Cables and Arches
- Beams
- Members in Compression: Columns
- Continuous Structures: Beams

Part III Principles of Structural Design contains a unique examination of the logic of structural design.

- Discusses concepts as part of the larger building design process and gives design guidelines throughout.

Flexible organization makes it easy to align material with one's course goals.

- Offers coverage that can be adapted to fit specific course needs—e.g. an emphasis on qualitative, quantitative or both, or an emphasis on design or analysis or both.

In-depth appendices discuss more advanced principles of structural analysis.

- Reinforces the book's flexible approach by presenting detailed structural analysis content in self-contained appendices.

Numerous examples, illustrations, and exercises show readers real-world applications and provide a context for learning.

- Makes material easier to understand and immediately relevant.

- Continuous Structures: Rigid Frames
- Plate and Grid Structures
- Membrane and Net Structures
- Shell Structures

Part III: Principles Of Structural Design

- Structural Elements and Grids: General Design Strategies
- Structural Systems: Design for Lateral Loadings
- Structural Systems: Constructional Approaches
- Structural Connections



Basic Methods of Structural Geology

About the Book

Complete coverage of all the basic topics of structural geology.

Features

- Introduces methods for strain analysis, balanced cross sections, down-plunge projections, and structural analysis in poly-deformed terranes.
- Includes many worked-out examples and numerous maps, photographs, drawings, and diagrams.

Contents

I. INTRODUCTORY MATERIAL: Orientation and Location.

1. Interpretation and Construction of Contour Maps.
2. Geometric Methods I—Attitude Calculations.
3. Geometric Methods II—Dimension Calculations.
4. Interpretation of Simple Outcrop Patterns.
5. Stereographic Methods I—Concepts and Plotting
6. Stereographic Methods II—Poles and Rotations
7. Calculation of Layer Attitude in Drill Holes
8. Equal-Area Projections and Structural Analysis

9. Analysis of Joint, Fault and Lineament Geometry
 10. Description of Structures in Outcrop, Hand Sample, and Thin Section
 11. Construction of Interpretive Cross Sections and Block Diagrams
 12. Cross-section Balancing
 13. Interpretation of Poly-Deformed Terrains
 14. Analysis of Two-dimensional Finite Strain
 15. Rock-deformation Experiments and Mohr Diagrams
- Elements of Cartography
Basic Trigonometry
Suggestions for Mapping Geologic Structures and Structural Associations

II. SPECIAL TOPICS: Aspects of Geological Map Interpretation



**Stephen Marshak
Gautam Mitra**

ISBN: TBA
Copyright: 1988
Pages: 446

Surveying, 7/e

About the Book

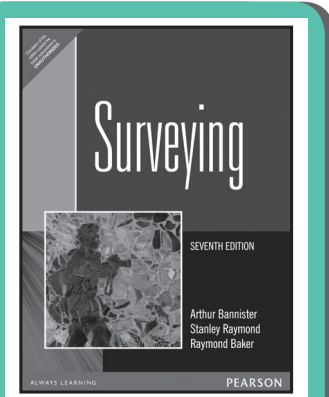
Established as a classic text on surveying for over twenty years, Surveying is renowned for its concise and readable explanation of the basic principles and equipment used for land surveying and setting. This revision retains the comprehensive and authoritative nature of the work whilst making the text more accessible to students and professionals with updated methods and equipment throughout.

Features

- New chapter on satellite positioning systems.
- New photographs and instrument profiles, highlighting the latest equipment.
- New revised material throughout, including coverage of the surveying of existing buildings.
- New improved style and presentation to increase the text's clarity and accessibility.

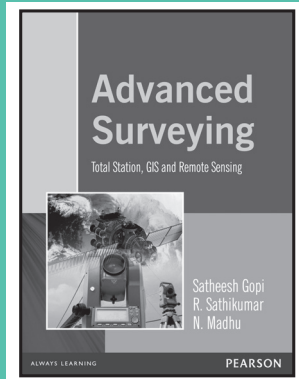
Contents

1. Introductory
2. Tape & offset surveying
3. Levelling
4. The theodolite and its use
5. Electromagnetic distance measurement
6. Satellite positioning systems
7. Survey methods
8. Analysis & adjustment of measurements
9. Areas & volumes
10. Setting out
11. Curve ranging
12. Hydrographic surveying
13. Photogrammetry
14. References



**Arthur Bannister
Stanley Raymond
Raymond Baker**

ISBN: 9788131700662
Copyright: 2006
Pages: 512



Satheesh Gopi
R. Sathikumar
N. Madhu

ISBN: TBA

Copyright: 2007

Pages: 496

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

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

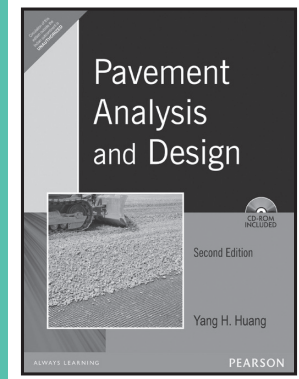
About the Authors

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.

Pavement Analysis and Design, 2/e



Yang H. Huang

ISBN: 9788131721247

Copyright: 2008

Pages: 792

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

Surveying Fundamentals and Practices**NEW**

Jerry A. Nathanson
Michael Lanzafama
Philip Kissam

ISBN: TBA
 Copyright: 2011
 Pages: 360

About the Book

For courses in introductory surveying offered in most civil technology, construction technology, and architectural technology programs.

Surveying Fundamentals and Practices, Sixth Edition, covers up-to-date surveying technology without losing perspective of the need to provide students with a strong foundation in traditional surveying fundamentals. Through clear explanations and applied examples, the text presents the methods of measuring and computing distances, angles, and directions. It provides students with a firm grasp of modern equipment and office and field procedures related to horizontal control surveys, property surveys, topographic surveys, roadway curve calculations, and construction layout surveys. The sixth edition offers students a "user-friendly" text that they will be able to rely on as a meaningful learning tool in class and at home.

Features

- This text provides students with a sound foundation in surveying;
- Offers solid review of surveying-related mathematics.
- Practical examples throughout the text help students learn by doing.
- The text is effectively organized into Basic Concepts, Equipment/Methods, and Applications.
- The text's teaching and learning tools help instructors and students teach and learn more efficiently:
- Glossary of terms and abbreviations give students quick access to useful reference tools.
- Each chapter ends with Questions for Review and/or Practice Problems.
- Solutions to the even-numbered practice problems are included in the Appendix.
- Solutions to the odd-numbered problems are provided in the online Instructor's Manual.

Contents**PART 1. BASIC CONCEPTS IN SURVEYING**

1. Introduction
2. Measurements and Computations
3. Basic Mathematics for Surveying

PART 2. SURVEYING EQUIPMENT AND FIELD METHODS

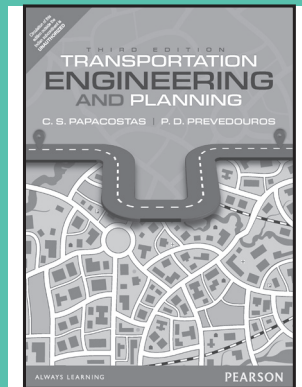
4. Measuring Horizontal Distances
5. Measuring Vertical Distances
6. Measuring Angles and Directions

PART 3. SURVEYING APPLICATIONS

7. Horizontal Control Surveys

8. Property Surveys
 9. Topographic Surveys and Maps
 10. Highway Curves and Earthwork
 11. Construction Surveys
- Appendix.

- A. Traditional Surveying Techniques and Equipment
- B. Units and Conversions
- C. Formulas and Tables
- D. Sources of Additional Information
- E. Glossary
- F. Answers to Even-Numbered Problems

Transportation Engineering and Planning, 3/e**NEW**

C. S. Papacostas
P. D. Prevedouros

ISBN: 9789332555150

Copyright: 2016

Pages: 686

About the Book

For a course in transportation engineering in the Civil Engineering Department.

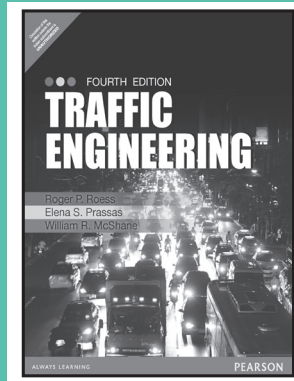
This detailed, interdisciplinary introduction to transportation engineering serves as a comprehensive text as well as a frequently cited reference. It begins with the basic sciences, mathematics, and engineering mechanics, and gradually introduces new concepts concerning societal context, geometric design, 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.
- NEW - --Coverage of Traffic Calming and basic Roundabouts.
- NEW - --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. Ex.____
- Exercises--Cover a full range of difficulty.
- Gives students hands-on practice in applying concepts. Ex.____

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



Roger P Roess
Elena S Prassas
William R McShane

ISBN: 9789332509368

Copyright: 2013

Pages: 744

Traffic Engineering, 4/e

About the Book

This unique text focuses on the key engineering skills required to practice traffic engineering in a modern setting. It includes material on the latest standards and criteria of the Manual on Uniform Traffic Control Devices (2003 Edition and forthcoming 2010 Edition), the Policy on Geometric Design of Highways and Streets (2004 Edition), the Highway Capacity Manual (2000 Edition and forthcoming 2010 Edition), and other critical references. It also presents both fundamental theory and a broad range of applications to modern problems.

Features

- Critical blend of theory and methodology shows students the direct application of traffic engineering concepts to real-world situations.
- Accessible format gives students a clear and logical presentation.
- Numerous sample problems and illustrations demonstrate the procedures and methodologies as they are used in practice.
- Important computer programs demonstrate solutions throughout the text.
- Coverage of underlying models highlights delay prediction, saturation flow rates, and the capacity of various types of facilities.
- Presentation of signalization and signal analysis explains the underlying principles of the models that are used.
- Emphasis on modern data collection tools and methodologies provides students with the details of how modern technology is used in the collection, reduction, and analysis of data.

Contents

Part 1 Traffic Components and Characteristics

1. Introduction to Traffic Engineering
2. Road User and Vehicle Characteristics
3. Roadways and Their Geometric Characteristics
4. Introduction to Traffic Control Devices
5. Traffic Stream Characteristics
6. Introduction to Traffic Flow Theory

Part 2 Traffic Studies and Programs

7. Statistical Applications in Traffic Engineering
8. Traffic Data Collection and Reduction Methodologies
9. Volume Studies and Characteristics
10. Speed, Travel Time, and Delay Studies
11. Highway Traffic Safety: Studies, Statistics, and Programs
12. Parking

Part 3 Freeways and Rural Highways

13. Fundamental Concepts for Uninterrupted Flow Facilities
14. Basic Freeway Segments and Multilane Highways
15. Weaving, Merging, and Diverging Movements on Freeways and Multilane Highways
16. Two-Lane Highways

17. Signing and Marking for Freeways and Rural Highways

Part 4 The Intersection

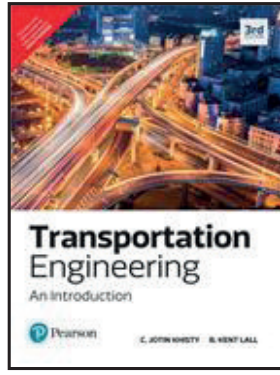
18. The Hierarchy of Intersection Control
19. Elements of Intersection Design and Layout
20. Basic Principles of Intersection Signalization
21. Fundamentals of Signal Timing and Design: Pretimed Signals
22. Fundamentals of Signal Timing: Actuated Signals
23. Critical Movement Analysis of Signalized Intersections
24. Analysis of Signalized Intersections
25. Intelligent Transportation Systems in Support of Traffic Management and Control
26. Signal Coordination for Arterials and Networks: Undersaturated Conditions
27. Signal Coordination for Arterials and Networks: Oversaturated Conditions
28. Analysis of Streets in a Multimodal Context
29. Planning, Design, and Operation of Streets and Arterials
30. Traffic Impact Analysis

About the Authors

Dr. Roger P. Roess is Department Head in the Department of Civil Engineering at Polytechnic Institute of NYU.

Elena S. Prassas is an Associate Professor in the Department of Civil Engineering at Polytechnic Institute of NYU.

Transportation Engineering 3/e



C. Jotin Khisty
B. Kent Lall

ISBN: 9789332569706

Copyright: 2015

Pages: 840

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.

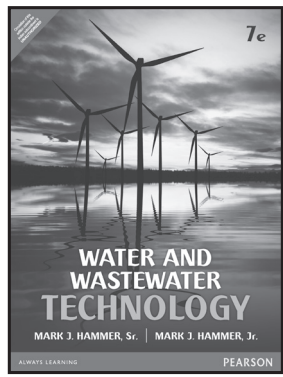
Features

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

Water and Wastewater Technology, 7/e



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

ISBN: 9789332550056

Copyright: 2015

Pages: 528

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:

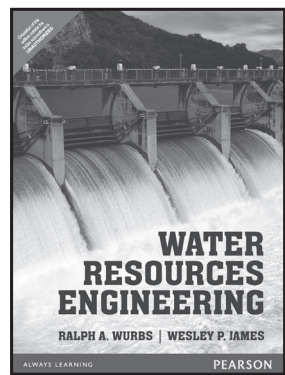
- Water processing
- Water distribution
- Wastewater collection
- Conventional and advanced wastewater treatment
- Sludge processing

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



**Ralph A. Wurbs
Wesley P. James**

ISBN: 9789332555143

Copyright: 2016

Pages: 828

Water Resources Engineering

NEW

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.

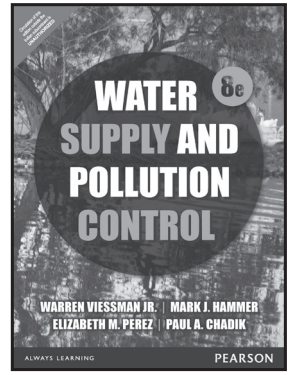
Contents

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. Robbins 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.



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

ISBN: 9789332549616

Copyright: 2015

Pages: 864

Water Supply and Pollution Control, 8/e

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

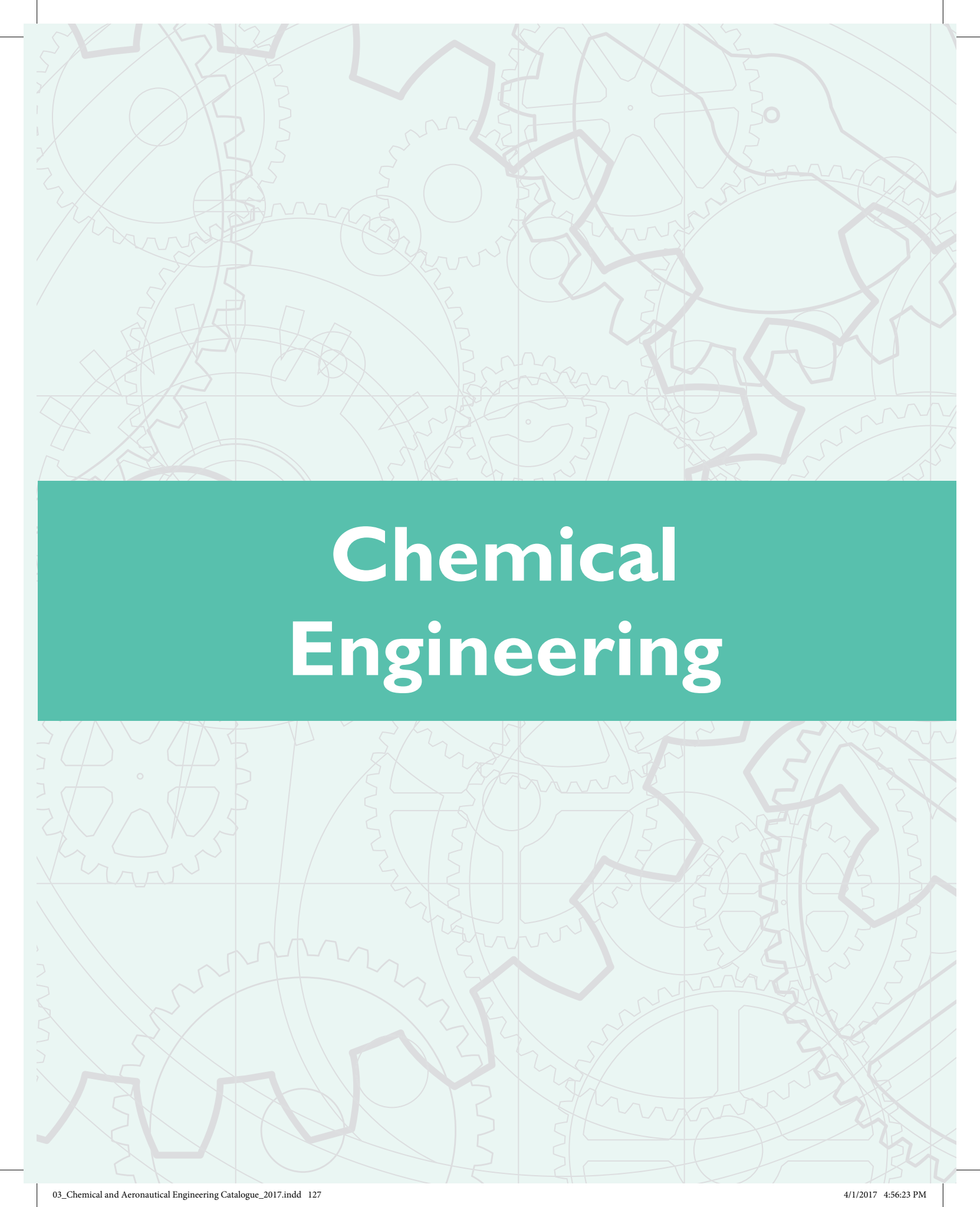
About the Authors

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.

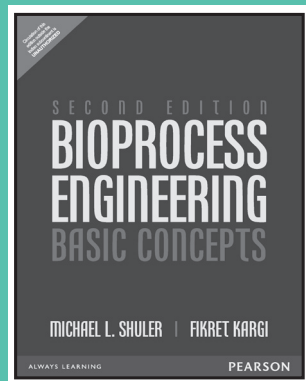
Mark L. Hammer is Professor Emeritus of civil engineering and is an author of environmental engineering publications in the United States and Saudi Arabia. During his long tenure as a professor at the University of Nebraska-Lincoln, Dr. Hammer also served as the Director of the Environmental Protection 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.



Chemical Engineering

Bioprocess Engineering: Basic Concepts, 2/e

Michael L. Shuler
Fikret Kargi

ISBN: 9789332549371

Copyright: 2015

Pages: 576

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 Infrastructure 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

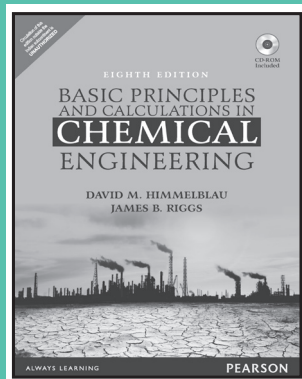
16. Mixed Cultures

17. Epilogue

About the Authors

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.



David M. Himmelblau
James B. Riggs

ISBN: 9789332549623

Copyright: 2015

Pages: 800

Basic Principles and Calculations in Chemical Engineering, 8/e

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

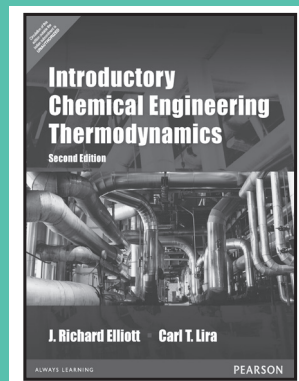
Part V: Supplementary Material

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 Using Process Simulators (Flowsheeting Codes)
17. Unsteady-State Material And Energy Balances

About the Authors

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.

Introductory Chemical Engineering Thermodynamics, 2/e



J. Richard Elliott
Carl T. Lira

ISBN: 9789332524040

Copyright: 2013

Pages: 904

About the Book

In this book, two leading experts and long-time instructors thoroughly explain thermodynamics, 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.
- Extensive practical examples, especially coverage of non-ideal mixtures, which include water contamination via hydrocarbons, polymer blending/recycling, oxygenated fuels, hydrogen bonding, osmotic pressure, electrolyte solutions, zwitterions and biological molecules, and other contemporary issues.
- 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

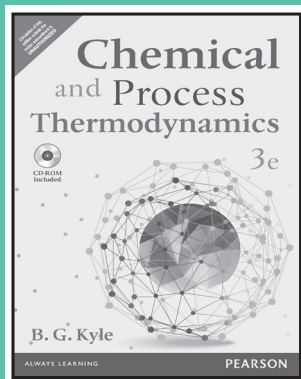
Unit IV. Reaction Equilibria

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: Thermodynamic Properties

About the Authors

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.



B. G. Kyle

ISBN: 9789332549364

Copyright: 2015

Pages: 788

Chemical and Process Thermodynamics, 3/e

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.

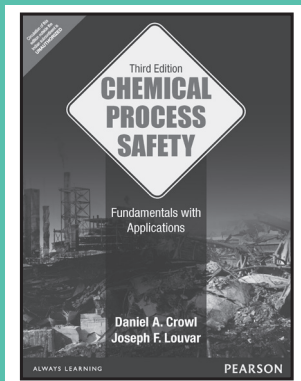
CD-ROM: The accompanying CD-ROM contains nine executable programs, three spreadsheets for professional calculations, POLYMATH numerical analysis software, and EQUATIONS OF STATE software for thermodynamic process visualization on 3D PVT diagrams.

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, physicommechanical 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. Physicommechanical Processes
15. Compressible Fluid Flow
16. Thermodynamics and Models



Daniel A. Crowl
Joseph F. Louvar

ISBN: 9789332524057

Copyright: 2014

Pages: 736

Chemical Process Safety: Fundamentals with Applications, 3/e

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 safety 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.

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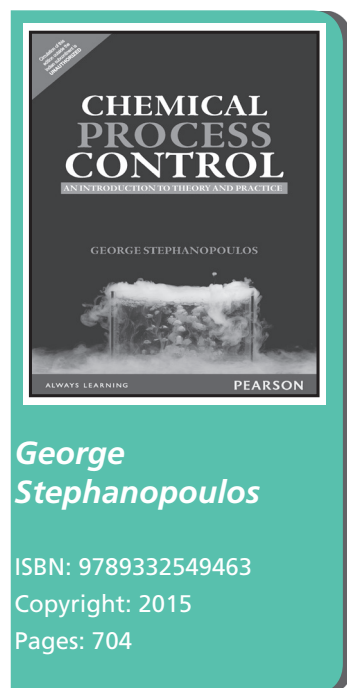
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| 2. Toxicology | Appendix C: Detailed Equations for Flammability Diagrams |
| 3. Industrial Hygiene | Equations Useful for Gas Mixtures |
| 4. Source Models | Equations Useful for Placing Vessels into and out of Service |
| 5. Toxic Release and Dispersion Models | Appendix D: Formal Safety Review Report for Example 10-4 |
| 6. Fires and Explosions | Appendix E: Saturation Vapor Pressure Data |
| 7. Concepts to Prevent Fires and Explosions | Appendix F: Special Types of Reactive Chemicals |
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| 9. Introduction to Reliefs | |
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| 12. Risk Assessment | |
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| 14. Case Histories | |
| Appendix A: Unit Conversion Constants | |

About the authors

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)



George Stephanopoulos

ISBN: 9789332549463

Copyright: 2015

Pages: 704

Chemical Process Control: An Introduction to Theory and Practice

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

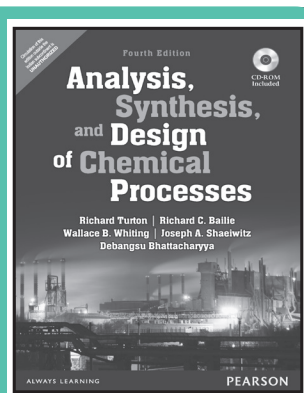
- Emphasizes problem formulation, analysis of posed control problems, and the synthesis and evaluation of alternative control systems.
- Provides a complete understanding of control design and implementation rather than a mere list of mechanistic tools.
- Discusses both controller design concepts and 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



Richard Turton
Richard C. Bailie
Wallace B. Whiting
Joseph A. Shaiwitz

ISBN: 9789332550346

Copyright: 2015

Pages: 1004

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

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 Authors

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.

Elements of Chemical Reaction Engineering, 4/e

About the Book

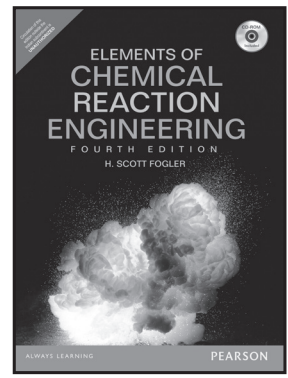
The book presents in a clear and concise manner the fundamentals of chemical reaction engineering. The structure of the book allows the student to solve reaction engineering problems through reasoning rather than through memorization and recall of numerous equations, restrictions, and conditions under 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

H. Scott Fogler

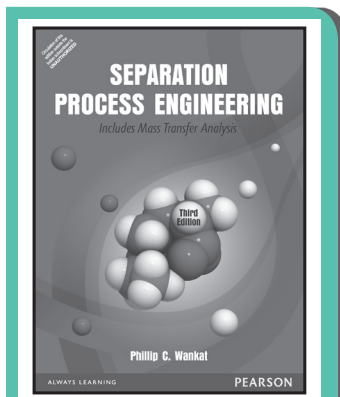
ISBN: 9789332549326
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 Pages: 1116



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| 6. Multiple Reactions | 11. External Diffusion Effects on Heterogeneous Reactions |
| 7. Reaction Mechanisms, Pathways, Bioreactions, and Bioreactors | 12. Diffusion and Reaction |
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About the author

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, gelation 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).



Phillip C. Wankat

ISBN: 9789332524842
 Copyright: 2013
 Pages: 984

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

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.

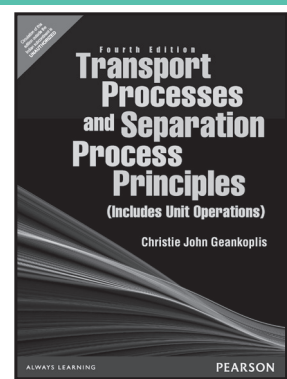


◀◀◀ **Contents**

1. Introduction to Separation Process Engineering
2. Flash Distillation
3. Introduction to Column Distillation
4. Column Distillation.
Internal Stage-by-Stage Balances
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

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).



Christie John Geankoplis

ISBN: 9789332549432

Copyright: 2015

Pages: 1040

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

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

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.

Introduction to Process Technology

About the Book

A 29 chapter textbook intended for use in high schools, community colleges, technical colleges, and universities which offer introductory process technology courses.

Introduction to Process Technology provides the learner an overview of process technology. This text includes a variety of topics including, an overview of various process industries (oil and gas, chemical, mining, power generation, pulp and paper, water and waste water treatment, food and beverage, and pharmaceutical), basic chemistry, basic physics, safety, health, environment and security, quality, process drawings, and process equipment. Each chapter contains objectives, key terms, a summary, review questions and activities to enhance the learning experience. This text is appropriate for high schools, community colleges, technical colleges, and universities that offer introductory process technology courses.

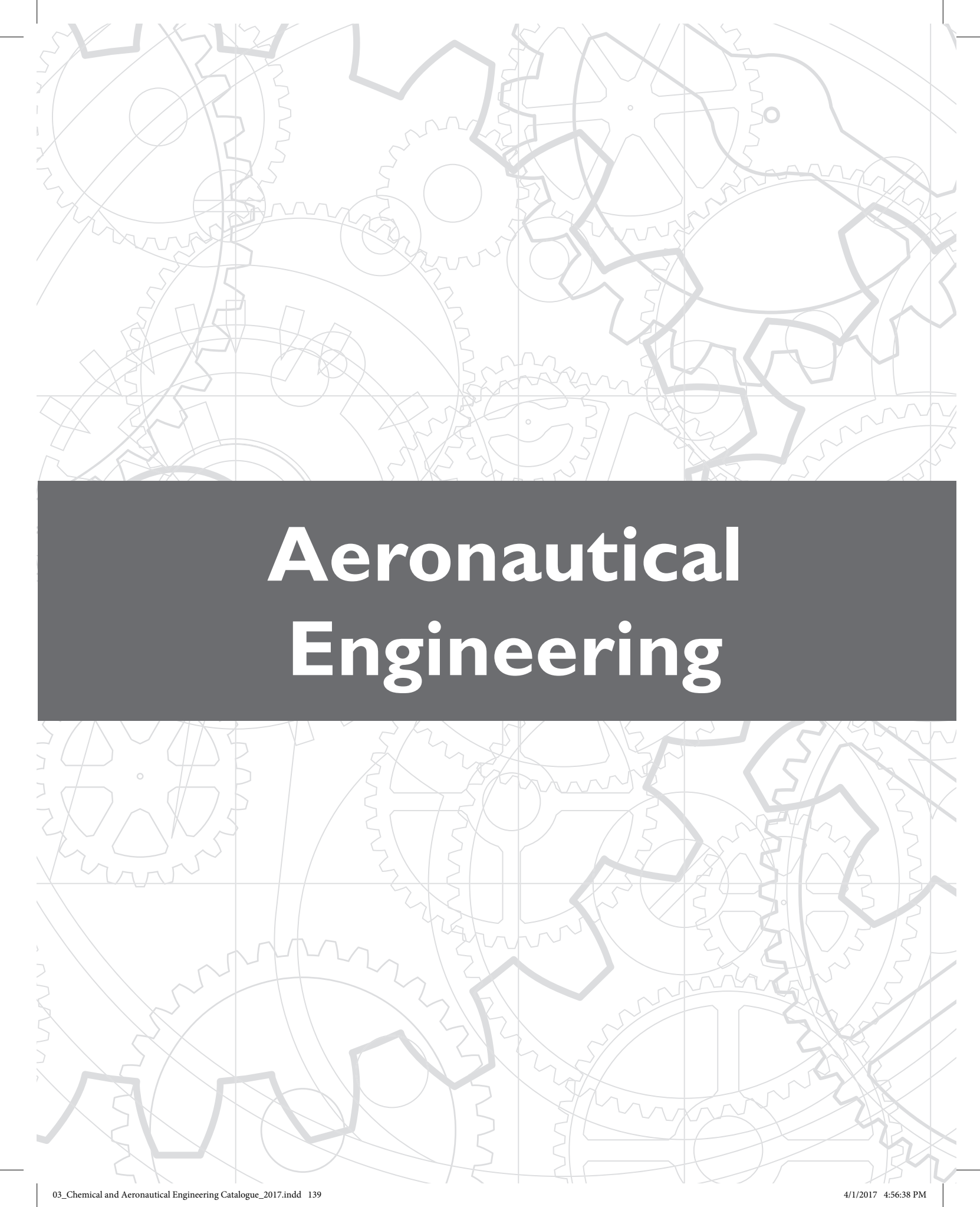
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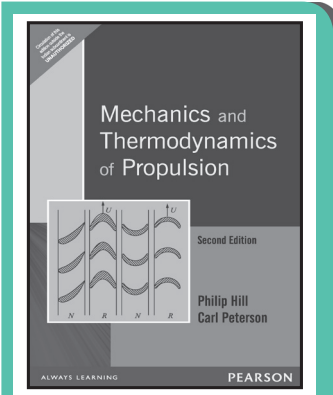
CAPT(Center for the Advancement of Process Tech)

ISBN: TBA
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 Pages: 384



Aeronautical Engineering

Mechanics and Thermodynamics of Propulsion, 2/e



Philip G. Hill
Carl R. Peterson

ISBN: 9788131729519

Copyright: 2009

Pages: 760

About the Book

In this textbook, the authors show that a few fundamental principles can provide students of mechanical and aeronautical engineering with a deep understanding of all modes of aircraft and spacecraft propulsion. The book also demonstrates how these fundamental principles can lead directly to useful quantitative assessments of performance as well as possibilities for improvement. The second edition provides a wide range of new illustrative material on modern aircraft and rocket engines. The authors have also improved their explanations of pertinent physical phenomena and have introduced preliminary design procedures in this edition.

Features

- Focus on fundamental principles which can provide students of mechanical and aeronautical engineering with a deep understanding of all modes of aircraft and spacecraft propulsion.
- The book also demonstrates how these fundamental principles can lead directly to useful quantitative assessments of performance as well as possibilities for improvement.
- This edition provides a wide range of new illustrative material on modern aircraft and rocket engines.
- Improved explanations of pertinent physical phenomena and an introduction to preliminary design procedures are provided.

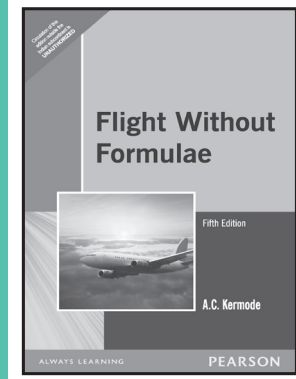
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3. Steady One-Dimensional Flow of a Perfect Gas
4. Boundary Layer Mechanics and Heat Transfer
5. Thermodynamics of Aircraft Jet Engines
6. Aerodynamics of Inlets, Combustors, and Nozzles
7. Axial Compressors
8. Axial Turbines
9. The Centrifugal Compressor
10. Performance of Rocket Vehicles
11. Chemical Rocket Thrust Chambers
12. Chemical Rocket Propellants: Combustion and Expansion
13. Turbomachinery for Liquid-Propellant Rockets
14. Electrical Rocket Propulsion

About the Authors

Philip Hill, University of British Columbia

Carl Peterson, Massachusetts Institute of Technology

Flight Without Formulae, 5/e**A.C. Kermode**

ISBN: 9788131713891

Copyright: 2007

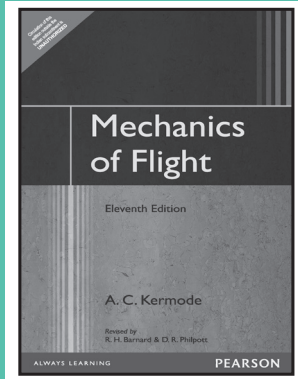
Pages: 314

About the Book

This fifth edition, updated by Bill Gunston, is an account of the basic principles of flight, explained as simply as possible and excluding all mathematical formulae. It is intended to be of use as an introductory text for trainee pilots and students as well as for the general reader.

Contents

1. The Argument
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39. Thrust
40. Jet Propulsion
41. Propeller Propulsion
42. Rocket Propulsion
43. Balance of Aeroplane
44. The Tail Plane
45. Stability of Aeroplane
46. Degrees of Stability
47. Lateral of Stability
48. Directional Stability
49. Lateral Stability
50. Directional Stability
51. Directional and Lateral
52. Control
53. Longitudinal Control
54. Lateral Control
55. Directional Controls
56. Balanced Controls
57. Control Tabs
58. Control at Low Speeds
59. Control at High Speeds
60. Level Flight-The Speed Range
61. Economical Flying
62. Flying at Low Speeds
63. Stalling
64. Landing
65. Reduction of Landing Speed
66. Wing Loading
67. STOL and VTOL
68. Gliding
69. Climbing
70. Turning
71. Nose-Diving
72. Taxying
73. Taking Off
74. Aerobatics
75. The Propeller
76. Multi-Engined Aeroplanes
77. Flying Faults
78. Instruments
79. The Air-Speed Indicator
80. The Altimeter
81. Navigation Instruments
82. Flight Instruments
83. High-Speed Flight
84. The Speed of Sound
85. Mach Numbers
86. Flight at Transonic Speeds
87. Shock Waves
88. The Shock Stall
89. Wave Drag
90. Sweepback
91. Vortex Generators
92. Wing and Body Shapes
93. Through the Barrie-and Beyond
94. Supersonic Flow
95. Supersonic Shapes
96. Sonic Bangs
97. Other Problems of Supersonic Flight
98. The Future
99. Into Space
100. Happy Landings!



**R. H. Barnard
D. R. Philpott
A.C. Kermode**

ISBN: TBA
Copyright: 2013
Pages: 512

Mechanics of Flight, 12/e

About the Book

Mechanics of Flight is an ideal introduction to the basic principles of flight for students embarking on courses in aerospace engineering, student pilots, apprentices in the industry and anyone who is simply interested in aircraft and space flight. Written in a straightforward and jargon-free style, this popular classic text makes the fascinating topic of aircraft flight engaging and easy to understand.

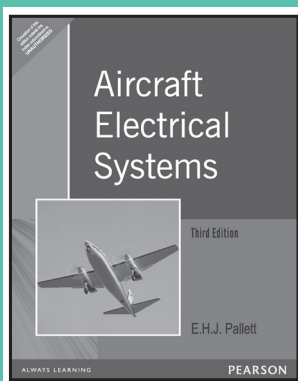
Starting with an overview of the relevant aspects of mechanics, the book goes on to cover topics such as air and airflow, aerofoils, thrust, level flight, gliding, landing, performance, manoeuvres, stability and control. Important aspects of these topics are illustrated by a description of a trial flight in a light aircraft. The book also deals with flight at transonic and supersonic speeds, and finally orbital and space flight.

Features

- Descriptions are aided by the use of a large number of diagrams, illustrations and photographs.
- Each chapter contains numerous practice questions to test and develop the reader's understanding of key concepts.
- A full appendix of numerical questions is supplied together with solutions.

Contents

- | | |
|--|--------------------------------------|
| Contents | 10. A trial flight |
| Preface to Twelfth Edition | 11. Flight at transonic speeds |
| Acknowledgements | 12. Flight at supersonic speeds |
| 1. Mechanics | 13. Space flight |
| 2. Air and airflow – subsonic speeds | Appendixes |
| 3. Aerofoils – subsonic speeds | 1 Aerofoil data |
| 4. Thrust | 2 Scale effect and Reynolds Number |
| 5. Level flight | 3 Numerical questions |
| 6. Gliding, landing and low-speed flight | 4 Answers to numerical questions |
| 7. Take-Off and Climb | 5 Answers to non-numerical questions |
| 8. Manoeuvres | |
| 9. Stability and control | |



E. H. J. Pallett

ISBN: 9788131703892
Copyright: 2006
Pages: 240

Aircraft Electrical Systems, 3/e

About the Book

The third edition of this established text continues to provide up-to-date information on the operating principles and applications of the systems and equipment used in aircraft for the generation, distribution and utilisation of electrical power. The fundamental principles of electricity are reviewed, and systems and equipment used in a wide range of aircraft currently in service are dealt with. The text is supported by numerous diagrams, photographs and useful appendices. Examination-type test questions are included at the end of the book. Intended as a course book for students wishing to obtain an Aircraft Maintenance Engineer's License.

Contents

- | | |
|---|---|
| 1. Direct Current Power Supplies | 8. Measuring Instruments and Warning Indication Systems |
| 2. Alternating Current Power Supplies | 9. Power Utilization – Motors |
| 3. Power Conversion Equipment | 10. Power Utilization – Systems |
| 4. External and Auxiliary Power supplies | 11. Electrical Diagrams and Identification Schemes |
| 5. Power Distribution | |
| 6. Circuit Controlling Devices | |
| 7. Circuit Protection Devices and Systems | |

Aircraft Instruments, 2/e

E. H. J. Pallett

ISBN: 9788131728130

Copyright: 2009

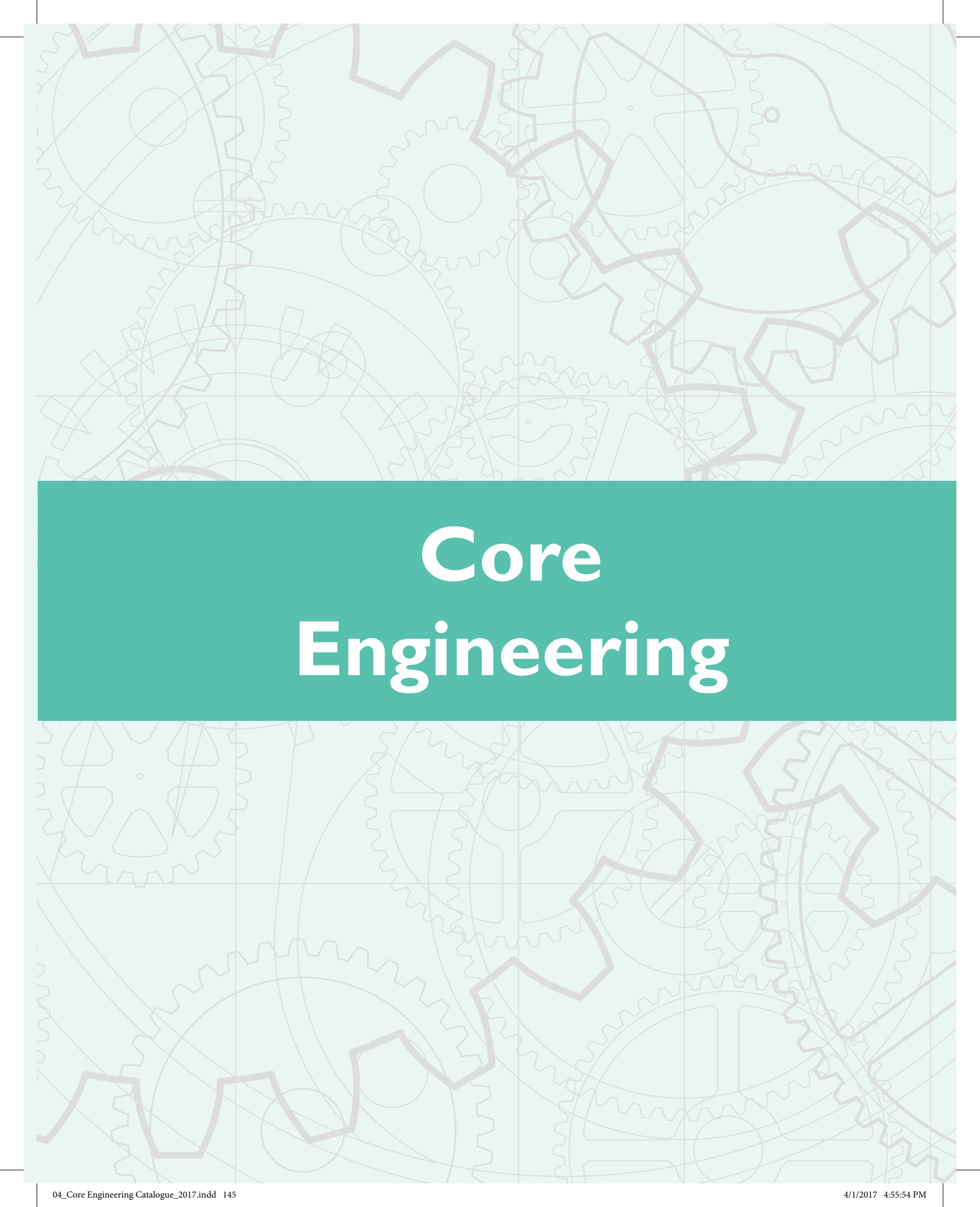
Pages: 414

About the Book

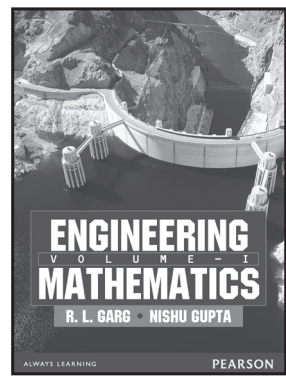
The Purpose of this authoritative and Internationally accepted handbook is to Provide clear explanations of the operating principles of the instruments and associated systems needed for flight handling and navigation, and for monitoring the performance of aircraft power plants. In updating and revising for this second edition, the author has taken the opportunity to expand his original treatment of same devices, such as the gyroscope and synchronous transmission systems, to introduce representative examples of new development, and to incorporate tables of physical data basic to the operation of certain types of instruments.

Contents

1. Requirement and Standards
2. Instrument elements and mechanisms
3. Instrument displays, panels and layouts
4. Pitot-static instruments and systems
5. Primary flight instruments (attitude indication)
6. Heading indicating instruments
7. Remote-indicating compasses
8. Aircraft magnetism and its effects on compasses
9. Synchronous data-transmission systems
10. Measurement of engine speed
11. Measurement of temperature
12. Measurement of Pressure
13. Measurement of fuel quantity and Fuel Flow
14. Engine power and control instruments
15. Integrated instrument and Flight director systems
16. Flight data recording



Core Engineering



R. L. Garg
Nishu Gupta

ISBN: 9788131789902

Copyright: 2014

Pages: 1248

Engineering Mathematics Volume I

NEW

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.

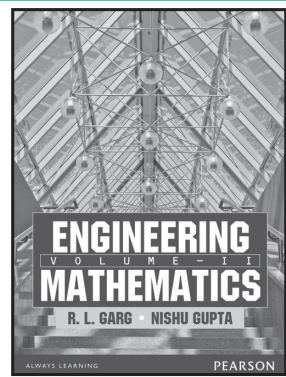
Contents

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

About the Authors

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.



R. L. Garg
Nishu Gupta

ISBN: 9789332536333

Copyright: 2014

Pages: 840

Engineering Mathematics Volume II

NEW

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

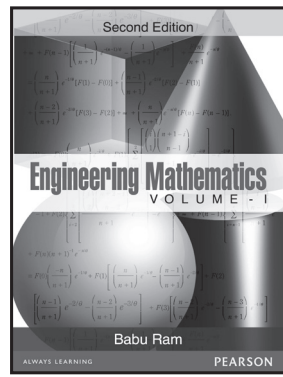
- | | |
|--|--|
| 1. Function of Complex Variables | 5. Numerical Methods in General and Linear Algebra |
| 2. Laplace Transform | 6. Numerical Methods for Differentiation, Integration and Ordinary Differential Equation |
| 3. Fourier Series, Fourier Integral and Fourier Transforms | |
| 4. Partial Differential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

About the Authors

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.

Engineering Mathematics Volume-I, 2/e



Babu Ram

ISBN: 9788131784709

Copyright: 2012

Pages: 608

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 in three to four semesters. The two volumes in Engineering Mathematics by Babu Ram offer a complete solution to these papers.

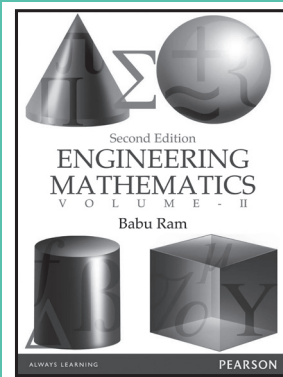
Contents

- | | |
|---|--|
| 1. Sequence and Series | 10. Centre of Gravity and Moment of Inertia |
| 2. Successive Differentiation, Mean Value Theorems and Expansion of Functions | 11. Volumes and Surfaces of Solids of Revolution |
| 3. Curvature | 12. Multiple Integrals |
| 4. Asymptotes and Curve Tracing | 13. Vector Calculus |
| 5. Functions of Several Variables | 14. Three Dimensional Geometry |
| 6. Tangents and Normals | 15. Logic |
| 7. Beta and Gamma Functions | 16. Elements of Fuzzy logic |
| 8. Reduction Formulas | 17. Graphs |
| 9. Quadrature and Rectification | |

About the Author

Babu Ram received his Ph.D in mathematics in 1973 from Kurukshetra University, Kurukshetra, India. He was formerly Professor of Mathematics and Dean, Faculty of Physical Sciences, at Maharshi Dayanand University, Rohtak, and has been teaching mathematics for the past 36 years.

Engineering Mathematics Volume-II, 2/e



Babu Ram

ISBN: 9788131785034

Copyright: 2012

Pages: 960

About the Book

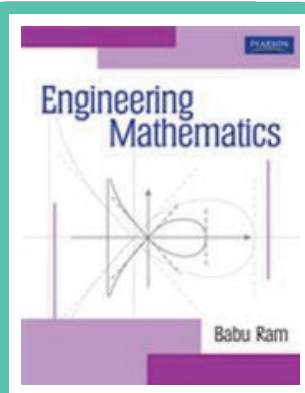
Engineering Mathematics is an interdisciplinary subject offered to the undergraduate engineering students. Considering the vast coverage of the subject, usually this paper is taught in three to four semesters. The two volumes in Engineering Mathematics by Babu Ram offer a complete solution to these papers.

Contents

- | | |
|------------------------------------|--|
| 1. Preliminaries | 10. Inverse Laplace Transform |
| 2. Linear Algebra | 11. Applications of Laplace Transform |
| 3. Functions of Complex Variables | 12. The Z-transform |
| 4. Ordinary Differential Equations | 13. Elements of Statistics and Probability |
| 5. Partial Differential Equations | 14. Linear Programming |
| 6. Fourier Series | 15. Basic Numerical Methods |
| 7. Fourier Transform | 16. Calculus of Variation (Online) |
| 8. Discrete Fourier Transform | 17. Dynamics (Online) |
| 9. Laplace Transform | |

About the Author

Babu Ram received his Ph.D in mathematics in 1973 from Kurukshetra University, Kurukshetra, India. He was formerly Professor of Mathematics and Dean, Faculty of Physical Sciences, at Maharshi Dayanand University, Rohtak, and has been teaching mathematics for the past 36 years.



Babu Ram

ISBN: 9788131726914

Copyright: 2009

Pages: 1124

Engineering Mathematics

About the Book

Engineering Mathematics covers the four mathematics papers that are offered to undergraduate students of engineering. With an emphasis on problem-solving techniques and engineering applications, as well as detailed explanations of the mathematical concepts, this book will give the students a complete grasp of the mathematical skills that are needed by engineers.

Features

- Emphasis on the applications of concepts and theorems.
- Exercises along with hints and answers provided at the end of each chapter.
- 1620 solved examples and 3320 practice problems.
- Extensive coverage of Probability and Statistics, with a separate chapter on Asymptotes and Curve Tracing.
- Reviewed by 15 eminent academicians.
- All the examples and chapter-end exercises have been checked for accuracy.

Contents

Part I

1. Sequences and Series.
2. Mean Value Theorems and Expansion of Function
3. Curvature
4. Asymptotes and Curve Tracing
5. Partial Differentiation
6. Beta and Gamma Functions
7. Reduction Formulas
8. Volumes and Surfaces of Solids of Revolution
9. Multiple Integrals
10. Vector Calculus
11. Three Dimensional Geometry

Part II

12. Preliminaries

13. Linear Algebra
14. Functions of Complex Variables
15. Differential Equations
16. Partial Differential Equations
17. Fourier Series
18. Fourier Transform
19. Discrete Fourier Transform
20. Laplace Transforms
21. Inverse Laplace Transforms
22. Applications of Laplace Transforms
23. The z-transform
24. Elements of Statistics and Probability
25. Linear Programming
26. Basic Numerical Methods

About the Author

Babu Ram received his Ph.D. in mathematics in 1973 from Kurukshetra University, Kurukshetra, India. He was formerly Professor of Mathematics and Dean, Faculty of Physical Sciences, at Maharshi Dayanand University, Rohtak, and has been teaching mathematics for the past 36 years. A member of Indian Mathematical Society and the American Mathematical Society, Prof. Babu Ram has published 42 research papers in Real and Functional Analysis in international journals of repute. He is on the board of reviewers of both American Mathematical Reviews and Zentralblatt für Mathematik und ihre Grenzgebiete, Berlin. He is presently working as Director, MCA, at Manav Rachna International University, Faridabad.

Engineering Mathematics

NEW



**Sivaramakrishna Das
Vijaya Kumari**

ISBN: 9789332519121

Copyright: 2016

Pages: 1600

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 Laplace Transforms.
- 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.

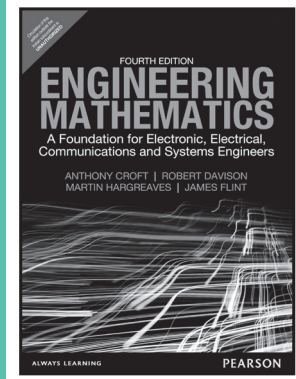
Contents

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

About the Authors

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



Colin Flint
Anthony Croft
Martin Hargreaves
Robert Davison

ISBN: 9789332507586

Copyright: 2013

Pages: 984

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

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 Trigonometric 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

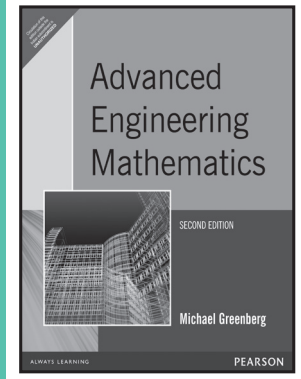
About the Authors

Anthony Croft, Loughborough University, UK

Robert Davison, De Montfort University

Martin Hargreaves, De Montfort University

James Flint, University of Loughborough



Michael Greenberg

ISBN: 9788177585469
 Copyright: 2006
 Pages: 1324

Advanced Engineering Mathematics, 2/e

About the Book

This clear, pedagogically rich book develops a strong understanding of the mathematical principles and practices that today's engineers and scientists need to know. Equally effective as either a textbook or reference manual, it approaches mathematical concepts from a practical-use perspective making physical applications more vivid and substantial. Its comprehensive instructional framework supports a conversational, down-to-earth narrative style offering easy accessibility and frequent opportunities for application and reinforcement.

Contents

I. Ordinary Differential Equations

1. Introduction to Differential Equations
2. Equations of First Order
3. Linear Differential Equations of Second Order and Higher
4. Power Series Solutions
5. Laplace Transform
6. Quantitative Methods: Numerical Solution of Differential Equations
7. Qualitative Methods: Phase Plane and Nonlinear Differential Equations

II. Linear Algebra

8. Systems of Linear Algebraic Equations; Gauss Elimination
9. Vector Space
10. Matrices and Linear Equations
11. The Eigenvalue Problem
12. Extension to Complex Case (Optional)

III. Scalar And Vector Field Theory

13. Differential Calculus of Functions of Several Variables
14. Vectors in 3-Space
15. Curves, Surfaces, and Volumes
16. Scalar and Vector Field Theory

IV. Fourier Series And Partial Differential Equations

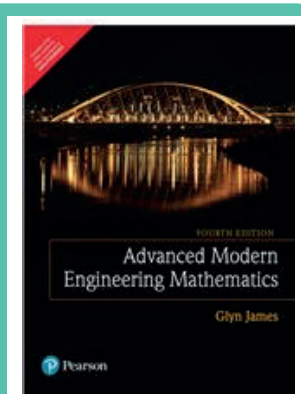
17. Fourier Series, Fourier Integral, Fourier Transform
18. Diffusion Equation
19. Wave Equation
20. Laplace Equation

V. Complex Variable Theory

21. Functions of a Complex Variable
22. Conformal Mapping
23. The Complex Integral Calculus
24. Taylor Series, Laurent Series, and the Residue Theorem

About the Author

Michael Greenberg, University of Delaware



Glyn James

ISBN: 9789332575288
 Copyright: 2016
 Pages: 1064

Advanced Modern Engineering Mathematics, 4/e

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.

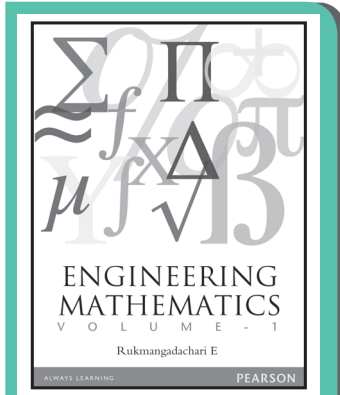
Features

- 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

Glyn James, Coventry University

Engineering Mathematics - Vol I



E. Rukmangadachari

ISBN: 9788131761311

Copyright: 2012

Pages: 616

About the Book

Engineering Mathematics Vol I is designed for the 1st semester paper on engineering mathematics, and offers a large number of exercises and a variety of solved examples with reference to engineering applications wherever appropriate, and over 800 objective-type questions that include multiple-choice questions, fill in the blanks, match the following and true or false statements.

Features

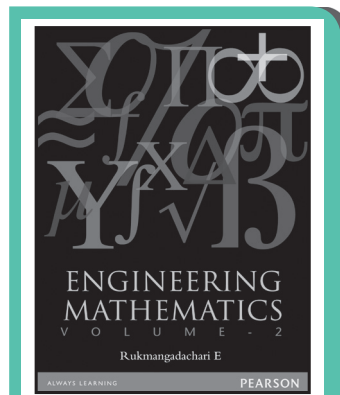
- Lucid coverage of convergent tests for sequences and series.
- Solutions of first order differential equations and in depth coverage of curve tracing.
- Applications to one-dimensional heat equations, wave equations and Laplace equations.
- Numerical methods include Cubic Spline method, Runge-Kutta methods and Adams–Bashforth–Moulton methods.

Contents

- | | |
|---|--|
| 1. Ordinary Differential Equations | 9. Sequences and Series |
| 2. Linear Differential Equations of Second and Higher Order | 10. Vector Differential Calculus |
| 3. Functions of a Real Variable | 11. Vector Integral Calculus |
| 4. Functions of Several Variables | 12. Laplace Transforms |
| 5. Radius of Curvature | 13. Vector Algebra and Solid Geometry |
| 6. Curve-Tracing | 14. Matrices and Linear Systems of Equations |
| 7. Applications of Integration | 15. Real and Complex Matrices |
| 8. Multiple Integrals | |

About the Author

E Rukmangadachari is former head of Computer Science and Engineering as well as Humanities and Sciences at Mall Reddy Engineering College, Secunderabad. He is an MA from Osmania University, and an M.PHIL. AND Ph.D. degree holder from Sri Venkateswara University, Thirupathi.



E. Rukmangadachari

ISBN: 9788131784952

Copyright: 2012

Pages: 600

Engineering Mathematics - Vol II

About the Book

Designed for the core papers Engineering Mathematics II and III, which students take up across the second and third semesters, this book offers detailed theory with a wide variety of solved examples with reference to engineering applications, along with over 1,000 objective-type questions that include multiple choice questions, fill in the blanks, match the following and true or false statements.

Features

- Separate chapter on conformal mapping.
- Detailed examination of argument principle and Rouché's theorem.
- Separate chapter on curve fitting.
- Variety of problems in each chapter.

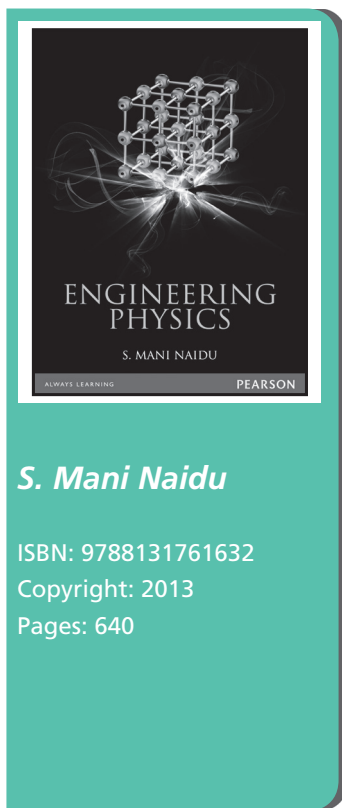
Contents

- | | |
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| 1. Eigenvalues and Eigenvectors | 6. Numerical Differentiation and Integration |
| 2. Quadratic Forms | 7. Numerical Solution of Ordinary Differential Equations |
| 3. Solution of Algebraic and Transcendental Equations | 8. Fourier Series |
| 4. Interpolation | 9. Fourier Integral Transforms |
| 5. Curve Fitting | |

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- | | |
|---|---|
| 10. Partial Differential Equations | 15. Complex Integration |
| 11. Z-Transforms and Solution of Difference Equations | 16. Complex Power Series |
| 12. Special Functions | 17. Calculus of Residues |
| 13. Functions of a Complex Variable | 18. Argument Principle and Rouché's Theorem |
| 14. Elementary Functions | 19. Conformal Mapping |



S. Mani Naidu

ISBN: 9788131761632
 Copyright: 2013
 Pages: 640

Engineering Physics

About the Book

This book on Engineering Physics is designed to cater to the needs of first year undergraduate engineering students. Written in a lucid style, this book assimilates the best practices of conceptual pedagogy, dealing at length with various topics such as crystallography, principles of quantum mechanics, free electron theory of metals, dielectric and magnetic properties, semiconductors, nanotechnology, etc...

Features

- Solved problems in each chapter incorporate vivid details to guide the student through the subject.
- Replete with exercises and multiple choice questions, the chapter end pedagogy provides enhanced and discerning inputs to a streamlined and systematic learning approach.
- Detailed explanations of topics on Holography and Acoustics.
- Comprehensive coverage of Nuclear Physics.

Contents

- | | |
|--|--|
| 1. Bonding in Solids | 11. Fibre Optics |
| 2. Crystal | 12. Holography |
| 3. Crystal Planes, X-ray Diffraction and Defects in Solids | 13. Acoustics of Buildings and Acoustic Quieting |
| 4. Elements of Statistical Mechanics and Principles of Quantum Mechanics | 14. Nanotechnology |
| 5. Electron Theory of Metal | 15. Optics |
| 6. Dielectric Properties | 16. Non-destructive Testing Using Ultrasonics |
| 7. Magnetic Properties | 17. Nuclear Physics |
| 8. Semiconductors and Physics of Semiconductor Devices | 18. Electromagnetic Waves |
| 9. Superconductivity | 19. Special theory of Relativity: Relativistic Mechanics |
| 10. Lasers | |

About the Author

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.



**Shatendra Sharma-
Jyotsana Sharma**

ISBN: TBA

Copyright: 2017

Pages: 816

Engineering Physics

NEW

About the Book

This book on Engineering Physics is designed to cater to the needs of first year undergraduate engineering students. Written in a lucid style, this book assimilates the best practices of conceptual pedagogy, dealing at length with various topics such as principles of quantum mechanics, thermal physics, crystallography, semiconductors, nanotechnology, etc.

Features

- Exhaustive coverage on Polarization, Interference, Diffraction, Quantum Mechanics and Acoustics.
- Each chapter ends with exhaustive exercise problems and multiple choice questions which provides enhanced and discerning inputs to a streamlined and systematic learning approach.
- Detailed explanations of topics on Holography and Acoustics.
- Comprehensive coverage of Semiconductors & Nuclear Physics.

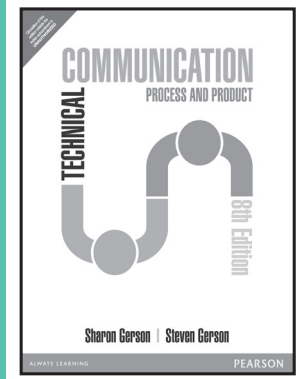
Contents

1. Basic Concepts
2. Properties Of Matter
3. Thermal Physics
4. Oscillation And Waves
5. Polarization
6. Interference
7. Diffraction
8. Special Theory Of Relativity
9. Ultrasonics
10. Shock Waves
11. Acoustics
12. Wave Particle Duality And Uncertainty
13. Quantum Mechanics
14. Lasers
15. Holography
16. Photonics And Fibre Optics
17. Electrostatics
18. Electromagnetics
19. Dielectric Materials
20. Magnetic Materials
21. X-Ray Crystallgraphy
22. Crystal Structure
23. Solid State Materials
24. Semiconducting Materials
25. Semiconductor Devices
26. Physics On Nano-Strcutures
27. Nanotechnology
28. Superconductors
29. New Engineering Materials
30. Non-Destructive Testing
31. Electron Optics
32. Atomic Structure
33. X-Ray Physics
34. Radioactivity
35. Interaction Of Radiation With Matter
36. Particle Accelerators
37. Nuclear Radiation Detectors
38. Nuclear Physics
39. Nuclear Fission And Fusion
40. Nuclear Reactors
41. Instruments And Too

About the Authors

Dr. Shatendra Sharma is presently Professor and Director at the Department of University Science Instrumentation Centre, JNU, Delhi. He has published several research journals and is also the author of atomic and nuclear physics book.

Dr. Jyotsana Sharma is currently Assistant Professor in Physics, School of Basic and Applied Sciences, K. R. Mangalam University, Sohna Road, Gurgaon.



Sharon Gerson
Steven Gerson

ISBN: 9789332518599

Copyright: 2013

Pages: 704

Technical Writing Process and Product, 8/e

About the Book

Technical Communication: Process and Product, 8e by Sharon J. Gerson and Steven M. Gerson, provides a proven, complete methodology that emphasizes the writing process and shows how it applies to both oral and written communication. With an emphasis on real people and their technical communication, it provides complete coverage of communication channels, ethics, and technological advances. This edition includes information on dispersed teams, collaboration tools, listening skills, and social networking. Using before/after documents, authentic writing samples and skill-building assignments, the book provides a balance of how-to instruction with real-world modeling to address the needs of an evolving workplace.

Features

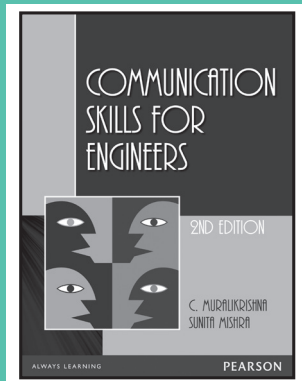
- A proven, complete writing methodology that emphasizes the writing process—and shows how it applies to both oral and written communication.
- An emphasis on real people and their writing challenges and experiences—see Communication at Work scenarios, Spotlights, and the Writing Process at Work.
- Numerous example-driven features, including the following
 - Frequently Asked Question boxes—provide answers to some of the most pressing concerns.
 - Technology Tips—show students how to use Microsoft 2010.
 - Dot Com Updates—direct students to useful web sites and online resources.
 - Checklists—guide students through the revision stage of their writing.
- Real-world examples with callouts—show students illustrations of authentic documents.
- Before/after examples—provide actual documents written by real businesspeople before and after revision.
- Documents for different audiences—include examples of documents written for lay, low-tech and high-tech audiences.
- A variety of skill-building assignments, including
 - Individual and Collaborative Activities.
 - Case Studies.
 - Individual and Team Projects.
 - Problem-Solving Think Pieces.
 - Web Workshops.

Contents

1. An Introduction To Technical Communication
2. The Communication Process
3. Objectives In Technical Communication
4. Audience Recognition
5. Research
6. Routine Correspondence
7. Social Media
8. The Job Search
9. Document Design
10. Using Visual Aids
11. Communicating To Persuade
12. Technical Descriptions And Process Analyses
13. Instructions, User Manuals, And Standard Operating Procedures
14. Web Sites And Online Help
15. Short, Informal Reports
16. Long, Formal Reports
17. Proposals
18. Oral Presentations
- Appendix A: Grammar, Punctuation, Mechanics, And Spelling
- Appendix B: Parenthetical Source Citations And Documentation
- Appendix C: Letter Formats

About the Authors

Sharon J. Gerson and **Steven M. Gerson** are dedicated career professionals who have a combined total of over 80 years teaching experience at the college and university level. They have taught technical writing, business writing, professional writing, and technical communication to thousands of students, attended and presented at dozens of conferences, written numerous articles, and published several textbooks, including *The Red Bridge Reader* (third edition, co-authored by Kin Norman), *Writing That Works: A Teacher's Guide to Technical Writing*.



**C. Muralikrishna
Sunita Mishra**

ISBN: 9788131733844

Copyright: 2011

Pages: 300

Communication Skills for Engineers, 2/e

About the Book

The new second edition of Communication Skills for Engineers brings in a sound understanding and insight into the dynamics of communication in all spheres of life—interpersonal, social and professional. The book hinges on the premise that effective communication is an outcome of using the right combination of skills alongside an appropriate attitude.

Features

- Interactive Approach: Makes the reading engaging and interesting.
- Activities: Provides practice and practical understanding of concepts.
- Review Questions: Facilitates testing and reinforce learning.
- Chapter objectives and summaries: Helps students and trainers to get better perspective of the contents.

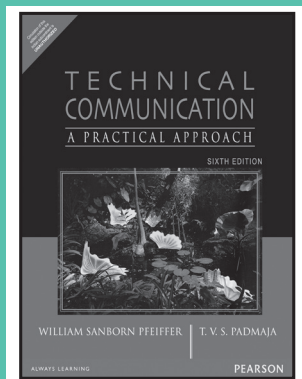
Contents

I: Grammar Matters

1. Tenses, The active and the passive voice, and reported speech

II: Communication Matters

2. Non-verbal communication: Body language
3. Listening skills
4. Speaking and negotiation skills
5. Reading skills
6. Writing skills
7. Creativity and mind-mapping
8. Resume writing, curriculum vitae (CV) and statement of purpose (SOP)
9. Team-talk, group discussion and interviews
10. Telephone skills, meetings and minutes
11. Business letters, technical writing, email writing
12. Report writing, project and proposal writing



**William Sanborn
Pfeiffer
T. V. S. Padmaja**

ISBN: 9788131700884

Copyright: 2007

Pages: 708

Technical Communication, 6/e

About the Book

Technical Communication: A Practical Approach 6e emphasizes one simple principle: you learn to write best by doing as much writing as possible. This book engages students by having them write early (starting in Chapter 1) and provides students with consistent, easy-to-follow guidelines for writing all types of technical documents. With a new chapter “Web Pages and Writing for the Web” (Chapter 11) and attention to global communication and ethics, Technical Communication: A Practical Approach 6e continues to provide students with a relevant, contemporary and authoritative introduction to the dynamic field of technical communication that prepares them for on-the-job writing.

Features

- NEW “Web Pages & Writing for the Web” (Chapter 11) contributed by an expert in web page design and web communication that provides students with expanded and authoritative coverage of communicating effectively on the Web.
- Annotated writing models: Numerous professional examples of technical documents that provide students with a variety of opportunities to build their communication skills.

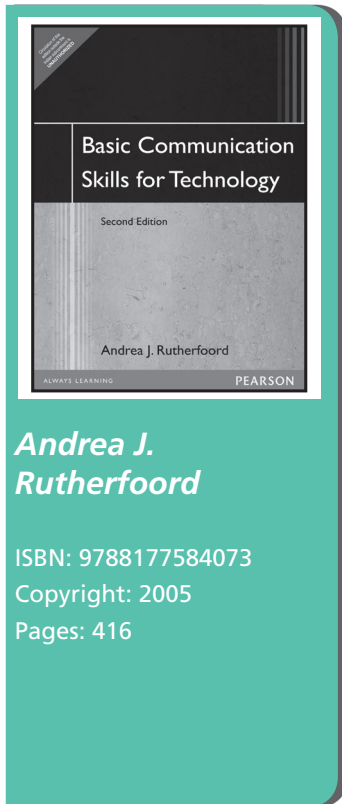
Contents

1. Process in Technical Communication
2. McDuff, Inc.: Ethics and Globalism in the Workplace
3. Organizing Information
4. Page Design
5. Patterns of Organization
6. Process Descriptions and Instructions
7. Letters, Memos, and Electronic Communication
8. Informal Reports
9. Formal Reports
10. Proposals and Feasibility Studies





- 11. Web Pages and Writing for the Web
- 12. Graphics
- 13. Oral Communication
- 14. Technical Research
- 15. The Job Search
- 16. Style in Technical Writing



Andrea J. Rutherford

ISBN: 9788177584073
 Copyright: 2005
 Pages: 416

Basic Communication Skills for Technology, 2/e

About the Book

This book provides practical applications of writing in vocational/technical fields, Presenting clear, simplified explanations of key concepts and skills in written communication, Rutherford’s guide covers the writing process in a systems approach that integrates reading, planning, writing, and revising.

Features

- Fourteen technical reading passages that introduce or demonstrate each writing topic.
- Integration of reading, writing, spelling, word usage, and vocabulary exercises and assignments within each chapter.
- Complete and independent grammar and mechanics units for flexible planning and individualized study.
- Exercises and models using common technical vocabulary and concepts.
- Explanations of concepts in language that is easy to understand and apply.
- This book is designed to help readers gain a working knowledge of all the major skills for career-related communication, including e-mail, graphics, reports, business correspondence, presentations, job interviews, and resumes.
- Updated reading passages to reflect current communication needs and practices.
- Updated writing topics to reflect current trends in writing, including the use of e-mail, desktop publishing, and the Internet.
- Updated chapter on report-writing (with sample reports) that introduces three common business/technical documents: the descriptive report, lab report, and proposal.
- New assignments that require use of the Internet for research and communication.
- New chapter on public speaking that introduces the basic techniques for preparing and delivering professional presentations and interviews.
- New chapter on the job search that focuses on the electronic job search, preparation of traditional and electronic resumes, cover letters, and thank-you letters.

