

Geotechnical Engineering Principles Practices

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Geotechnical Engineering

Principles and Practices of Soil Mechanics and Foundation Engineering CRC Press

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.

Geotechnical Engineering

Principles and Practices *Prentice Hall*

Geotechnical Engineering: Principles and Practices, 2/e, is ideal or 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 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.

Geotechnical Engineering

Soil and Foundation Principles and Practice, 5th Ed. *McGraw Hill Professional*

Master the Latest Developments in Soil Testing and New Applications of Geotechnical Engineering
Geotechnical Engineering: Principles and Practices offers students and practicing engineers a concise, easy-to-understand approach to the principles and methods of soil and geotechnical engineering. This updated classic builds from basic principles of soil mechanics and applies them to new topics, including mechanically stabilized earth (MSE), and intermediate foundations. This Fifth Edition features: Over 400 detailed illustrations and photographs Unique background material on the geological, pedological, and mineralogical aspects of soils with emphasis on clay mineralogy, soil structure, and expansive and collapsible soils. New coverage of mechanically stabilized earth (MSE); intermediate foundations; in-situ soil testing; statistical analysis of data; “FORE,” a scientific method for analyzing settlement; writing the geotechnical report; and the geotechnical engineer as a sleuth and expert witness. Get Quick Access to Every Soil and Geotechnical Engineering Topic • Igneous Rocks as Ultimate Sources for Soils • The Soil Profile • Soil Minerals • Particle Size and Gradation • Soil Fabric and Soil Structure • Soil Density and Unit Weight • Soil Water • Soil Consistency and Engineering Classification • Compaction • Seepage • Stress Distribution • Settlement • Shear Strength • Lateral Stress and Retaining Walls • MSE Walls and Soil Nailing • Slope Stability, Landslides, Embankments, and Earth Dams • Bearing Capacity of Shallow Foundations • Deep Foundations • Intermediate Foundations • Loads on Pipes • In-Situ Testing • Introduction to Soil Dynamics • The Geotechnical Report

Principles of Geotechnical Engineering *Cengage Learning*

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.

Offshore Geotechnical Engineering

Principles and Practice *Thomas Telford Services Limited*

With activity in the engineering of offshore structures increasing around the world, this title offers an introduction to many of the core design and assessment skills required of those working in the sector, in accordance with the latest codes and standards.

Environmental Engineering

Principles and Practice *John Wiley & Sons*

Environmental Engineering: Principles and Practice is written for advanced undergraduate and first-semester graduate courses in the subject. The text provides a clear and concise understanding of the major topic areas facing environmental professionals. For each topic, the theoretical principles are introduced, followed by numerous examples illustrating the process design approach. Practical, methodical and functional, this exciting new text provides knowledge and background, as well as opportunities for application, through problems and examples that facilitate understanding. Students pursuing the civil and environmental engineering curriculum will find this book accessible and will benefit from the emphasis on practical application. The text will also be of interest to students of chemical and mechanical engineering, where several environmental concepts are of interest, especially those on water and wastewater treatment, air pollution, and sustainability. Practicing engineers will find this book a valuable resource, since it covers the major environmental topics and provides numerous step-by-step examples to facilitate learning and problem-solving. Environmental Engineering: Principles and Practice offers all the major topics, with a focus upon: • a robust problem-solving scheme introducing statistical analysis; • example problems with both US and SI units; • water and wastewater design; • sustainability; • public health. There is also a companion website with illustrations, problems and solutions.

Introduction to Geotechnical Engineering *Cengage Learning*

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.

Pavement Engineering

Principles and Practice, Third Edition *CRC Press*

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.

Principles of Applied Civil Engineering Design

Producing Drawings, Specifications, and Cost Estimates for Heavy Civil Projects *ASCE Press*

Ying-Kit Choi walks engineers through standard practices, basic principles, and design philosophy needed to prepare quality design and construction documents for a successful infrastructure project.

