

Geotechnical Engineering Principles Practices Donald P Coduto

Written in a concise, easy-to understand manner, INTRODUCTION TO GEOTECHNICAL ENGINEERING, 2e, presents intensive research and observation in the field and lab that have improved the science of foundation design. Now providing both U.S. and SI units, this non-calculus-based text is designed for courses in civil engineering technology programs where soil mechanics and foundation engineering are combined into one course. It is also a useful reference tool for civil engineering practitioners. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This volume offers a unified treatment and critical review of the literature related to the fluid dynamics, heat transfer, and mass transfer of single bubbles, drops, and particles. 1978 edition.

This volume is a study guide for the civil engineer taking the PE exam. Solved problems throughout each chapter reinforce the concepts discussed in the text.

While the potential of stem cells is recognized, their proliferation and differentiation must be more precisely controlled to maximize the production of therapeutically relevant cells and for cell replacement therapies to minimize contamination with residual cells that can give rise to side effects. How can engineers make contributions to address these challenges? With contributions from pioneers and experts, Stem Cell Engineering: Principles and Practices highlights recent advances in the understanding of the cellular and molecular composition of the stem cell niche, as well as approaches to build upon this basic information to direct stem cell differentiation into therapeutically valuable lineages. The growing recognition of stem cells as an important and exciting field will continue to draw investigators with diverse backgrounds—from biology, engineering, and the physical sciences—and thereby enable further progress in these and other new directions. This book discusses advances made during the last decade that have led to increasingly defined culture systems for growing stem cells, starting from co-culture with feeder cells in the presence of serum to growth on synthetic substrates in defined medium. In addition to highlighting many recent advances, it underscores the need for future work.

Civil Engineering

Introduction to Geotechnical Engineering

Ecological Engineering

Principles and Practices

Ecotoxicology of Amphibians and Reptiles, Second Edition

From Language to Communication focuses on the structure of texts and on the social and psychological aspects of language. Utilizing current thinking and research, this volume provides an overview of issues in linguistics, sociolinguistics, cognition, pragmatics, discourse, and semantics as they coalesce to create the communicative experience. As a unique examination of the relationship between language and communication, key features of the second edition include:
* material on the biological bases of language,
* models of the mind and information processing,
* discussions of semantics and the creation of new words,
* conversation analysis with practical applications, and
* a chapter on sociolinguistics, including language and groups, dialects, and personal styles.
Designed as an introduction to language and communication study, this text is appropriate for use in undergraduate and graduate courses in discourse and related courses in language, meaning, and messages. It also makes an excellent companion volume for courses in theory or interpersonal communication.
ADDITIONAL COPY FOR MAILER
More readable and practical than its predecessor, this second edition contains major additions:
* A more general introduction to language and communication, including new material on the biological bases of language as well as a table of species comparisons and brain comparisons.
* New models of the mind and how you process information, including more on the role of short and long term memory. It also includes a section on the features of messages that aid in comprehension—in other words, how people use the messages of another to build meaning and comprehension.
* A new section on semantics, new words and how they come about, and a more interesting treatment of meaning and how it works. The section on new words details the many ways that new words come into being. The examples are interesting and engaging for the student.
* A new focus on pragmatics with a major new section on conversation analysis which includes very practical ways to apply the principles with numerous examples.
* A new chapter on sociolinguistics includes material on language and groups (including gender, African-American English, and social class) dialects, personal styles, and related issues.