Contents

PART 1 Foundation

- 1. Audience
- 2. Language and Style
- 3. Organization

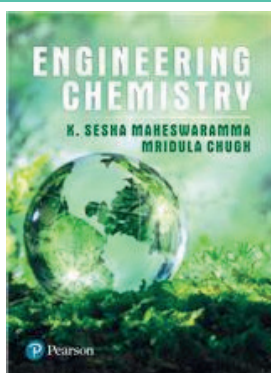
PART 2 Writing Elements

- 4. Technical Definitions
- 5. Technical Descriptions
- 6. Summaries
- 7. Graphics

- 8. Instructions
- 9. Comparison and Contrast

PART 3 Forms of Technical Communication

- 10. Technical Reports
- 11. Forms, Memos, and E-mail
- 12. Business Letters
- 13. Presentations
- 14. The Job Search: Resumes and Letters



**K. Sesha
Maheswaramma
Mridula Chugh**

ISBN: 9789332571181

Copyright: 2016

Pages: 800

Engineering Chemistry, 1/e

NEW

About the Book

Engineering Chemistry is an interdisciplinary subject offered to undergraduate Engineering students. This book introduces the fundamental concepts in a simple and concise manner and highlights the role of chemistry in the field of engineering.

It includes a large number of end-of-chapter exercises that test the student's understanding besides being useful from the examination point of view.

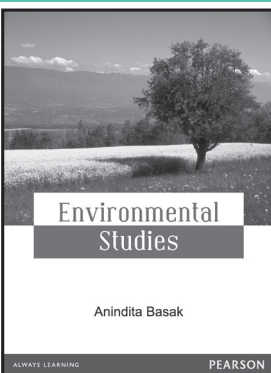
Features

- Simple, Illustrative and student-friendly approach towards complex topics like fuels and combustion and electrochemistry and polymers.
- Detailed discussion of engineering materials.
- Coverage of alternate energy sources such as solar, wind and nuclear energy
- Accompanied by an online supplement comprising a lab manual that includes preferred viva questions.

About the Author

K. Sesha Maheswaramma is an assistant professor in the Department of Chemistry, JNTUA College of Engineering, Pulivendula, YSR Kadapa (Dt.) Andhra Pradesh. She has more than ten research publications in internationally reputed journals and presented more than twenty research papers in national and international conferences, which are widely acclaimed as most relevant as they are addressing the existing problems and discussing practical remedies.

Mridula Chugh is Assistant Professor, Ganga Institute Of Technology And Management, Jhajjar, Haryana



Anindita Basak

ISBN: 9788131721186

Copyright: 2009

Pages: 320

Environmental Studies

About the Book

This book covers the course requirements for Environmental Studies for undergraduate students of all disciplines. It aims to educate the readers about nature, ecosystems, natural resources, biodiversity, pollution, and the current challenges faced by environmentalists. It integrates the social impact associated with environmental issues through national and international case studies.

Features

- This book completely follows the UGC model curriculum.
- Discusses current topics in the global environment scenario such as ecological footprint, carbon trading, and emission trading.
- Equipped with a complete list of ISO standards for environment management systems.
- Entire unit devoted to field work with more than 10 experiments for quantitative evaluation of ecosystems.
- Has more than 30 case studies to illustrate environmental issues.
- An updated list of international conventions and protocols.
- Comprehensive glossary for quick recapitulation of technical terms.
- Updated statistical information on air quality standards, permissible exhaust limit, and so on.

Contents

1. Definition, scope and importance, need for public awareness, environment and its components
2. Natural resources: Renewable and non-renewable resources Natural Resources and associated problems

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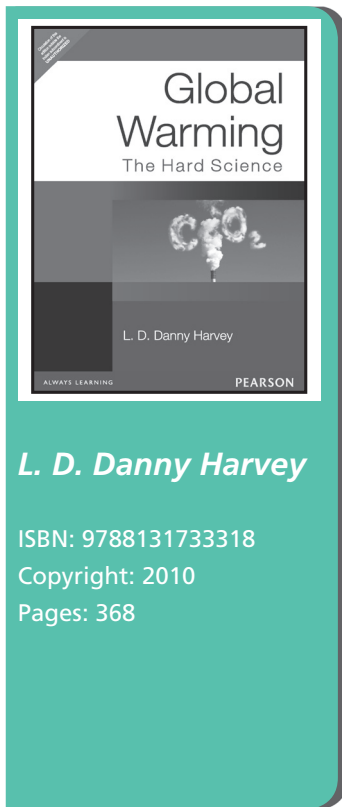


3. Ecosystems
4. Biodiversity and its conservation
5. Environmental pollution
6. Social Issues and the environment

7. Human population and the environment
8. Field work

About the Author

Dr. Anindita Basak is presently Reader in Chemistry at Sushilavati Government Women’s College, Rourkela. She was also deputed as a visiting scientist at National Institute of Technology, Rourkela from 2004 to 2006. She has published 16 papers in journals of national and international repute. She has extensive research experience in different fields of chemistry, polymer science, and environmental science.



L. D. Danny Harvey

ISBN: 9788131733318
 Copyright: 2010
 Pages: 368

Global Warming

About the Book

Global Warming: The Hard Science presents a comprehensive, qualitatively rigorous, and critical discussion of the science underlying the global warming issue. The major processes in the climate system needed to understand projected human-induced climatic change are presented in detail. Observational systems used to monitor changes in the climate system and the ways in which the raw data are analyzed in order to produce estimates of current trends are also critically reviewed. It will be an indispensable text for students wanting a comprehensive understanding of the science of global warming, as well as for lecturers and researchers who want to improve their understanding of global warming research outside their own subdiscipline. It is set to become the definitive textbook on the science behind the global warming issue. Global warming is now seen as fundamental to the study of the environment and this text clearly emphasises not only the importance of global warming in the environmental change process, but also introduces students to the science required to analyse these changes accurately.

Features

- Provides a comprehensive introduction to global warming and the relationship between weather, climate and environmental change.
- Looks at the major factors, both natural and anthropogenic, driving environmental change.
- Discusses how global warming is affected by human activity.
- Examines in detail the topical issue of projected sea level rise.
- Boxed material, as well as numerous illustrations and diagrams, make the science of global warming accessible and easily understood.

Contents

Part I: Introduction

1. Climatic Change and Variability - Past, Present and Future
2. The Climate System and Climatic Change
3. The Physics of the Greenhouse Effect, Radiative Forcing, and Climate Sensitivity
4. Factors Driving Anthropogenic Emissions to the Atmosphere
5. Observed Changes in the Climate System and Sea Level During the Recent Past

Part II: Climatic Change - from emissions to climate system response

6. Models used in Projecting Future Climatic Change and Sea Level Rise
7. Computation of Direct and Indirect Radiative Forcings Associated with Changes in the Concentration of Greenhouse Gases and Aerosols
8. Response of the Carbon Cycle and other Biogeochemical Cycles: Translating Emissions of GHGs and Aerosols into Concentrations and Radiative Forcing
9. Climate Sensitivity
10. The Regional Equilibrium Response to a Doubling of the Atmospheric Concentration of Carbon Dioxide



- ◀◀◀
- 11. The Transient Climatic Response and the Detection of Anthropogenic Effects on Climate
 - 12. Sea Level Rise

- Part III: The Science-Policy Interface**
- 13. Scenarios of Future Climatic Change
 - 14. The Prospects for Surprises



Environmental Studies

D. L. Manjunath

ALWAYS LEARNING PEARSON

D. L. Manjunath

ISBN: 9788131709122
Copyright: 2006
Pages: 216

Environmental Studies

About the Book

Environmental Studies, focuses in clear and simple language, on the basic scientific content necessary to understand environmental issues. It details the latest developments in the field and reflects several major shifts in environmental science education this century. Designed as a foundational text for environmental science courses and spread over eleven chapters, the book includes various aspects of ecology such as ecosystems, environmental impacts, and current environmental issues.

Features

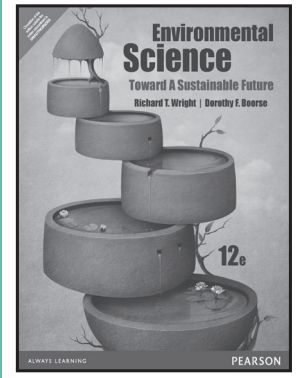
- Pedagogical treatment of the subject to help students grasp fundamentals.
- A strong focus on statistical data that illustrates the deterioration of our surroundings, with emphasis on environmental abuse.
- Images that portray the current degeneration of our environment.

Contents

1. The Earth–Fact File
2. Environment and Ecology
3. Environmental Impacts of Human Activities
4. Water Resources and Water Quality
5. Mineral Resources and Mining
6. Forests
7. Bio-Geo-Chemical Cycles
8. Matter and Energy Fundamentals
9. Environmental Pollution
10. Current Environmental Issues of Importance
11. Environmental Protection

About the Author

D. L. Manjunath, Head, Department of Civil Engineering, Malnad College of Engineering, Hassan



Environmental Science

Toward A Sustainable Future

Richard T. Wright | Dorothy F. Boorse

12e

ALWAYS LEARNING PEARSON

Richard T. Wright
Dorothy F. Boorse

ISBN: 9789332555389
Copyright: 2015
Pages: 664

Environmental Science 12/e

About the Book

For introductory courses in Environmental Science, Environmental Studies, and Environmental Biology.

By emphasizing the memorable themes of science, sustainability and stewardship, the Eleventh Edition of this popular textbook helps students understand the science behind environmental issues and what they can do to build a more sustainable future. This thorough revision features updated content, graphics, and photos, plus the addition of new co-author Dorothy Boorse.

Features

- An impartial presentation is known for scientific accuracy and thorough topic coverage.
- Three unifying themes of science, sustainability, and stewardship help students conceptualize the task of forging a sustainable future.
- Essays explore the three themes at appropriate points within chapters and provide a memorable perspective on the topic. Themes are recapped and discussed at the end of each chapter to help students connect the chapter topics to the themes. A final capstone chapter revisits these themes.
- Timely coverage of topical concerns including the Aral Sea as a major environmental disaster; emerging

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- ◀◀◀ diseases like swine flu; the 2008 World Population Data Sheet; the 2008 Iowa floods; the “green revolution;” the Endangered Species Act controversy; restoration of the Everglades, and the 2007 Global Forest Resources

Assessment.

- Unique chapter on Ecosystem Capital (Chapter 7: The Use and Restoration of Ecosystems) explores how ecosystems provide valuable goods and services to society.

Contents

I. Framework For A Sustainable Future

1. Science and the Environment
2. Economics, Politics, and Public Policy

II. Ecology: The Science Of Organisms

- And Their Environment
3. Basic Needs of Living Things
 4. Populations and Communities
 5. Ecosystems: Energy, Patterns, and Disturbance
 6. Wild Species and Biodiversity
 7. The Use and Restoration of Ecosystems

III. The Human Population And Essential Resources

8. The Human Population
9. Population and Development
10. Water: Hydrologic Cycle and Human Use
11. Soil: Foundation for Land Ecosystems
12. The Production and Distribution of Food
13. Pests and Pest Control

IV. Harnessing Energy For Human Society

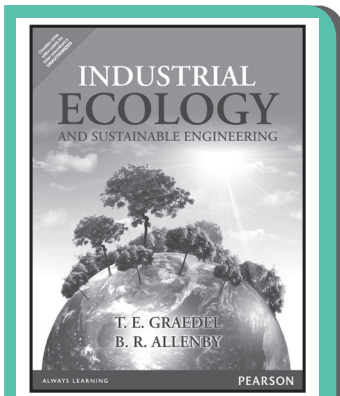
14. Energy from Fossil Fuels
15. Nuclear Power
16. Renewable Energy

V. Pollution And Prevention

17. Environmental Hazards and Human Health
18. Global Climate Change
19. Atmospheric Pollution
20. Water Pollution and Its Prevention
21. Municipal Solid Waste: Disposal and Recovery
22. Hazardous Chemicals: Pollution and Prevention

VI. Stewardship For A Sustainable Future

23. Sustainable Communities and Lifestyles



**T. E. H Graedel
Braden R. Allenby**

ISBN: 9789332556959
Copyright: 2015
Pages: 352

Industrial Ecology and Sustainable Engineering

About the Book

The first text available devoted completely to industrial ecology/green engineering, this introduction provides everything instructors need to teach a successful course—including visuals—in one source. The authors use industrial ecology principles and cases to ground the discussion of sustainable engineering, and thus offer practical and reasonable approaches to an otherwise difficult and sometimes otherworldly subject.

Features

- Methods to better incorporate concerns about environmental and social issues into design decisions—from the level of products and manufacturing processes to factories and material flow systems—are discussed.
- A complete suite of homework problems is included.
- A set of vignettes enables professors to present from the start a sophisticated, self-contained course that is of high interest to environmental science, environmental policy, and engineering schools of all types.

Contents

Part I. Introducing The Field

1. Technology And Sustainability
2. Industrial Ecology And Sustainable Engineering Concepts

Part II. Framework Topics

3. The Relevance Of Biological Ecology To Technology
4. Metabolic Analysis

▶▶▶



5. Technological Change And Evolving Risk
6. The Social Dimensions Of Industrial Ecology
7. The Concept Of Sustainability

Part III. Implementation

8. Sustainable Engineering
9. Industrial Product Development
10. Design For Environment And For Sustainability
11. An Introduction To Life-Cycle Assessment
12. The Lca Impact And Interpretation Stages
13. Streamlining The Lca Process

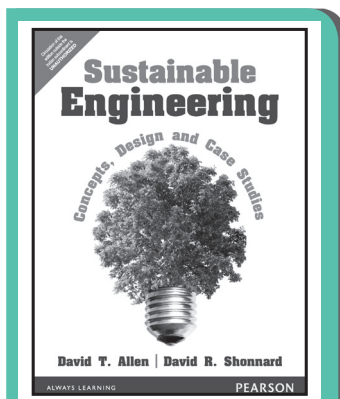
Part IV. Analysis Of Technological Systems

14. Systems Analysis

15. Industrial Ecosystems
16. Material Flow Analysis
17. National Material Accounts
18. Energy And Industrial Ecology
19. Water And Industrial Ecology
20. Urban Industrial Ecology
21. Modeling In Industrial Ecology

Part V. Thinking Ahead

22. Scenarios For Industrial Ecology
23. The Status Of Resources
24. Industrial Ecology And Sustainable Engineering In Developing Countries
25. Industrial Ecology And Sustainability In The Corporation
26. Industrial Ecology And Sustainability In Government And Society
27. Looking To The Future



**Dr. David T. Allen
Dr. David R. Shonnard**

ISBN: 9789332556577

Copyright: 2015

Pages: 340

Sustainable Engineering: Concepts, Design and Case Studies, 1/e



About the Book

Sustainable Engineering: Design and Analysis is the first textbook to offer a unified approach and comprehensive tools for evaluating the environmental, economic, and societal impacts of engineering designs. It builds on the authors' comprehensive benchmarking study of the incorporation of sustainability concepts in engineering curricula, and integrates well-accepted principles and methods from their highly successful textbook, Green Engineering. David Allen and David Shonnard cover everything students and professionals need to improve sustainability in any engineering discipline. They integrate coverage of sustainability concepts and lifecycle principles, quantitative engineering design principles and methods, evaluation tools, case studies, industry perspectives, and more. Readers will learn how to utilize green materials, design green processes and products, and assess the economic value and societal impacts of green designs. Using this book, engineering faculty can bring greater coherence to their instruction on sustainability issues, easily integrating sustainability topics into existing courses. Note: This text condenses the new Second Edition of Green Engineering: Environmentally Conscious Design of Chemical Processes, scheduled for publication in summer of 2012.

