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Environmental Engineering

McGraw-Hill Publishing Company

Environmental engineering, by..

Donald R. Rowe, George Tchobanoglous

Modeling Methods for Environmental Engineers

CRC Press **This is the first and only book to provide fundamental coverage of computer programs as they are used to evaluate and design environmental control systems. Computer programs are used at every level in every discipline of environmental science, and Modeling Methods for Environmental Engineers covers all of them. In addition, basic concepts related to environmental design and engineering are covered, expanding the usefulness of this book by providing introductory and fundamental materials required by those who wish to understand and employ the powerful computer programs available. An excellent reference for practitioners and students alike, this unique book:**

Integrated Solid Waste Management: Engineering Principles and Management Issues

McGraw-Hill Science/Engineering/Math **A junior/senior-level introductory text aimed at civil and environmental engineers taking a basic introduction to Solid Waste Management. The text includes the latest 1990-1991 laws and regulations.**

Basic and Applied Soil Mechanics

New Age International **Basic And Applied Soil Mechanics Is Intended For Use As An Up-To-Date Text For The Two-Course Sequence Of Soil Mechanics And Foundation Engineering Offered To Undergraduate Civil Engineering Students. It Provides A Modern Coverage Of The Engineering Properties Of Soils And Makes Extensive Reference To The Indian Standard Codes Of Practice While Discussing Practices In Foundation Engineering. Some Topics Of Special Interest, