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Geotechnical Engineering Principles and Practices Prentice Hall 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 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. **Foundation Design: Principles and Practices Pearson New International Edition** Pearson Higher Ed 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. **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. **Foundation Design Principles and Practices** Pearson College Division Using a design-oriented approach that addresses geotechnical, structural, and construction aspects of foundation engineering, this book explores practical methods of designing structural foundations, while emphasizing and explaining how and why foundations behave the way they do. It explains the theories and experimental data behind the design procedures, and how to apply this information to real-world problems. Covers general principles (performance requirements, soil mechanics, site exploration and characterization); shallow foundations (bearing capacity, settlement, spread footings -- geotechnical design, spread footings -- structural design, mats); deep foundations (axial load capacity -- full-scale load tests, static methods, dynamic methods; lateral load capacity; structural design); special topics (foundations on weak and compressible soils, foundation on expansive soils, foundations on collapsible soils); and earth retaining structures (lateral earth pressures, cantilever retaining walls, sheet pile walls, soldier pile walls, internally stabilized earth retaining structures). For geotechnical engineers, soils engineers, structural engineers, and foundation engineers. **Handbook of Geotechnical Investigation and Design Tables** CRC Press This practical handbook of properties for soils and rock contains, in a concise tabular format, the key issues relevant to geotechnical investigations, assessments and designs in common practice. In addition, there are brief notes on the application of the tables. These data tables are compiled for experienced geotechnical professionals who require a reference document to access key information. There is an extensive database of correlations for different applications. The book should provide a useful bridge between soil and rock mechanics theory and its application to practical engineering solutions. The initial chapters deal with the planning of the geotechnical investigation, the classification of the soil and rock properties and some of the more used testing is then covered. Later chapters show the reliability and correlations that are used to convert that data in the interpretative and assessment phase of the project. The final chapters apply some of these concepts to geotechnical design. This book is intended primarily for practicing geotechnical engineers working in investigation, assessment and design, but should provide a useful supplement for postgraduate courses. **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. **Foundation Design Theory and Practice** John Wiley & Sons In Foundation Design: Theory and Practice, Professor N. S. V. Kameswara Rao covers the key aspects of the subject, including principles of testing, interpretation, analysis, soil-structure interaction modeling, construction guidelines, and applications to rational design. Rao presents a wide array of numerical methods used in analyses so that readers

can employ and adapt them on their own. Throughout the book the emphasis is on practical application, training readers in actual design procedures using the latest codes and standards in use throughout the world. Presents updated design procedures in light of revised codes and standards, covering: American Concrete Institute (ACI) codes Eurocode 7 Other British Standard-based codes including Indian codes Provides background materials for easy understanding of the topics, such as: Code provisions for reinforced concrete Pile design and construction Machine foundations and construction practices Tests for obtaining the design parameters Features subjects not covered in other foundation design texts: Soil-structure interaction approaches using analytical, numerical, and finite element methods Analysis and design of circular and annular foundations Analysis and design of piles and groups subjected to general loads and movements Contains worked out examples to illustrate the analysis and design Provides several problems for practice at the end of each chapter Lecture materials for instructors available on the book's companion website Foundation Design is designed for graduate students in civil engineering and geotechnical engineering. The book is also ideal for advanced undergraduate students, contractors, builders, developers, heavy machine manufacturers, and power plant engineers. Students in mechanical engineering will find the chapter on machine foundations helpful for structural engineering applications. Companion website for instructor resources: www.wiley.com/go/rao

Principles and Practice of Ground Improvement John Wiley & Sons "The proposed book focuses on the principles and design of ground improvement technologies"-- **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 **Basics of Foundation Design** Lulu.com The "Red Book" presents a background to conventional foundation analysis and design. The text is not intended to replace the much more comprehensive 'standard' textbooks, but rather to support and augment these in a few important areas, supplying methods applicable to practical cases handled daily by practising engineers and providing the basic soil mechanics background to those methods. It concentrates on the static design for stationary foundation conditions. Although the topic is far from exhaustively treated, it does intend to present most of the basic material needed for a practising engineer involved in routine geotechnical design, as well as provide the tools for an engineering student to approach and solve common geotechnical design problems.