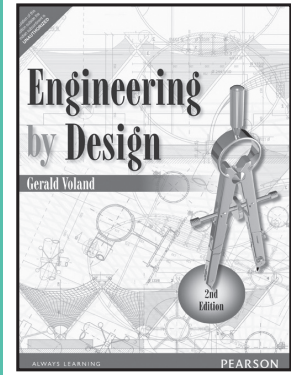
Features

- Builds on the well-accepted principles introduced by leading experts Allen and Shonnard in Green Engineering.
- Helps engineering educators incorporate sustainability into their curricula without adding separate courses.
- Offers a powerful unified approach that integrates case studies, industry perspectives, and essential engineering and quantitative design skills.
- The first text to provide comprehensive tools for evaluating environmental, economic, and societal impacts of engineering designs.
- There is a solutions manual available for download on the IRC for course use.

Contents

1. An Introduction to Sustainability
2. Risk and Life-Cycle Frameworks for Sustainability
3. Environmental Law and Regulation
4. Green, Sustainable Materials
5. Design for Sustainability: Economic, Environmental, and Social Indicators
6. Case Studies

Engineering by Design, 2/e



Gerard Voland

ISBN: 9789332535053

Copyright: 2014

Pages: 496

About the Book

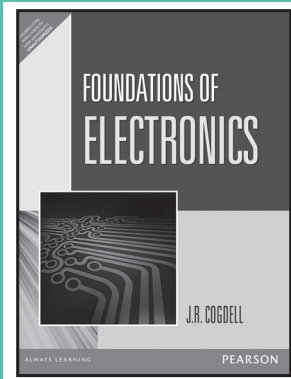
Engineering By Design introduces students to a broad range of important design topics. The engineering design process provides the skeletal structure for the text, around which is wrapped numerous cases that illustrate both successes and failures in engineering design. The text provides a balance of qualitative presentation of engineering practices that can be understood by students with little technical knowledge and a more quantitative approach in which substantive analytical techniques are used to develop and evaluate proposed engineering solutions. This flexibility means that the text can be used in a wide variety of courses.

Features

- NEW - Edition includes new or increased coverage of economic analysis and decision-making (Ch. 10), manufacturing and materials (Ch. 11), and modeling (Ch. 6).
- NEW - Features new case studies and more photographs to give this book an increased visual appeal.
- Case Studies-Present an ideal or benchmark solution which may serve as a model for future work.
- Case Histories-Describe how problems were actually solved and the consequences of the decisions that were made.
- Case Problems-Set forth open-ended situations that leave the choice of a solution up to the reader. Case Problems can be "learning modules" designed to put students to work in teams to define the problem and solve it through research, discussion, and/or lab work.

Contents

- | | |
|---|--|
| 1. Engineering Design | 5. Acquiring, Applying, and Protecting Technical Knowledge |
| 2. Needs Assessment | 6. Abstraction and Modeling |
| 3. Structuring the Search for the Problem | 7. Synthesis |
| 4. Structuring the Search for a Solution: Design Goals and Specifications | 8. Hazards Analysis and Failure Analysis |



J R Cogdell

ISBN: 9788131764046

Copyright: 2011

Pages: 428

Foundations of Electronics

About the Book

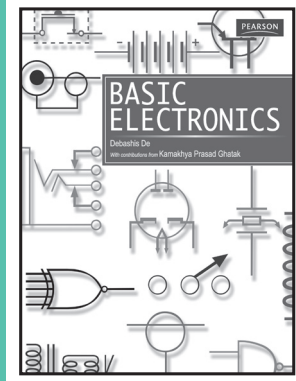
Provides detailed, clear explanations of the fundamentals of electrical and electronics engineering, keeping readers focused on the basics. Maintains a strong emphasis on vocabulary throughout, encouraging further thought and communication based on chapter discussions. Used with Foundations of Electric Circuits, this book is ideal for a one-semester course in circuits and electronics for physics, engineering, or computer science students.

Features

- Emphasis is placed on clear definitions of concepts and vocabulary.
- Problems are offered at three levels: "What if" problems extending examples in the text, with answers; "Check our understanding" problems after each major section, with answers, and extensive end-of-chapter problems identified with chapter sections, with answers for odd problems.
- Full pedagogical tools: chapter objectives, marginal aids, chapter summaries, chapter glossaries tied to context, and a complete index.

Contents

- | | |
|---------------------------------------|----------------------------|
| 1. Electric Circuit Theory | 5. Instrumentation Systems |
| 2. Semiconductor Devices and Circuits | 6. Communication Systems |
| 3. Digital Electronics | 7. Linear Systems |
| 4. Analog Electronics | |



Debashis De
Kamakhya Prasad
Ghatak

ISBN: 9788131710685

Copyright: 2010

Pages: 632

Basic Electronics

About the Book

Basic Electronics, meant for the core science and technology courses in engineering colleges and universities, has been designed with the key objective of enhancing the students' knowledge in the field of electronics. Solid state electronics being a rapidly-evolving field of study, each topic has been extensively researched for the latest updates, and the authors have supplemented the chapters with customized pedagogical features. The required knowledge in mathematics has been developed throughout the book and no prior grasp of physical electronics has been assumed as an essential requirement for understanding the subject. Detailed mathematical derivations illustrated by solved examples enhance the understanding of the theoretical concepts. With its simple language and clear-cut style of presentation, this book presents an intelligent understanding of a complex subject like electronics.

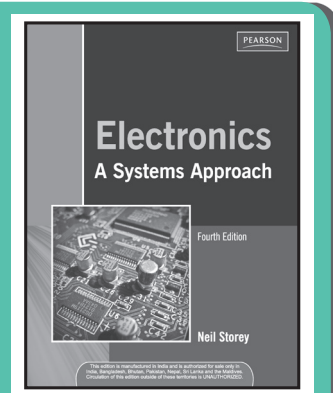
Features

- **Outline** and **Objectives** provide a brief look at the chapter, and help the students and the instructors prepare for class.
- **Figures** and **Tables** illustrate the major concepts providing a perspective into the real-life applications.
- **Solved Examples** after every key topic and mathematical derivation help the students develop a strong foundation in analysis.
- **For Advanced Readers** identify and analyse the vital concepts to support advanced learning.
- **Points to Remember** recreate the chapter for fast recapitulation.
- **Objective Questions, Review Questions** and **Practice Problems** allow the students to evaluate themselves on a chapter-by-chapter basis.

Contents

Preface Reviewers The Author and the Contributor

1. Semiconductor Fundamentals
2. Diode Fundamentals
3. Diode Circuits
4. BJT Fundamentals
5. BJT Circuits
6. Field-Effect Transistor
7. FET Circuits
8. Special Semiconductor Devices
9. Feedback Amplifier
10. Fundamentals of Integrated Circuit Fabrication
11. Operational Amplifier
12. Oscillators
13. Digital Electronic Principles
14. Electronic Instruments



Neil Storey

ISBN: 9788131734124

Copyright: 2009

Pages: 824

Electronics: A Systems approach, 4/e

About the Book

The fourth edition of **Electronics: A Systems Approach** is an outstanding introduction to this fast-moving, important field. Fully updated, it covers the latest changes and developments in the world of electronics. It continues to use Neil Storey's well-respected systems approach, firstly explaining the overall concepts to build students' confidence and understanding, before looking at the more detailed analysis that follows. This allows the student to contextualise what the system is designed to achieve, before tackling the intricacies of the individual components. The book also offers an integrated treatment of analogue and digital electronics, highlighting and exploring the common ground between the two fields. This fourth edition represents a significant update and a major expansion of previous material, and now provides a comprehensive introduction to basic electrical engineering circuits and components in addition to a detailed treatment of electronic systems. This extended coverage permits the book to be used as a stand-alone text for introductory courses in both Electronics and Electrical Engineering.

Features

- A range of new chapters covering the basics of Electrical Circuits and Components.
- An introduction to Resistive, Capacitive and Inductive elements, Alternating Voltages and Currents, and AC Power.
- New chapters on the Frequency Characteristics of AC circuits and on Transient Behaviour.
- A new consolidated treatment of Noise and Electromagnetic Compatibility (EMC).
- A new chapter on the Internal Circuitry of Operational Amplifiers.

Contents

Part I: Electrical Circuits And Components

1. Basic Electrical circuits and components
2. Measurement of Voltages and Currents
3. Resistance and DC Circuits
4. Capacitance and Electric Fields
5. Inductance and Magnetic Fields
6. Alternating Voltages and Currents
7. Power in AC Circuits
8. Frequency Characteristics of AC Circuits
9. Transient Behaviour

Part II: Electronic Systems

10. Electronic Systems
11. Sensors
12. Actuators
13. Amplification
14. Control and Feedback
15. Operational Amplifiers
16. Semiconductors and Diodes
17. Field-effect Transistors
18. Bipolar Junction Transistors
19. Power Electronics
20. Internal Circuitry of Operational Amplifiers
21. Noise and EMC
22. Positive Feedback, Oscillators and Stability
23. Digital Systems
24. Sequential Logic
25. Digital Devices
26. Implementing Digital Designs
27. Data Acquisition and Conversion
28. System Design

About the Author

Dr. Neil Storey is a member of the School of Engineering at the University of Warwick, where he has many years of experience in teaching electronics to undergraduate, post-graduate and professional engineers. He is also the author of *Electrical and Electronic Systems* and *Safety-Critical Computer Systems*, both published by Pearson Education.



S. K. Bhattacharya

ISBN: TBA

Copyright: 2017

Pages: 780

About the Book

This book provides an overview of the basics of electrical and electronic engineering that are required at the undergraduate level. Efforts have been taken to keep the complexity level of the subject to bare minimum so that the students of non electrical/electronics can easily understand the basics. It offers an unparalleled exposure to the entire gamut of topics such as Electricity Fundamentals, Network Theory, Electro-magnetism, Electrical Machines, Transformers, Measuring Instruments, Power Systems, Semiconductor Devices, Digital Electronics and Integrated Circuits. Extensive use of illustrations, examples and exercises in accordance with the progressive development of the concepts covered within the chapter make the reading more exciting.

Features

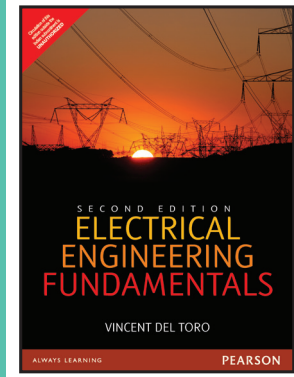
- Easy to understand explanation of basic concepts.
- Covers syllabus prescribed by all universities.
- Step by step tutorial based approach.
- New sections on important topics of basic electronics such as RVDT, DC Biasing of BJT and Feedback amplifier.
- Excellent and enhanced pedagogy.
 - A. 238 Solved examples.
 - B. 754 Illustrations.
 - C. 526 Unsolved Review questions.
 - D. 314 Multiple choice questions.

Contents

- | | |
|--|---|
| 1. Basic Concepts, Laws, and Principles | 10. Synchronous Machines |
| 2. DC Networks and Network Theorems | 11. Measurement and Measuring Instruments |
| 3. AC Fundamentals and Single-phase Circuits | 12. Transducers |
| 4. Three-phase System | 13. Power Systems |
| 5. Electromagnetism and Magnetic Circuits | 14. Semiconductor Devices |
| 6. Transformers | 15. Rectifiers and Other Diode Circuits |
| 7. DC Machines | 16. Digital Electronics |
| 8. Three-phase Induction Motors | 17. Integrated Circuits |
| 9. Single-phase Motors | 18. Communication Systems |

About the Author

S. K. Bhattacharya is currently the principal of SUS Women's Engineering College, Mohali, Punjab. Formerly he was the director of National Institute of Technical Teachers' Training and Research (NITTTR), Kolkata, India. A Ph.D. from Birla Institute of Technology and Science (BITS), Pilani, he was professor of Electrical Engineering and then Principal of Technical Teachers' Training Institute, Chandigarh. With a long experience in teaching as well as in training of teachers, he has prepared a number of teaching/learning materials.



Vincent Del Toro

ISBN: 9789332551763

Copyright: 2015

Pages: 940

Electrical Engineering Fundamentals, 2/e

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

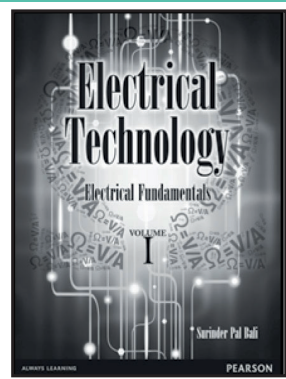
Part Five: Feedback Control Systems

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

About the Author

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 CUNY 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.



Surinder Bali

ISBN: 9788131785935

Copyright: 2013

Pages: 608

Electrical Technology: Volume I

About the Book

The book is written and organized in a very simple manner keeping in mind the needs for today's students. As the book introduces the subject with basic fundamentals like System of Units, Fundamentals of Electrons thereby helping engineering students in building their concepts. The Volume 1 of the book comprises of 54 Chapters covering topics in three-parts, Part A covers Electrical Fundamentals, Part B: Electric Machines & Part C: Electric Measurements.

The book is highly illustrative with 1500+ figures & illustrations and 1400+ solved/unsolved problems as well as 500+ MCQ's.