Presents Current Principles and Applications
Biomedical engineering is considered to be the most expansive of all the engineering sciences. Its function involves the direct combination of core engineering sciences as well as knowledge of nonengineering disciplines such as biology and medicine. Drawing on material from the biomechanics section of The Biomedical Engineering Handbook, Fourth Edition and utilizing the expert knowledge of respected published scientists in the application and research of biomechanics, Biomechanics: Principles and Practices discusses the latest principles and applications of biomechanics and outlines major research topics in the field. This book contains a total of 20 chapters. The first group of chapters explores musculoskeletal mechanics and includes hard and soft-tissue mechanics, joint mechanics, and applications related to human function. The next group of chapters covers biofluid mechanics and includes a wide range of circulatory dynamics, such as blood vessel and blood cell mechanics and transport. The following group of chapters introduces the mechanical functions and significance of the human ear, including information on inner ear hair cell mechanics. The remaining chapters introduce performance characteristics of the human body system during exercise and exertion. Introduces modern viewpoints and developments
Highlights cellular mechanics
Presents material in a systematic manner
Contains over 100 figures, tables, and equations
Biomechanics: Principles and Practices functions as a reference for the practicing professional as well as an introduction for the bioengineering graduate student with a focus in biomechanics, biodynamics, human performance engineering, and human factors.

For more than 25 years, the multiple editions of Hydrology & Hydraulic Systems have set the standard for a comprehensive, authoritative treatment of the quantitative elements of water resources development. The latest edition extends this tradition of excellence in a thoroughly revised volume that reflects the current state of practice in the field of hydrology. Widely praised for its direct and concise presentation, practical orientation, and wealth of example problems, Hydrology & Hydraulic Systems presents fundamental theories and concepts balanced with excellent coverage of engineering applications and design. The Fourth Edition features a major revision of the chapter on distribution systems, as well as a new chapter on the application of remote sensing and computer modeling to hydrology. Outstanding features of the Fourth Edition include . . .
• More than 350 illustrations and 200 tables
• More than 225 fully solved examples, both in FPS and SI units
• Fully worked-out examples of design projects with realistic data
• More than 500 end-of-chapter problems for assignment
• Discussion of statistical procedures for groundwater monitoring in accordance with the EPA’s Unified Guidance
• Detailed treatment of hydrologic field investigations and analytical procedures for data assessment, including the USGS acoustic Doppler current profiler (ADCP) approach
• Thorough coverage of theory and design of loose-boundary channels, including the latest concept of combining the regime theory and the power function laws

This comprehensive reference provides thorough coverage of water and wastewater reclamation and reuse. It begins with an introductory chapter covering the fundamentals, basic principles, and concepts. Next, drinking water and treated wastewater criteria, guidelines, and standards for the United States, Europe and the World Health Organization (WHO) are presented. Chapter 3 provides the physical, chemical, biological, and bacteriological characteristics, as well as the radioactive and rheological properties, of water and wastewater. The next chapter discusses the health aspects and removal treatment processes of microbial, chemical, and radiological constituents found in reclaimed wastewater. Chapter 5 discusses the various wastewater treatment processes and sludge treatment and disposal. Risk assessment is covered in chapter 6. The next three chapters cover the economics, monitoring (sampling and analysis), and legal aspects of wastewater reclamation and reuse. This practical handbook also presents real-world case studies, as well as sources of information for research, potential sources for research funds, and information on current research projects. Each chapter includes an introduction, end-of-chapter problems, and references, making this comprehensive text/reference useful to both students and professionals.

Fundamentals of Ground Improvement Engineering

Stem Cell Engineering

Biomaterials

Hydrology and Hydraulic Systems

To Engineer is Human

Now in its third edition, this classic book is widely considered the leading text on Bayesian methods, lauded for its accessible, practical approach to analyzing data and solving research problems. Bayesian Data Analysis, Third Edition continues to take an applied approach to analysis using up-to-date Bayesian methods. The authors—all leaders in the statistics community—introduce basic concepts from a data-analytic perspective before presenting advanced methods. Throughout the text, numerous worked examples drawn from real applications and research emphasize the use of Bayesian inference in practice. New to the Third Edition Four new chapters on nonparametric modeling Coverage of weakly informative priors and boundary-avoiding priors Updated discussion of cross-validation and predictive information criteria Improved convergence monitoring and effective sample size calculations for iterative simulation Presentations of Hamiltonian Monte Carlo, variational Bayes, and expectation propagation New and revised software code The book can be used in three different ways. For undergraduate students, it introduces Bayesian inference starting from first principles. For graduate students, the text presents effective current approaches to Bayesian modeling and computation in statistics and related fields. For researchers, it provides an assortment of Bayesian methods in applied statistics. Additional materials, including data sets used in the examples, solutions to selected exercises, and software instructions, are available on the book’s web page.