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. **Shallow Foundations Discussions and Problem Solving** John Wiley & Sons Shallow foundations transfer building loads to the earth near to the surface. Usually made of reinforced concrete, they provide strong, economical, durable and easy to build foundations, although their use is restricted to areas where the underlying soil is capable of adequately supporting the load. Shallow Foundations: Discussions and Problem Solving is written for civil engineers and all civil engineering students taking courses in soil mechanics and geotechnical engineering. It covers the analysis, design and application of shallow foundations, with a primary focus on the interface between the structural elements and underlying soil. Topics such as site investigation, foundation contact pressure and settlement, vertical stresses in soils due to foundation loads, settlements, and bearing capacity are all fully covered, and a chapter is devoted to the structural design of different types of shallow foundations. It provides essential data for the design of shallow foundations under normal circumstances, considering both US and Eurocode standards, with each chapter being a concise discussion of critical and practical aspects. Applications are highlighted through solving a relatively large number of realistic problems, with a total of 180 problems, all with full solutions, consolidating understanding of the fundamental principles and illustrating the design and application of shallow foundations. **Unified Design of Steel Structures** John Wiley & Sons Geschwindner's 2nd edition of Unified Design of Steel Structures provides an understanding that structural analysis and design are two integrated processes as well as the necessary skills and knowledge in investigating, designing, and detailing steel structures utilizing the latest design methods according to the AISC Code. The goal is to prepare readers to work in design offices as designers and in the field as inspectors. This new edition is compatible with the 2011 AISC code as well as marginal references to the AISC manual for design examples and illustrations, which was seen as a real advantage by the survey respondents. Furthermore, new sections have been added on: Direct Analysis, Torsional and flexural-torsional buckling of columns, Filled HSS columns, and Composite column interaction. More real-world examples are included in addition to new use of three-dimensional illustrations in the book and in the image gallery; an increased number of homework problems; and media approach Solutions Manual, Image Gallery. **Foundations on Expansive Soils** Elsevier Foundations on Expansive Soils provides the practicing engineer with a summary of the state-of-the-art of expansive soils and practical solutions based on the author's experience. The book is organized into two parts. Part I deals with theory and practice, and summarizes some of the theoretical physical properties of expansive soils. It also discusses various techniques employed to found structures on expansive soils such as drilled pier foundation, mat foundation, moisture control, soil replacement, and chemical stabilization. Topics covered include the origin, mineralogical composition, and the basic structure of expansive soils; the migration of water, swelling potential, and swelling pressure; site investigations and laboratory testing; moisture control; and soil stabilization. Part II presents case studies on the following: distress caused by pier uplift; distress caused by the improper design and

construction of a drilled pier foundation system; distress caused by heaving of footing pad and floor slab; distress caused by heaving of continuous footings; and distress caused by a rise of ground water.

Engineering Geological Mapping Elsevier *Engineering Geologic Mapping* is a guide to the principles, concepts, methods, and practices involved in geological mapping, as well as the applications of geology in engineering. The book covers related topics such as the definition of engineering geology; principles involved in geological mapping; methods on how to make engineering geological maps; and rock and soil description and classifications. Also covered in the book are topics such as the different kinds of engineering geological mapping; the zoning concept in engineering geological mapping; terrain evaluation; construction sites; and land and water management. The text is recommended for engineers and geologists who would like to be familiarized with the concepts and practices involved in geological mapping.

Soil Mechanics Principles and Practice Palgrave **Environmental Engineering Fundamentals, Sustainability, Design** John Wiley & Sons *Environmental Engineering: Fundamentals, Sustainability, Design* presents civil engineers with an introduction to chemistry and biology, through a mass and energy balance approach. ABET required topics of emerging importance, such as sustainable and global engineering are also covered. Problems, similar to those on the FE and PE exams, are integrated at the end of each chapter. Aligned with the National Academy of Engineering's focus on managing carbon and nitrogen, the 2nd edition now includes a section on advanced technologies to more effectively reclaim nitrogen and phosphorous. Additionally, readers have immediate access to web modules, which address a specific topic, such as water and wastewater treatment. These modules include media rich content such as animations, audio, video and interactive problem solving, as well as links to explorations. Civil engineers will gain a global perspective, developing into innovative leaders in sustainable development.

Fundamentals of Ground Improvement Engineering CRC Press *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.

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.

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.