Principles & Practice of Civil Engineering

The Most Efficient and Authoritative Review Book for the PE License Exam

Principles and Practice of Ground Improvement *John Wiley & Sons*

"The proposed book focuses on the principles and design of ground improvement technologies"--

Ecological Engineering

Principles and Practice *CRC Press*

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

Soil Mechanics

Principles and Practice *Macmillan International Higher Education*

Foundation Design

Principles and Practices

Intended for undergraduate/graduate-level foundation engineering courses. This book emphasizes a thorough understanding of concepts and terms before proceeding with analysis and design, and integrates the principles of foundation engineering with their application to practical design problems.

Ground Engineering - Principles and Practices for Underground Coal Mining *Springer*

This book teaches readers ground engineering principles and related mining and risk management practices associated with underground coal mining. It establishes the basic elements of risk management and the fundamental principles of ground behaviour and then applies these to the essential building blocks of any underground coal mining system, comprising excavations, pillars, and interactions between workings. Readers will also learn about types of ground support and reinforcement systems and their operating mechanisms. These elements provide the platform whereby the principles can be applied to mining practice and risk management, directed primarily to bord and pillar mining, pillar extraction, longwall mining, sub-surface and surface subsidence, and operational hazards. The text concludes by presenting the framework of risk-based ground control management systems for achieving safe workplaces and efficient mining operations. In addition, a comprehensive reference list provides additional sources of information on the subject. Throughout, a large variety of examples show good and bad mining situations in order to demonstrate the application, or absence, of the established principles in practice. Written by an expert in underground coal mining and risk management, this book will help students and practitioners gain a deep understanding of the basic principles behind designing and conducting mining operations that are safe, efficient, and economically viable. Provides a comprehensive coverage of ground engineering principles within a risk management framework Features a large variety of examples that show good and poor mining situations in order to demonstrate the application of the established principles in practice Ideal for students and practitioners About the author Emeritus Professor Jim Galvin has a relatively unique combination of industrial, research and academic experience in the mining industry that spans specialist research and applied knowledge in ground engineering, mine management and risk management. His career encompasses directing ground engineering research groups in South Africa and Australia; practical mining experience, including active participation in the mines rescue service and responsibility for the design, operation, and management of large underground coal mines and for the consequences of loss of ground control as a mine manager; appointments as Professor and Head of the School of Mining Engineering at the University of New South Wales; and safety advisor to a number of Boards of Directors of organisations associated with mining. Awards Winner of the ACARP Excellence Research Award 2016. The Australian Coal Industry's Research Program selects recipients to receive ACARP Research and Industry Excellence Awards every two years. The recipients are selected on the recommendation of technical committees. They are honored for achievement of a considerable advance in an area of importance to the Australian coal mining industry. An important criterion is the likelihood of the results from the project being applied in mines. Winner of the Merv Harris Award from the Mine Managers Association of Australia. The Merv Harris Award is named for Merv Harris who donated money to be invested for a continuing award in 1988. With the award, the Mine Managers Association of Australia honors members of the Association who demonstrate technical achievement in the Australian Coal Mining Industry. The first award was granted in 1990, since then, only two people have received this honor. The book has received the following awards.... AGS (Australian Geomechanics Society) congratulates Dr Galvin for these awards

Principles and Practices of Transportation Planning and Engineering *CRC Press*

Connie Kelly Tang and Lei Zhang have provided a holistic coverage of the entire surface transportation project and program development process from the beginning of planning through environmental approval, design, right-of way acquisition, construction to operations and maintenance.— Neil Pedersen, Executive Director, Transportation Research Board, National Academies of Sciences, Engineering, and Medicine, Washington, DC Transportation program and project development is complex. The process spans over planning, programming, environment, design, right of way, construction, operations, and maintenance. Professionals from civil

engineering, planning, social and environmental sciences, business and project management, and data science, work together in a relay team to transform an idea into a highway, a transit hub, an airport or a water facility. It is challenging for any one person to master all the knowledge and skills needed to perform every relevant task. However, it is critical for all involved to understand how this relay works and how the societal, environmental, governmental, and regulatory contexts influence the process and the technical solution. Professionals who understand the process and see the big picture are those who rise to the top as leaders. Transportation Project and Program Development provides holistic coverage on the technical subject matter, processes and procedures, and policy and guidance associated with transportation project and program development, which can help professionals become program leaders. For each phase of the process, key products delivered, processes used, governing principles, foundations of applicable science and engineering, technologies deployed, and knowledge required are discussed. While all coverages reflect the practices of the United States, the logic, principles, science, and engineering are applicable to all countries of the world. The book can also serve as an introductory textbook for undergraduate students and as a textbook or reference for a graduate-level course in civil engineering, transportation engineering, planning, and project management.