Donaldsons’ Essential Public Health has been in continuous print for 35 years, evolving through successive editions. This unrivaled record of success for a textbook of public health shows the enduring appeal of its content, style, and accessibility to generations of students and practitioners. For many of today’s national and global public health leaders, the book was their guide as they began their careers, their benchmark as they passed their examinations and professional accreditation, and remains their companion as a source of reference and refreshed knowledge for teaching and practice. The book brings together, in one volume, the main health problems experienced by populations and by the key groups within them, the strategies for promoting health and preventing disease, the principles and applications of epidemiology, the main themes of health policy, and a description of health service provision. This fourth edition marks the biggest change to the book in 20 years. For the first time it sets each key subject area in a global health context, whilst retaining its traditional strength in covering population health for the United Kingdom. New and revised chapters for this edition include: Health in a changing world Communicable diseases Non-communicable diseases Social determinants of health Quality and safety of healthcare Mental health Disability Health in later life Environment and health History of public health The content is wide-ranging and written in an accessible and engaging style. It covers topics as diverse as: the story of the 2014 Ebola virus outbreak in West Africa; the elements of tobacco control policy; the health impact of climate change; the global health organisational architecture; the concept of health; the new paradigm of public mental health; the biological pathways that link to the health effects of social deprivation; the ideal of universal health coverage; the essentials of immunisation; the basis of healthy ageing; the historical events that led to the germ theory of disease and the Victorian sanitary revolution. This new edition is essential reading for all undergraduate and postgraduate students of public health, medicine, nursing, health policy, social science, and public sector management. Those embarking on a career in public health will find it of great value throughout their professional life. The book is also an extremely useful resource for established practitioners in primary care, doctors, senior nurses, health system managers, healthcare policy makers, civil servants in ministries of health, and members of boards of health organisations.

*One-of-a-kind coverage on the fundamentals of foundation analysis and design Analysis and Design of Shallow and Deep Foundations is a significant new resource to the engineering principles used in the analysis and design of both shallow and deep, load-bearing foundations for a variety of building and structural types. Its unique presentation focuses on new developments in computer-aided analysis and soil-structure interaction, including foundations as deformable bodies. Written by the world’s leading foundation engineers, Analysis and Design of Shallow and Deep Foundations covers everything from soil investigations and loading analysis to major types of foundations and construction methods. It also features:
* Coverage on computer-assisted analytical methods, balanced with standard methods such as site visits and the role of engineering geology
* Methods for computing the capacity and settlement of both shallow and deep foundations
* Field-testing methods and sample case studies, including projects where foundations have failed, supported with analyses of the failure
* CD-ROM containing demonstration versions of analytical geotechnical software from Ensoft, Inc. tailored for use by students in the classroom*

Building on the success of its popular predecessor, the second edition of Ecotoxicology of Amphibians and Reptiles presents newly available findings on the species that are important environmental indicators. This new edition covers nearly twice as many topics as the first, including recent developments in the ecotoxicology of amphibians and reptiles, the current status of these animals, and intrinsic factors that affect their susceptibility to contaminants. The book also provides the latest information on specific groups of contaminants and their effects and body burdens in herpetafauna. After a review of how contaminants interact with other ecological factors, the text explores concerns for the future. New in the second edition: New research on the effects of pesticides, heavy metals, endocrine disrupting chemicals, and UVB Increased focus on the effects of contaminants rather than merely reporting residue information A synthesis of information on atrazine and its effects on gonads at low concentrations Coverage of the potentially alarming new cadre of chemicals that have recently or are about to come on the market for which there is very little or no information Important advances in surveying and monitoring One of the major factors behind the writing of the first edition was the worldwide phenomenon of declining amphibian populations. Although this decline has not abated, the breadth of research into its causes has expanded significantly. With chapter contributors carefully selected by the team of editors as leaders in their fields, this book provides an authoritative compendium of the most recent information on effects and residues coupled with a syntheses of what these numbers mean to science and policy.