Unsaturated Soil Mechanics in Engineering Practice John Wiley & Sons *The definitive guide to unsaturated soil— from the world's experts on the subject* This book builds upon and substantially updates Fredlund and Rahardjo's publication, *Soil Mechanics for Unsaturated Soils*, the current standard in the field of unsaturated soils. It provides readers with more thorough coverage of the state of the art of unsaturated soil behavior and better reflects the manner in which practical unsaturated soil engineering problems are solved. Retaining the fundamental physics of unsaturated soil behavior presented in the earlier book, this new publication places greater emphasis on the importance of the "soil-water characteristic curve" in solving practical engineering problems, as well as the quantification of thermal and moisture boundary conditions based on the use of weather data. Topics covered include: Theory to Practice of Unsaturated Soil Mechanics Nature and Phase Properties of Unsaturated Soil State Variables for Unsaturated Soils Measurement and Estimation of State Variables Soil-Water Characteristic Curves for Unsaturated Soils Ground Surface Moisture Flux Boundary Conditions Theory of Water Flow through Unsaturated Soils Solving Saturated/Unsaturated Water Flow Problems Air Flow through Unsaturated Soils Heat Flow Analysis for Unsaturated Soils Shear Strength of Unsaturated Soils Shear Strength Applications in Plastic and Limit Equilibrium Stress-Deformation Analysis for Unsaturated Soils Solving Stress-Deformation Problems with Unsaturated Soils Compressibility and Pore Pressure Parameters Consolidation and Swelling Processes in Unsaturated Soils *Unsaturated Soil Mechanics in Engineering Practice* is essential reading for geotechnical engineers, civil engineers, and undergraduate- and graduate-level civil engineering students with a focus on soil mechanics.

Planning for Community-based Disaster Resilience Worldwide Learning from Case Studies in Six Continents Taylor & Francis *We are witnessing an ever-increasing level and intensity of disasters from Ecuador to Ethiopia and beyond, devastating millions of ordinary lives and causing long-term misery for vulnerable populations. Bringing together 26 case studies from six continents, this volume provides a unique resource that discusses, in considerable depth, the multifaceted matrix of natural and human-made disasters. It examines their bearing on the loss of human and productive capital; the conduct of national policies and the setting of national development priorities; and on the nature of international aid and bilateral assistance strategies and programs of donor countries. In order to ensure the efficacy and appropriateness of their support for disaster survivors, international agencies, humanitarian and disaster relief organizations, scholars, non-governmental organizations, and members of the global emergency management community need to have insight into best practices and lessons learned from various disasters across national and cultural boundaries. The evidence obtained from the numerous case studies in this volume serves to build a worldwide community that is better informed about the cultural and traditional contexts of such disasters and better enabled to prepare for, respond to, and finally rebuild sustainable communities after disasters in*

different environments. The main themes of the case studies include: • the need for community planning and emergency management to unite in order to achieve the mutual aim of creating a sustainable disaster-resilient community, coupled with the necessity to enact and implement appropriate laws, policies, and development regulations for disaster risk reduction; • the need to develop a clear set of urban planning and urban design principles for improving the built environment's capacities for disaster risk management through the integration of disaster risk reduction education into the curricula of colleges and universities; • the need to engage the whole community to build inclusive governance structures as prerequisites for addressing climate change vulnerability and fostering resilience and sustainability. Furthermore, the case studies explore the need to link the existence and value of scientific knowledge accumulated in various countries with decision-making in disaster risk management; and the relevance and transferability from one cultural context to another of the lessons learned in building institutional frameworks for whole community partnerships.

Soils Magic Amer Society of Civil Engineers Soils Magic is a fascinating collection of simple and inexpensive experiments focusing on the principles of soil mechanics. These experiments are guaranteed to delight students from elementary school to college while teaching them about science and the behavior of soil. From turning soil into fluid to making water flow uphill, each experiment conveys a principle of science through a mysterious and captivating "magic trick." An attached CD-ROM provides video footage of actual experiments and their results. This book is a must-have for science teachers, engineering professors, or anyone who wants to make science and engineering fun and easily accessible. System Requirements: PC: Run on any 80486/50 MHz or higher processor that has the following: Windows 95, Windows NT Workstations 4.0, or later operating system Microsoft Word 2000 4X CD-ROM multimedia compatible drive, minimum VGA Graphics, minimum 640x480 256 colors Sound Blaster compatible sound card (and speakers or headphones) Microsoft-compatible mouse or pointing device Windows Media Player

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

Geotechnical Engineer's Portable Handbook McGraw Hill Professional 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.