Hydrology and Hydraulic Systems

Fourth Edition *Waveland Press*

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

Engineering for Sustainable Communities

Principles and Practices

Engineering for Sustainable Communities: Principles and Practices defines and outlines sustainable engineering methods for real-world engineering projects.

Introductory Geotechnical Engineering

Introductory Geotechnical Engineering is a comprehensive book intended to serve as a textbook for third year engineering students in most degree colleges across the country. This would also help students to tackle most questions in competitive examinations with geotechnical engineering as a subject. It would also help students aspiring for diploma level examinations in civil engineering. The book will also be useful to practising engineers as a ready reference on the subject. Attempts have been made to present the topics in simplified manner with large number of solved examples and unsolved problems for exercise. First chapter of the book provides a brief introduction on soil mechanics and need for study of the subject. Next eight chapters deal with the theory of soil mechanics dealing with the diverse soil properties. Chapter 10 discusses various types of foundations, where knowledge of soil mechanics will be applied for design and construction. The last chapter introduces the concept of geotechnical earthquake engineering, which is gaining importance as a part of disaster mitigation engineering, and has been introduced as a compulsory subject in civil engineering in many universities.

Geotechnical Engineering Calculations and Rules of Thumb *Butterworth-Heinemann*

Geotechnical Engineering Calculations Manual offers geotechnical, civil and structural engineers a concise, easy-to-understand approach the formulas and calculation methods used in of soil and geotechnical engineering. A one stop guide to the foundation design, pile foundation design, earth retaining structures, soil stabilization techniques and computer software, this book places calculations for almost all aspects of geotechnical engineering at your finger tips. In this book, theories is explained in a nutshell and then the calculation is presented and solved in an illustrated, step-by-step fashion. All calculations are provided in both fps and SI units. The manual includes topics such as shallow foundations, deep foundations, earth retaining structures, rock mechanics and tunnelling. In this book, the author's done all the heavy number-crunching for you, so you get instant, ready-to-apply data on activities such as: hard ground tunnelling, soft ground tunnelling, reinforced earth retaining walls, geotechnical aspects of wetland mitigation and geotechnical aspects of landfill design. • Easy-to-understand approach the formulas and calculations • Covers calculations for foundation,earthworks and/or pavement subgrades • Provides common codes for working with computer software • All calculations are provided in both US and SI units

Mechanical Engineering Principles *Routledge*

"Mechanical Engineering Principles offers a student-friendly introduction to core engineering topics that does not assume any previous background in engineering studies, and as such can act as a core textbook for several engineering courses. Bird and Ross introduce mechanical principles and technology through examples and applications rather than theory. This approach enables students to develop a sound understanding of the engineering principles and their use in practice. Theoretical concepts are supported by over 600 problems and 400 worked answers.The new edition will match up to the latest BTEC National specifications and can also be used on mechanical engineering courses from Levels 2 to 4"--

Oilwell Drilling Engineering : Principles and Practice *Springer*

Principles of Highway Engineering and Traffic Analysis *John Wiley & Sons*

Highly regarded for its clarity and depth of coverage, the bestselling Principles of Highway Engineering and Traffic Analysis provides a comprehensive introduction to the highway-related problems civil engineers encounter every day. Emphasizing practical applications and up-to-date methods, this book prepares students for real-world practice while building the essential knowledge base required of a transportation professional. In-depth coverage of highway engineering and traffic

analysis, road vehicle performance, traffic flow and highway capacity, pavement design, travel demand, traffic forecasting, and other essential topics equips students with the understanding they need to analyze and solve the problems facing America's highway system. This new Seventh Edition features a new e-book format that allows for enhanced pedagogy, with instant access to solutions for selected problems. Coverage focuses exclusively on highway transportation to reflect the dominance of U.S. highway travel and the resulting employment opportunities, while the depth and scope of coverage is designed to prepare students for success on standardized civil engineering exams.