Features

- Presents a comprehensive coverage on the fundamentals of the subject, such as Dielectric Materials, Electrochemical Action, Inductors, and Hysteresis.
- Chapters focusing on magnetic materials, complex algebra, fourier series, first and second order systems.
- Additional solved examples provided at the end of chapter for concrete understanding of topics.
- Web Supplements includes animations, important formulae, periodic chart, key terminology, Diagrammatic Symbols etc..
- Excellent pedagogy
 - o Learning Objectives.
 - o Chapter Summary.
 - o 900+ illustrations.
 - o 450+ solved questions.
 - o 450+ unsolved questions.
 - o 300+ MCQs with answers.

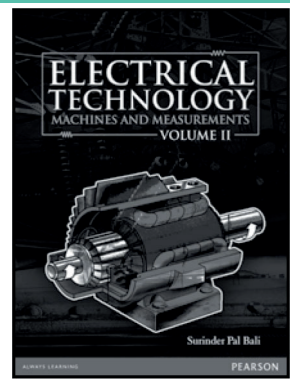
Contents

Part A: Electrical Fundamentals

1. System of Units
2. Electrons in Action
3. Electric Circuits
4. Simple D.C. Circuits
5. Networks (D.C.)
6. Mesh Current and Node-Voltage Analysis
7. Electrochemical Action
8. Electromagnetism
9. Inductors and A.C. Transients
10. Hysteresis
11. Magnetic Materials
12. Electrostatics
13. Capacitors and D.C. Transients
14. Dielectric Materials
15. Field Theory
16. Single Phase Alternating Voltage and Current
17. Three – Phase Circuits and Systems
18. Complex Algebra
19. Work, Power and Energy
20. Power Factor Correction
21. LCR Circuits
22. Resonance
23. The Fourier Series
24. Networks (A.C.)
25. Delta Wye Transformations
26. Attenuators and Filters
27. Transmission Lines
28. First and Second Order Systems
29. Laplace Transforms
30. Coupled Circuits

About the Author

S. P. Bali has been associated with the field of electronics for over 45 years. With over 20 years of teaching experience, he has been teaching new entrants in the field of electronics and taken diploma-level courses in the Military College of Electronics and Mechanical Engineering (MCEME), Secunderabad. He has contributed articles to magazines and has authored several books.



Surinder Bali

ISBN: 9789332514416

Copyright: 2013

Pages: 456

Electrical Technology: Volume II

About the Book

Electrical Technology, Volume 2 is the second offering of the book on Electrical Technology and serve the need of undergraduate students of electrical and electronics engineering. The book is divided into two parts consisting of 24 chapters. Part on Electric Machines introduces AC and DC machines and Part on Electrical Measurements discusses various electrical instruments and measurements.

The book is also packaged with DoCircuits- a web-based circuit simulator, specially created to help students practice key circuits. It works across platforms (Windows/Mac/Linux) and does not require any installation or plug-ins. Besides being used as a practice/pre-lab tool by students, it can also serve as an exciting tool for instructors to teach the circuits.

Apart from the free version, the book is also accompanied with an access code to avail the full version of DoCircuits at an exciting offer. The access details and code are given on the inside front cover.

Features

- Exhaustive coverage on rotating machines including AC, DC and special machines.
- Detailed discussion on synchronous generators and motors in separate chapters.
- End-of-chapter solved examples for concrete understanding of the concepts.
- Web Supplements includes animations, important formulae, periodic chart, key terminology, Diagrammatic Symbols etc.
- Excellent pedagogy.
 - o Learning Objectives.
 - o Chapter Summary.
 - o 500+ illustrations.
 - o 170+ solved questions.
 - o 380+ unsolved questions.
 - o 270+ MCQs with answers.

Contents

Part B – Electrical Machines

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32. D.C. Generators
33. D.C. Motors
34. Efficiency of Direct Current Machinery
35. D.C. Motor Control
36. Single Phase Transformers
37. Three-Phase Transformers
38. Synchronous Generators (Alternators)
39. Synchronous Motors
40. Induction Motor (3 – Phase)
41. Induction Motor (Single Phase)
42. Specialized Motors

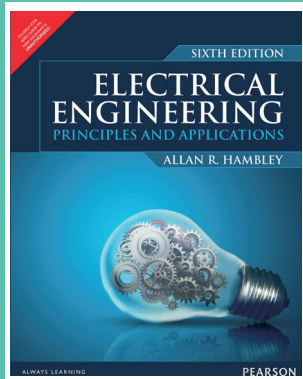
43. Servos and Synchros
44. Open - Loop and Closed – Loop
45. Converters and Inverters
46. Controlled Rectifiers
47. Per – Unit System

Part C – Electrical Measurements

48. Measurements and Error
49. Meter Movements
50. Ammeters, Voltmeters and Ohmmeters
51. Wattmeters and Energy Meters
52. Multimeters VOMs Analog and Digital
53. The Oscilloscope
54. Oscilloscope Techniques

About the Author

S. P. Bali has been associated with the field of electronics for over 45 years. With over 20 years of teaching experience, he has been teaching new entrants in the field of electronics and taken diploma-level courses in the Military College of Electronics and Mechanical Engineering (MCEME), Secunderabad. He has contributed articles to magazines and has authored several books.



Allan R. Hambley

ISBN: 9789332563308

Copyright: 2016

Pages: 912

Electrical Engineering: Principles & Applications, 6/e



About the Book

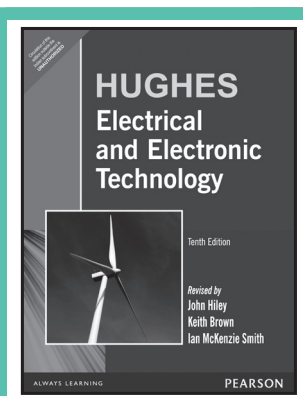
Electrical Engineering: Principles and Applications, 6e helps students learn electrical-engineering fundamentals with minimal frustration. Its goals are to present basic concepts in a general setting, to show students how the principles of electrical engineering apply to specific problems in their own 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

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

About the Author

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.



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

ISBN: 9788131733660

Copyright: 2010

Pages: 1008

Hughes Electrical and Electronic Technology, 10/e

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
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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

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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

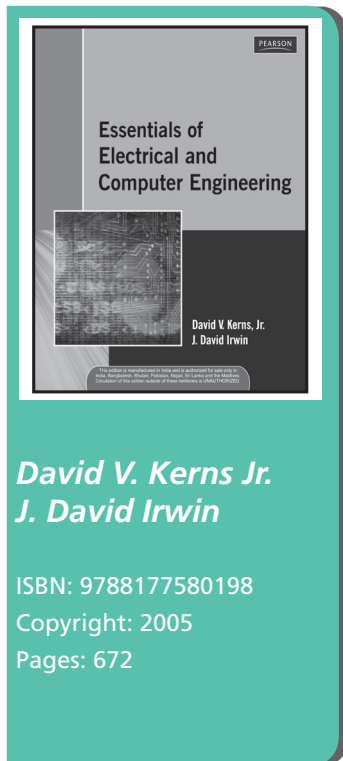
25. Digital Numbers
26. Digital Systems
27. Microprocessors and Programs
28. Control Systems
29. Signals
30. Data Transmission and Signals
31. Communications
32. Fibreoptics

Section 3: Power Engineering

33. Multiphase Systems
34. Transformers
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36. AC Synchronous Machine Windings
37. Characteristics of AC Synchronous Machines
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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



Essentials of Electrical and Computer Engineering

About the Book

With its clear presentation of fundamentals in the context of various applications from all engineering fields, this text by proven authors represents the best balanced general introduction to the field available. It introduces the latest technologies such as MEMS (Microelectromechanical Systems) to illustrate how modern technologies are interdisciplinary.

Features

- Large amount of examples and drill exercises and margin notes.
- Optional use of MATLAB as a computing tool.
- A lucid, readable discussion of digital technology.
- A large number of worked examples, drill exercises, and homework problems—Designed to illustrate key principles.
- Coverage of the material and information needed to prepare for the FE (Fundamentals of Engineering) exam—A prerequisite for students who want to pursue a Practicing Engineer license.

Contents

Circuits

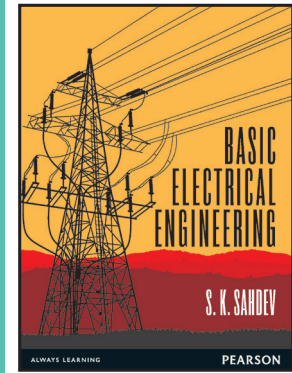
1. Introduction.
2. DC Circuits.
3. Transient Analysis.
4. AC Steady State Analysis.
5. Steady State Power Analysis.
6. Magnetically Coupled Circuits and Transformers.





7. Network Frequency Characteristics
- Electronics**
8. Introduction to Electronics
9. Operational Amplifiers (OpAmps)
10. Semiconductors, Diodes, and Power Supplies
11. Transistor Fundamentals: Switches, Large-Signal Amplifiers and Power Electronics

12. Small Signal Transistor Amplifiers
13. Digital Logic Circuits
14. Digital Electronic Logic Gates
- Electromechanical Systems**
15. DC Machines.
16. AC Polyphase Machines



SK Sahdev

ISBN: 9789332542167

Copyright: 2015

Pages: 768

Basic Electrical Engineering



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

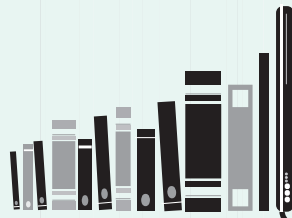
- Detailed coverage on AC Circuits and DC Circuits.
- Step-by-step problem-solving methodology to hone problem-solving skills.
- Extended coverage on electric machines and measurements.
- Coverage on specialized motors like hysteresis motor, stepper motor, linear induction motor and universal motor.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

About the Author

Dr. SK Sahdev Associate Dean Lovely Professional University



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9789332551824	Chandrupatla / Belegundu	Introduction to Finite Elements in Engineering, 4/e	629.00	19
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9789332542075	Chudley	Construction Technology - Volume 3, 2/e	419.00	76
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* Prices are subject to change without prior notice ** TBA - To be announced

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9789332535114	Fetter	Applied Hydrogeology, 4/e	779.00	112
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9789332549432	Geankoplis	Transport Processes and Separation Process Principles (Includes Unit Operations) 4/e	679.00	137
9789332518599	Gerson	Technical Writing Process and Product, 8/e	829.00	156
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TBA	Gopi	Advanced Surveying: Total Station, GIS and Remote Sensing. 2/e	599.00	119
9789332556959	Graedel / Allenby	Industrial Ecology and Sustainable Engineering	489.00	162
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9789332581241	Groover	Work Systems: The Methods, Measurement & Management of Work, 1/e	749.00	33
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9789332559578	Haberman	Engineering Thermodynamics with Heat Transfer, 2/e	759.00	62
9789332563308	Hambley	Electrical Engineering: Principles & Applications, 6/e	679.00	171
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* Prices are subject to change without prior notice ** TBA - To be announced

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9789332551749	Henry / Heinke	Environmental Science and Engineering, 2/e	619.00	97
TBA	Hibbeler	Engineering Mechanics: Statics & Dynamics in SI Units, 14/e	899.00	16
TBA	Hibbeler	Structural Analysis, 9/e	899.00	115
9789332547018	Hibbeler	Fluid Mechanics in SI Units	799.00	21
TBA	Hibbeler	Mechanics of Materials in SI Unit, 9/e	879.00 (T)	50
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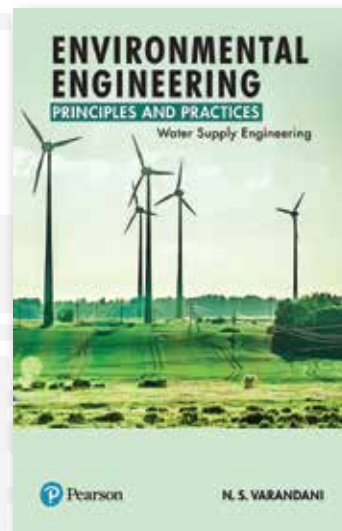
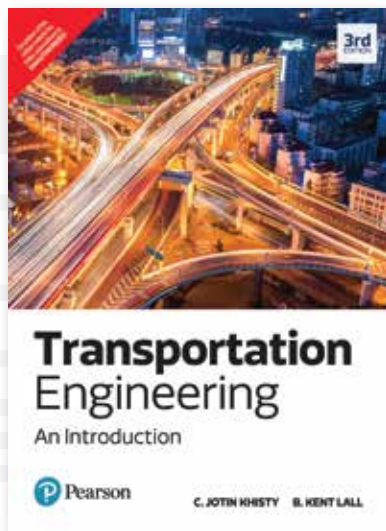
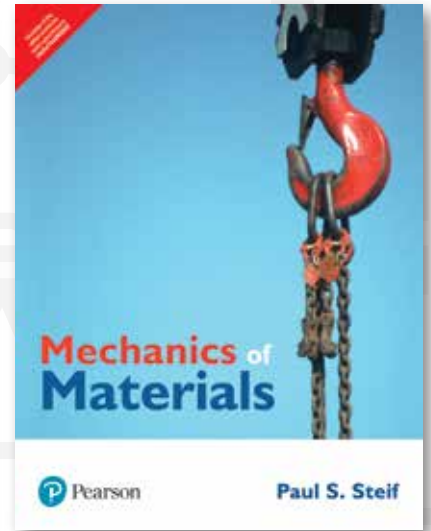
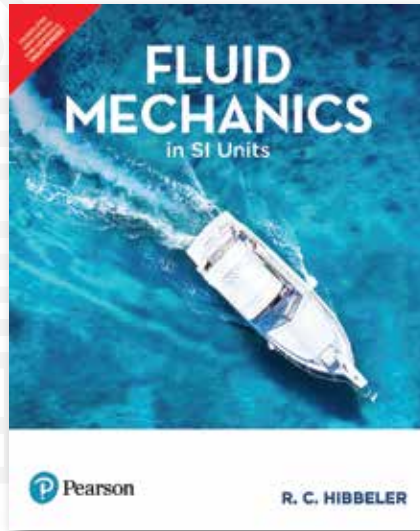
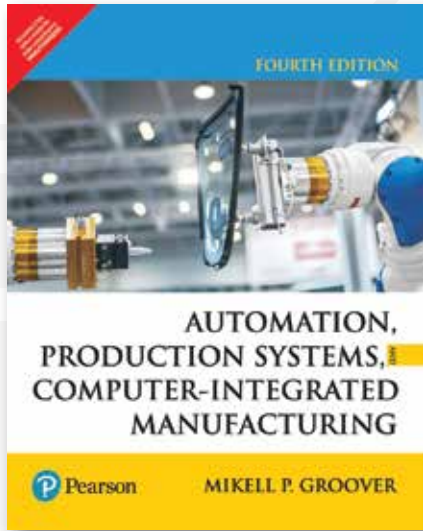
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