Plato’s Philebus (RLE: Plato)

Landforming

Principles and Practice, Third Edition

California Engineering Examination: Problems and Solutions

License Review

Focuses on actual, state-of-the-art design/construction procedures as opposed to a discussion of solid waste management issues and to general descriptions and/or conceptual designs. Provides an integrated package of analytical tools, design equations, and step-by-step construction procedures for all elements of a landfill, giving the reader a better sense of the necessary site investigation, planning, analysis, and organization that go into a landfill design and construction project.The characteristics of landfill containment envelopes and their design/construction are treated in detail. Physico-chemical and engineering properties of solid waste that are relevant and important to landfill design and construction are tabulated and described. Includes explanation of how to evaluate and assess potential problems that affect landfill performance such as sideslope stability, settlement, containment effectiveness, and erosion control. Discusses vertical landfill expansion; how leachate moves across a liner or barrier under both advection and diffusion; compares the containment effectiveness of different liner systems to the combined advective-diffusive transport of dissolved leachate solutes. Includes a detailed explanation with numerical examples and calculations of how to design a gas collection and piping system in a landfill—including the collection and handling of condensate in the gas. Detailed installation and inspection guidelines are provided for both earthen and geosynthetic liner/cover systems—comparing the relative advantages and limitations of each. For professional training courses in Geotechnical and Geoenvironmental Engineering.

One-volume library of instant geotechnical and foundation data Now for the first time ever, geotechnical, foundation, and civil engineers...geologists...architects, planners, and construction managers can quickly find information they must refer to every working day, in one compact source. Edited by Robert W. Day, the time -and effort-saving Geotechnical Engineer’s Portable Handbook gives you field exploration guidelines and lab procedures. You’ll find soil and rock classification, basic phase relationships, and all the tables and charts you need for stress distribution, pavement, and pipeline design. You also get abundant information on all types of geotechnical analyses, including settlement, bearing capacity, expansive soil, slope stability - plus coverage of retaining walls and building foundations. Other construction-related topics covered include grading, instrumentation, excavation, underpinning, groundwater control and more.

Dam and levee remediation has become more prevalent since the start of the twenty-first century. Given the vastness and complexity of the infrastructures involved, keeping up with maintenance needs is very difficult. Major surges in repair are usually triggered by nature’s wake-up calls, such as hurricanes, floods, and earthquakes. The challenge ha

The Philebus is hard to reconcile with standard interpretations of Plato’s philosophy and in this pioneering work Donald Davidson, seeks to take the Philebus at face value and to reassess Plato’s late philosophy in the light of the results. The author maintains that the approach to ethics in the Philebus represents a considerable return to the methodology of the earlier dialogues. He emphasizes Plato’s reversion to the Socratic elenchus and connects it with the startling reappearance of Socrates as the leading voice in the Philebus.