Principles and Practice of Engineering

Architectural Engineering Sample Questions and Solutions *Amer Society of Civil Engineers*

Principles and Practice of Engineering: Architectural Engineering Sample Questions and Solutions is an essential resource to assist candidates who are preparing for the Principles and Practice of Engineering (PE) examination in architectural engineering. The handbook is prepared by the Architectural Engineering Institute of the American Society of Civil Engineers (AEI of ASCE). As an added benefit, all the listed questions are in the actual test format, which consists of 80 multiple-choice questions, administered in two 4-hour sessions. Each answer is provided with solutions that provide test takers with strategies to successfully complete the exam. This book specifies the exam content area for subjects that were identified for architectural engineering. Each question content area is assigned an approximate percentage of the exam that reflects the frequency and importance to the practice of architectural engineering. Principles and Practice of Engineering: Architectural Engineering Sample Questions and Solutions, Second Edition provides the following information: - Licensing Requirements - Description of Examinations - Examination Development - Scoring Procedures - Examination Procedures and Instructions

Stem Cell Engineering

Principles and Practices *CRC Press*

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.

Transport Phenomena in Biomedical Engineering

Principles and Practices *CRC Press*

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

Critical Infrastructures Resilience

Policy and Engineering Principles *Routledge*

This text offers comprehensive and principled, yet practical, guidelines to critical infrastructures resilience. Extreme events and stresses, including those that may be unprecedented but are no longer surprising, have disproportionate effects on critical infrastructures and hence on communities, cities, and megaregions. Critical infrastructures include buildings and bridges, dams, levees, and sea walls, as well as power plants and chemical factories, besides lifeline networks such as multimodal transportation, power grids, communication, and water or wastewater. The growing interconnectedness of natural-built-human systems causes cascading infrastructure failures and necessitates simultaneous recovery. This text explores the new paradigm centered on the concept of resilience by approaching the challenges posed by globalization, climate change, and growing urbanization on critical infrastructures and key resources through the combination of policy and engineering perspectives. It identifies solutions that are scientifically credible, data driven, and sound in engineering principles while concurrently informed by and supportive of social and policy imperatives. Critical Infrastructures Resilience will be of interest to students of engineering and policy.

Surveying and Engineering

Principles and Practice *Wiley-Blackwell*

Construction is a complex industry, operating with ever changing legislative needs, new materials and technologies, and constant demands on resources. Professionals are now expected to deliver a broad spectrum of skills and competencies, and this new textbook will help them achieve this. Whilst other textbooks concentrate on individual topics, this brings together the key principles and operating practices of surveying and building engineering. It will enable the practitioner of the future to appreciate the interface between both technical and procedural requirements, identifying barriers and conflicts. The textbook is ideal for final year undergraduates in building surveying, construction management and quantity surveying, and will provide a core resource for the BSc(Hons) degree in building engineering developed in conjunction with the Association of Building Engineers. It will also provide a handy quick reference for practitioners, drawing as it does on a wealth of experience, both academic and professional, from the author team.

Principles of Engineering Design *Elsevier*

Principles of Engineering Design discusses design applicability to machine systems, the nature and scope of technical processes, technical systems, machine systems, the human design engineer, the design process, and cases related to methods and procedures. The text deals with the structure, mode of action, properties, origination, development, and systematics of such technical systems. It analyzes the design process in terms of case problems, modelling, structure, strategies, tactics, representation, and working means. It also describes in detail the general model of a methodical

procedure: separate design steps are treated in a unified fashion from different perspectives. The text notes that the tasks and methods of design research involve the following: (1) Components—determining structural elements in the design process; (2) Sequence—determining a general procedural model for the design process with a minimum of failures; (3) Modifications—what changes in factors affect the design process; and (5) Tactics—selection for individual design operations to obtain optimal results. A case study exemplifies the significant stages of design of a welding positioner. The book is highly recommended for students and the practicing design engineer in various fields.