Problem Solving in Foundation Engineering using foundationPro Springer This book is at once a supplement to traditional foundation engineering textbooks and an independent problem-solving learning tool. The book is written primarily for university students majoring in civil or construction engineering taking foundation analysis and design courses to encourage them to solve design problems. Its main aim is to stimulate problem solving capability and foster self-directed learning. It also explains the use of the foundationPro software, available at no cost, and includes a set of foundation engineering applications. Taking a unique approach, Dr. Yamin summarizes the general step-by-step procedure to solve various foundation engineering problems, illustrates traditional applications of these steps with longhand solutions, and presents the foundation Pro solutions. The special structure of the book allows it to be used in undergraduate and graduate foundation design and analysis courses in civil and construction engineering. The book stands as valuable resource for students, faculty and practicing professional engineers. This book also: Maximizes reader understanding of the basic principles of foundation engineering: shallow foundations on homogeneous soils, single piles, single drilled shafts, and mechanically stabilized earth walls (MSE) Examines bearing capacity and settlement analyses of shallow foundations considering varying elastic moduli of soil and foundation rigidity, piles, and drilled shafts Examines internal and external stabilities of mechanically stabilized earth walls with varying horizontal spacing between reinforcing strips with depth Summarizes the step-by-step procedure needed to solve foundation engineering problems in an easy and systematic way including all necessary equations and charts

Principles of Highway Engineering and Traffic Analysis John Wiley & Sons Incorporated Publisher Description

The Theory and Practice of Sustainable Engineering Prentice Hall The Theory and Practice of Sustainable Engineering is appropriate to use in sustainable engineering classes for both majors and non-majors. This textbook was designed as the basis for a course in itself, but it can be used to provide modules in existing courses, or as a supplementary text in sustainable engineering, green engineering, industrial ecology, sustainability law and policy, and environmental courses. Although this is a book about sustainable engineers, it is meant for a broader audience. This is not just an engineering text for engineering students, but also an engineering text for non-engineers who want to better understand the world, and be able to rationally, ethically, and responsibly respond to its challenges and emergent behaviors. Sustainable engineering is learning how to engineer responsibly and professionally in the Anthropocene: the Age of the Human. This book sketches out the cultural, social, institutional, and environmental context within which engineering and, more broadly, technology systems are now situated. It provides frameworks to facilitate understanding, communication, and the solving of highly complex problems with significant technological dimensions — all in the name of generating more capable professionals competent in their chosen field, who are able to integrate