Geotechnical Aspects of Landfill Design and Construction

Transport Phenomena in Biomedical Engineering

Introduction to Environmental Engineering

Fourth Edition

Specialty Construction Techniques for Dam and Levee Remediation

Increasingly viewed as the future of medicine, the field of tissue engineering is still in its infancy. As evidenced in both the scientific and popular press, there exists considerable excitement surrounding the strategy of regenerative medicine. To achieve its highest potential, a series of technological advances must be made. Putting the numerous breakthroughs made in this field into a broad context, Tissue Engineering disseminates current thinking on the development of engineered tissues. Divided into three sections, the book covers the fundamentals of tissue engineering, enabling technologies, and tissue engineering applications. It examines the properties of stem cells, primary cells, growth factors, and extracellular matrix as well as their impact on the development of tissue engineered devices. Contributions focus on those strategies typically incorporated into tissue engineered devices or utilized in their development, including scaffolds, nanocomposites, bioreactors, drug delivery systems, and gene therapy techniques. Finally, the book presents synthetic tissues and organs that are currently under development for regenerative medicine applications. The ability to engineer biocompatible tissue is the hallmark of modern biomedical engineering, integrating all aspects of every sub-discipline in the field. Featuring chapters drawn from the third edition of the best-selling Handbook of Biomedical Engineering as well as new contributions not found in the handbook, Tissue Engineering surveys the latest advances in this relatively young area. The contributing authors are a diverse group with backgrounds in academia, clinical medicine, and industry. Furthermore, the text includes contributions from Europe, Asia, and North America, helping to broaden the views on the development and application of tissue engineered devices.

Written for university students taking first-degree courses in civil engineering, environmental and agricultural engineering, Problem Solving in Soil Mechanics stimulates problem-solving learning as well as facilitating self-teaching. Generally assuming prior knowledge of subject, necessary basic information is included to make it accessible to readers new to the topic. Filled with worked examples, new and advanced topics and with a flexible structure that means it can be adapted for use in second, third and fourth year undergraduate courses in soil mechanics, this book is also a valuable resource for the practising professional engineer as well as undergraduate and postgraduate students. Primarily designed as a supplement to Soil Mechanics: Basic Concepts and Engineering Applications, this book can be used by students as an independent problem-solving text, since there are no specific references to any equations or figures in the main book.

This international handbook is essential for geotechnical engineers and engineering geologists responsible for designing and constructing piled foundations. It explains general principles and practice and details current types of pile, piling equipment and methods. It includes calculations of the resistance of piles to compressive loads, pile group

For undergraduate/graduate-level foundation engineering courses. 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.

Bubbles, Drops, and Particles

Principles of Geotechnical Engineering

Principles and Practice

Principles and Practices of Soil Mechanics and Foundation Engineering

General Thermodynamics

Pavement Engineering will cover the entire range of pavement construction, from soil preparation to structural design and life-cycle costing and analysis. It will link the concepts of mix and structural design, while also placing emphasis on pavement evaluation and rehabilitation techniques. State-of-the-art content will introduce the latest concepts and techniques, including ground-penetrating radar and seismic testing. This new edition will be fully updated, and add a new chapter on systems approaches to pavement engineering, with an emphasis on sustainability, as well as all new downloadable models and simulations.

This comprehensive new edition tackles the multiple aspects of environmental engineering, from solid waste disposal to air and noise pollution. It places a much-needed emphasis on fundamental concepts, definitions, and problem-solving while providing updated problems and discussion questions in each chapter. Introduction to Environmental Engineering also includes a discussion of environmental legislation along with environmental ethics case studies and problems to present the legal framework that governs environmental engineering design.

*The first comprehensive, practical guide to the selection, construction, and installation of soil bioengineering and biotechnical slope protection Here is the ultimate guide to physically attractive, environmentally compatible, and cost-effective methods of protecting slopes from erosion and mass wasting. Lavishly illustrated with more than 150 photographs and supplemented with scores of charts and tables, this book covers the entire subject from general principles and background on the nature of soil erosion and mass movement to detailed information on root strengths, treatment selection, unit costs, critical tractive stresses, methods for harvesting and handling live cuttings, and more. Four illustrated case studies, each addressing a different set of problems and solutions, demonstrate both the application of particular technologies and the site investigation, planning, scheduling, and organization required to complete these projects successfully. This unique reference handbook * Reviews the horticultural and engineering underpinnings for biotechnical and soil engineering treatments * Documents and explains the role of woody plants in stabilizing slopes against both surficial erosion and mass movement * Provides details on a broad range of soil bioengineering methods, including live staking, live fascines, brush layering, live cribwalls, branch packing, and live slope gratings * Describes various biotechnical methods and materials, including the incorporation of vegetation in erosion control blankets, flexible mats, cellular revetments (geocells), rock armor (riprap), and gabion and open-front crib walls * Summarizes the findings of the National Science Foundation-sponsored workshop to assess the state of the art and determine research needs For practicing professionals, researchers, and students in geotechnical engineering, geology, soil science, forestry and forest engineering, landscape architecture, environmental horticulture, and restoration ecology, this book offers thorough, up-to-date coverage that is not available from any other single source.*