Principles of Foundation Engineering *Cengage Learning*

Master the core concepts and applications of foundation analysis and design with Das/Sivakugan’s best-selling PRINCIPLES OF FOUNDATION ENGINEERING, 9th Edition. Written specifically for those studying undergraduate civil engineering, this invaluable resource by renowned authors in the field of geotechnical engineering provides an ideal balance of today's most current research and practical field applications. A wealth of worked-out examples and figures clearly illustrate the work of today's civil engineer, while timely information and insights help readers develop the critical skills needed to properly apply theories and analysis while evaluating soils and foundation design. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Geoenvironmental Engineering

Principles and Applications *CRC Press*

Applies science and engineering principles to the analysis, design, and implementation of technical schemes to characterize, treat, modify, and reuse/store waste and contaminated media. Includes site remediation.

Correlations of Soil and Rock Properties in Geotechnical Engineering *Springer*

This book presents a one-stop reference to the empirical correlations used extensively in geotechnical engineering. Empirical correlations play a key role in geotechnical engineering designs and analysis. Laboratory and in situ testing of soils can add significant cost to a civil engineering project. By using appropriate empirical correlations, it is possible to derive many design parameters, thus limiting our reliance on these soil tests. The authors have decades of experience in geotechnical engineering, as professional engineers or researchers. The objective of this book is to present a critical evaluation of a wide range of empirical correlations reported in the literature, along with typical values of soil parameters, in the light of their experience and knowledge. This book will be a one-stop-shop for the practising professionals, geotechnical researchers and academics looking for specific correlations for estimating certain geotechnical parameters. The empirical correlations in the forms of equations and charts and typical values are collated from extensive literature review, and from the authors' database.

Relational Contracting for Construction Excellence

Principles, Practices and Case Studies *Routledge*

Improved efficiency and effectiveness in the construction industry provide huge potential savings. Various forms of relational contracting such as partnering, alliancing, public private partnership (PPP), and joint venture are good examples of this. Relational Contracting for Construction Excellence presents the principles of relational contracting, practicalities and a series of short case studies. Principles begins with the fundamentals then covers development in major countries, definitions of relational contracting, their benefits, difficulties, critical success factors and key performance indicators. Practice includes the relational contracting approach and process in general, and significant factors which make workshops successful, at whatever stage of the process. A number of real-life case studies from the UK, USA, Australia, and Hong Kong are provided. Since the book draws on a combination of practical consultancy works and university research, a wide range of readers will find it useful, i.e. from industrial practitioners to undergraduate students.

The Jurisdiction of Medical Law *Routledge*

This book offers a critical analysis of some of the guiding principles and assumptions that have been central to the development and identity of medical law. Focusing on several key cases in the field - including the 'Dianne Pretty' and 'Conjoined Twins' cases - the book scrutinizes the notions of autonomy and human rights, and explores the relationship between medical law and moral conflict. It also asks what role, if any, the courts might play in stimulating public debate about the ethics of controversial developments in medicine and biomedical science. This innovative book will be of interest to academics and students working in the areas of medical law, legal theory, bioethics and medical ethics. It will also appeal to those within the medical and health care professions seeking a critical analysis of the development and operation of medical law.

The Death and Life of Great American Cities *Vintage*

Thirty years after its publication, The Death and Life of Great American Cities was described by The New York Times as "perhaps the most influential single work in the history of town planning....[It] can also be seen in a much larger context. It is first of all a work of literature; the descriptions of street life as a kind of ballet and the biting satiric account of traditional planning theory can still be

read for pleasure even by those who long ago absorbed and appropriated the book's arguments." Jane Jacobs, an editor and writer on architecture in New York City in the early sixties, argued that urban diversity and vitality were being destroyed by powerful architects and city planners. Rigorous, sane, and delightfully epigrammatic, Jacobs's small masterpiece is a blueprint for the humanistic management of cities. It is sensible, knowledgeable, readable, indispensable. The author has written a new foreword for this Modern Library edition.