other disciplines to address complex adaptive systems. **Foundation Engineering Handbook** Springer Science & Business Media More than ten years have passed since the first edition was published. During that period there have been a substantial number of changes in geotechnical engineering, especially in the applications of foundation engineering. As the world population increases, more land is needed and many soil deposits previously deemed unsuitable for residential housing or other construction projects are now being used. Such areas include problematic soil regions, mining subsidence areas, and sanitary landfills. To overcome the problems associated with these natural or man-made soil deposits, new and improved methods of analysis, design, and implementation are needed in foundation construction. As society develops and living standards rise, tall buildings, transportation facilities, and industrial complexes are increasingly being built. Because of the heavy design loads and the complicated environments, the traditional design concepts, construction materials, methods, and equipment also need improvement. Further, recent energy and material shortages have caused additional burdens on the engineering profession and brought about the need to seek alternative or cost-saving methods for foundation design and construction. **Advanced Geotechnical Engineering Soil-Structure Interaction using Computer and Material Models** CRC Press Soil-structure interaction is an area of major importance in geotechnical engineering and geomechanics **Advanced Geotechnical Engineering: Soil-Structure Interaction using Computer and Material Models** covers computer and analytical methods for a number of geotechnical problems. It introduces the main factors important to the application of computer **Foundation Analysis and Design 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. **Geotechnical Engineering Investigation Handbook, Second Edition** CRC Press The **Geotechnical Engineering Investigation Handbook** provides the tools necessary for fusing geological characterization and investigation with critical analysis for obtaining engineering design criteria. The second edition updates this pioneering reference for the 21st century, including developments that have occurred in the twenty years since the first edition was published, such as: • Remotely sensed satellite imagery • Global positioning systems (GPS) • Geophysical exploration • Cone penetrometer testing • Earthquake studies • Digitizing of data recording and retrieval • Field and laboratory testing and instrumentation • Use of the Internet for data retrieval The **Geotechnical Engineering Investigation Handbook, Second Edition** is a comprehensive guide to a complete investigation: study to predict geologic conditions; test-boring procedures; various geophysical methods and when each is appropriate; various methods to determine engineering properties of materials, both laboratory-based and in situ; and formulating design criteria based on the results of the analysis. The author relies on his 50+ years of professional experience, emphasizing identification and description of the elements of the geologic environment, the data required for analysis and design of the engineering works, and procuring the data. By using a practical approach to problem solving, this book helps engineers consider geological phenomena in terms of the degree of their hazard and the potential risk of their occurrence. **Foundation Engineering Handbook Design and Construction with 2006 International Building Code** McGraw-Hill Professional Publisher Description **Essentials of Offshore Structures Framed and Gravity Platforms** CRC Press **Essentials of Offshore Structures: Framed and Gravity Platforms** examines the engineering ideas and offshore drilling platforms for exploration and production. This book offers a clear and acceptable demonstration of both the theory and application of the relevant procedures of structural, fluid, and geotechnical mechanics to offshore structures. It makes available a multitude of "solved problems" and "sample problems to solve" which give readers a strong understanding of the analysis and design of steel-framed and base-supported concrete gravity offshore structures. The book highlights sensible engineering applications for offshore structural design, research, and development; it can also be useful to those working in the design industry. The user will have a detailed overview of the various structures used in the offshore environment and the preliminary costing factors that will influence their choice for the site. Analytical principles emphasized in the book will help the user to clearly comprehend the various issues that need to be taken into account in the analysis and design of an offshore structure, using the API code. The book includes extensive worked-out problems and sample problems for use by the students and instructors, with a Solution Manual. The seabed pile/gravity foundation analyses and design are clearly outlined with their embedment characteristics and problems worked out. A global description of environmental forces has been given that includes those due to wave, wind, current, tides, earthquakes, ice floe/sheet action, and limit ice-load on Arctic structures. The book outlines the various factors that influence the material choice for offshore structures including fatigue and corrosion of the platforms in the ocean environment. Separate chapters detail the factors that influence the pile embedment and concrete gravity foundation characteristics, material choice including fatigue and corrosion, estimation of ocean environmental forces that will be exerted on the offshore structures, and the analysis fundamentals that the reader needs to possess. The last two chapters give detailed insights into the analysis and design of framed and concrete gravity platform offshore structures using API code procedures. Overall, this book is a comprehensive presentation of the analysis and design of steel and concrete offshore structures. **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. **Slope Stability and Stabilization Methods** John Wiley & Sons A major revision of the comprehensive text/reference Written by world-leading geotechnical engineers who share almost 100 years of combined experience, *Slope Stability and Stabilization, Second Edition* assembles the background information, theory, analytical methods, design and construction approaches, and practical examples necessary to carry out a complete slope stability project. Retaining the best features of the previous edition, this new book has been completely updated to address the latest trends and methodology in the field. Features include: All-new chapters on shallow failures and stability of landfill slopes New material on probabilistic stability analysis, cost analysis of stabilization alternatives, and state-of-the-art techniques in time-domain reflectometry to help engineers plan and model new designs Tested and FHA-approved procedures for the geotechnical stage of highway, tunnel, and bridge projects Sound guidance for geotechnical stage design and planning for virtually all types of construction projects *Slope Stability and Stabilization, Second Edition* is filled with current and comprehensive information, making it one of the best resources available on the subject-and an essential reference for today's and tomorrow's professionals in geology, geotechnical engineering, soil science, and landscape architecture. **Geotechnical Earthquake Engineering Handbook** McGraw Hill Professional Access usable seismic engineering data right at your fingertips Don't miss out on the first book specifically devoted to seismology, geotechnical engineering basics, earthquake analysis, and site improvement methods. Written by Robert Day, one of the most respected names in the field, *Geotechnical Earthquake Engineering Handbook* is a one-stop resource that gives you instant access to: Field and laboratory testing methods and procedures Current seismic codes Site improvement methods In-depth earthquake engineering analysis as applied to soils Worked-out problems illustrating earthquake analysis Subsurface exploration data Fundamental geotechnical engineering principles **Fundamentals of Structural Analysis** *Fundamentals of Structural Analysis* third edition introduces engineering and architectural students to the basic techniques for analyzing the most common structural elements, including beams, trusses, frames, cables, and arches. Leet et al cover the classical methods of analysis for determinate and indeterminate structures, and provide an introduction to the matrix formulation on which computer analysis is based. Third edition users will find that the text's layout has improved to better illustrate example problems, superior coverage of loads is give in Chapter 2 and over 25% of the homework problems have been revised or are new to this edition. **Engineering Hydrology Principles and Practices** Pearson College Division