Ground improvement has been one of the most dynamic and rapidly evolving areas of geotechnical engineering and construction over the past 40 years. The need to develop sites with marginal soils has made ground improvement an increasingly important core component of geotechnical engineering curricula. Fundamentals of Ground Improvement Engineering addresses the most effective and latest cutting-edge techniques for ground improvement. Key ground improvement methods are introduced that provide readers with a thorough understanding of the theory, design principles, and construction approaches that underpin each method. Major topics are compaction, permeation grouting, vibratory methods, soil mixing, stabilization and solidification, cutoff walls, dewatering, consolidation, geosynthetics, jet grouting, ground freezing, compaction grouting, and earth retention. The book is ideal for undergraduate and graduate-level university students, as well as practitioners seeking fundamental background in these techniques. The numerous problems, with worked examples, photographs, schematics, charts and graphs make it an excellent reference and teaching tool.

The Role of Failure in Successful Design

Biomechanics

Soil Mechanics Fundamentals and Applications

Earth Science for Civil and Environmental Engineers

Geotechnical Engineer's Portable Handbook

Less expensive and more environmentally appropriate than conventional engineering approaches, constructed ecosystems are a promising technology for environmental problem solving. Undergraduates, graduate students, and working professionals need an introductory text that details the biology and ecology of this rapidly developing discipline, known as biomimetics. Most current applications of biomaterials involve structural functions, even in those organs and systems that are not primarily structural in their nature, or very simple chemical or electrical functions. Complex chemical functions, such as those of the liver, and complex electrical or electrochemical functions, such as those of the brain and sense organs, cannot be carried out by biomaterials at this time. With these basic concepts in mind, Biomaterials: Principles and Practices focuses on biomaterials consisting of different materials such as metallic, ceramic, polymeric, and composite. It highlights the impact of recent advances in the area of nano- and microtechnology on biomaterial design. Discusses the biocompatibility of metallic implants and corrosion in an in vivo environment Provides a general overview of the relatively bioinert, bioactive or surface-reactive ceramics, and biodegradable or resorbable bioceramics Reviews the basic chemical and physical properties of synthetic polymers, the sterilization of the polymeric biomaterials, the importance of the surface treatment for improving biocompatibility, and the application of the chemogradient surface for the study on cell-to-polymer interactions Covers the fundamentals of composite materials and their applications in biomaterials Highlights commercially significant and successful biomedical biodegradable polymers Examines failure modes of different types of implants based on material, location, and function in the body The book discusses the role of biomaterials as governed by the interaction between the material and the body, specifically, the effect of the body environment on the material and the effect of the material on the body.

This comprehensive book is designed to serve as a primary text for the Advertising Management course that follows the more general Principles of Advertising course. It can stand alone, or, for instructors who prefer a case-based approach, it can be adopted together with "Cases in Advertising Management" (978-0-7656-2261-7) by the same authors.

"Advertising Management" covers a full range of topics for a semester-long course, including financial management, business planning, strategic planning, budgeting, human resource management, ethics, and managing change. There is even a unique section on 'managing yourself' and your own career in advertising. The text includes plentiful figures, tables, and sidebars, and each chapter concludes with useful learning objectives, summaries, discussion questions, and additional resources.