Geotechnical Engineering Handbook *J. Ross Publishing*

The Geotechnical Engineering Handbook brings together essential information related to the evaluation of engineering properties of soils, design of foundations such as spread footings, mat foundations, piles, and drilled shafts, and fundamental principles of analyzing the stability of slopes and embankments, retaining walls, and other earth-retaining structures. The Handbook also covers soil dynamics and foundation vibration to analyze the behavior of foundations subjected to cyclic vertical, sliding and rocking excitations and topics addressed in some detail include: environmental geotechnology and foundations for railroad beds.

Geotechnical Investigation Methods

A Field Guide for Geotechnical Engineers *CRC Press*

The investigation phase is the most important segment of any geotechnical study. Using the correct methods and properly interpreting the results are critical to a successful investigation. Comprising chapters from the second edition of the revered Geotechnical Engineering Investigation Handbook, Geotechnical Investigation Methods offers clear, conc

Drainage Engineering: Principles and Practices *Scientific Publishers*

The current book attempts to fill the gap in one of the major subject of land drainage that will have a major impact on production and productivity of irrigated lands. The book Titled `Drainage Engineering: Principles and Practices` deals with the subject of surface and subsurface drainage to reclaim waterlogged salt affected soils. Based on the course curricula as suggested by Deans´ committee constituted by ICAR, the current publication has been divided into 11 Chapters covering all the facets of land drainage as applied to agriculture. Each chapter covers one of the related issues beginning with general introduction to water logging, soil salinity and land drainage in Chapter 1.Surface drainage methods, an essential intervention in monsoon climatic regions and as supplement to the subsurface drainage are included in Chapter 2. Drainage investigations, a precursor to problem diagnosis and to assemble the drainage design parameters are included in Chapter 3. The drainage design procedures such as assessment of drainage depth, spacing and capacity of drains forms the subject matter of Chapter 4. While drainage materials are discussed in Chapter 5, drainage construction procedures and methodologies to monitor and evaluate completed projects are included in Chapter 6. Some of the new drainage techniques such as mole, interceptor, vertical and bio-drainage have been included in Chapter 7 since these can either be applied singly or in integration with horizontal subsurface drainage. Chapters 8-10 deal withreclamation of salt affected soils,acid soils and management of saline water. Eco-friendly reuse and disposal of saline drainage wateralso form the subject matter of discussion of Chapter 10. Cost calculations, socio-economic and environmental issues associated with drainage projects have been included in final chapter 11. Glossary of terms has been added for quick overview of the terms used in the book. Clearly, each and every aspect of surface and subsurface drainage for agricultural lands has been covered in the book.Besides covering the principles of land drainage, field practices have been included making the book a handy tool for specialized training programmes on land drainage. It is believed that the book will find its place in the shelves of students and teachers, field functionaries and libraries of state agricultural universitiesand civil engineering colleges.

Geotechnical Engineering

A Practical Problem Solving Approach *J. Ross Publishing*

Geotechnical Engineering: A Practical Problem Solving Approach covers all of the major geotechnical topics in the simplest possible way adopting a hands-on approach with a very strong practical bias. You will learn the material through worked examples that are representative of realistic field situations whereby geotechnical engineering principles are applied to solve real-life problems.

Engineering Geology

Principles and Practice *Springer Science & Business Media*

This book is written to explain the influence ground conditions can have upon engineering with rocks and soils, and upon designing, analysing and executing an engineered response to the geological and geomorphological processes acting on them; these subjects form the essence of Engineering Geology. The text is written for students of the subject, either geologists or engineers, who encounter the challenge of idealising the ground and its processes for the purposes of design and of quantifying them for the purpose of analysis. With this in mind the book describes how geology can dictate the design of ground investigations, influence the interpretation of its findings, and be incorporated into design and analysis. The reader is constantly reminded of basic geology; the "simple" things that constitute the "big picture", a neglect of which may cause design and analyses to be at fault, and construction not to function as it should.