This book focuses on the fundamental principles of mechanics and the basic assumptions that are the heart of the linear theory of structures. Presents numerous examples to demonstrate that mastery of principles is all that is needed to be proficient in formulating and solving problems in the analysis of structures. It explores the important classical methods for the analysis of statically determinate and statically indeterminate structures, and presents a uniquely different mode of reasoning and derivation of the virtual work method for calculating small displacements of structures Contains many examples with detailed drawings to illustrate important geometric concepts. Those studying or working in civil engineering.

Pile Design and Construction Practice

Foundation Design: Pearson New International Edition

Volume 20

Memorial Tributes

Bayesian Data Analysis, Third Edition

Intended as an introductory text in soil mechanics, the eighth edition of Das, PRINCIPLES OF GEOTECHNICAL ENGINEERING offers an overview of soil properties and mechanics together with coverage of field practices and basic engineering procedure. Background information needed to support study in later design-oriented courses or in professional practice is provided through a wealth of comprehensive discussions, detailed explanations, and more figures and worked out problems than any other text in the market. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Design, analysis and simulation of tissue constructs is an integral part of the ever-evolving field of biomedical engineering. The study of reaction kinetics, particularly when coupled with complex physical phenomena such as the transport of heat, mass and momentum, is required to determine or predict performance of biologically-based systems wheth

"Though ours is an age of high technology, the essence of what engineering is and what engineers do is not common knowledge. Even the most elementary of principles upon which great bridges, jumbo jets, or super computers are built are alien concepts to many. This is so in part because engineering as a human endeavor is not yet integrated into our culture and intellectual tradition. And while educators are currently wrestling with the problem of introducing technology into conventional academic curricula, thus better preparing today's students for life in a world increasingly technological, there is as yet no consensus as to how technological literacy can best be achieved. " I believe, and I argue in this essay, that the ideas of engineering are in fact in our bones and part of our human nature and experience. Furthermore, I believe that an understanding and an appreciation of engineers and engineering can be gotten without an engineering or technical education. Thus I hope that the technologically uninitiated will come to read what I have written as an introduction to technology. Indeed, this book is my answer to the questions "What is engineering?" and "What do engineers do?" " - Henry Petroski, To Engineer is Human

This is the 20th Volume in the series Memorial Tributes compiled by the National Academy of Engineering as a personal remembrance of the lives and outstanding achievements of its members and foreign associates. These volumes are intended to stand as an enduring record of the many contributions of engineers and engineering to the benefit of humankind. In most cases, the authors of the tributes are contemporaries or colleagues who had personal knowledge of the interests and the engineering accomplishments of the deceased. Through its members and foreign associates, the Academy carries out the responsibilities for which it was established in 1964. Under the charter of the National Academy of Sciences, the National Academy of Engineering was formed as a parallel organization of outstanding engineers. Members are elected on the basis of significant contributions to engineering theory and practice and to the literature of engineering or on the basis of demonstrated unusual accomplishments in the pioneering of new and developing fields of technology. The National Academies share a responsibility to advise the federal government on matters of science and technology. The expertise and credibility that the National Academy of Engineering brings to that task stem directly from the abilities, interests, and achievements of our members and foreign associates, our colleagues and friends, whose special gifts we remember in this book.

A Practical Guide for Erosion Control

Handbook of Wastewater Reclamation and Reuse

Problem Solving in Soil Mechanics

An Environmental Approach to Hillside Development, Mine Reclamation and Watershed Restoration

Geotechnical Engineering

How Does Soil Behave and Why Does It Behave That Way? Soil Mechanics Fundamentals and Applications, Second Edition effectively explores the nature of soil, explains the principles of soil mechanics, and examines soil as an engineering material. This latest edition includes all the fundamental concepts of soil mechanics, as well as an introduction to

Because classical thermodynamics evolved into many branches of science and engineering, most undergraduate courses on the subject are taught from the perspective of each area of specialization. General Thermodynamics combines elements from mechanical and chemical engineering, chemistry (including electrochemistry), materials science, and biology to present a unique and thorough treatment broader in scope than other fundamental texts. This book contains classroom-tested materials designed to meet the academic requirements for students from a variety of scientific and engineering backgrounds in a single course. The first half focuses on classical concepts of thermodynamics, whereas the latter half explores field-specific applications, including a unique chapter on biothermodynamics. Unified, concise, and multidisciplinary, allowing students to understand how the principles of thermodynamics apply to all technical fields that touch upon this most fundamental of scientific theories. It also offers a rigorous approach to the quantitative aspects of thermodynamics, accompanied by clear explanations to help students transition smoothly from the physical concepts to their mathematical counterparts. Contains numerous worked examples taken from different engineering applications, illustrations, and an extensive set of exercises to support the material. A complete solutions manual is available to professors with qualifying course adoptions.

Geotechnical Engineering: Principles and Practices, 2/e, is ideal for junior-level soil mechanics or introductory geotechnical engineering courses. 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 practical applications 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.

This carefully targeted and rigorous new textbook introduces engineering students to the fundamental principles of applied Earth science, highlighting how modern soil and rock mechanics, geomorphology, hydrogeology, seismology and environmental geochemistry affect geotechnical and environmental practice. Key geological topics of engineering relevance including soils and sediments, rocks, groundwater, and mass wasting hazards are presented in an accessible and engaging way. A broad range of international case studies add real-world context, and demonstrate practical applications in field and laboratory settings to guide site characterization. End-of-chapter problems are included for self-study and evaluation, and supplementary online materials include electronic figures, additional examples, solutions, and guidance. A detailed glossary introducing key terminology, this text requires no prior geological training and is essential reading for senior undergraduate or graduate students in civil, geological, geotechnical and geoenvironmental engineering. It is also a useful reference and bridge for Earth science graduates embarking on engineering geology courses.

Tissue Engineering

Biotechnical and Soil Bioengineering Slope Stabilization

Analysis and Design of Shallow and Deep Foundations

From Language To Communication

Pavement Engineering

A must have reference for any engineer involved with foundations, piers, and retaining walls, this remarkably comprehensive volume illustrates soil characteristic concepts with examples that detail a wealth of practical considerations. It covers the latest developments in the design of drilled pier foundations and mechanically stabilized earth retaining wall and explores a pioneering approach for predicting the nonlinear behavior of laterally loaded long vertical and batter piles. As complete and authoritative as any volume on the subject, it discusses soil formation, index properties, and classification; soil permeability, seepage, and the effect of water on stress conditions; stresses due to surface loads; soil compressibility and consolidation; and shear strength characteristics of soils. While this book is a valuable teaching text for advanced students, it is one that the practicing engineer will continually be taking off the shelf long after school lets out. Just the quick reference it affords to a huge range of tests and the appendices filled with essential data, makes it an essential addition to an civil engineering library.

"Landform grading provides a cost-effective, attractive, and environmentally compatible way to construct slopes and other landforms that are stable and that blend in with the natural surroundings. Landform grading design and construction technology have advanced rapidly during the past decade, and this book explains the technique, its uses, its various applications, and its significant advantages. Landforming: An Environmental Approach to Hillside Development, Mine Reclamation and Watershed Restoration, presents the first comprehensive and practical guidebook to the innovative techniques of landform grading and revegetation. Written in straightforward language and liberally illustrated with informative photographs and schematic drawings, the text should prove of value to practicing professionals in such diverse fields as land planning, civil and geotechnical engineering, landscape architecture, and geology as well as to personnel in a variety of local, state and federal regulatory agencies and environmental interest groups"--Publisher description.

Advertising Management

Donaldsons' Essential Public Health

Introduction to Structural Mechanics and Analysis

Civil Engineering License Review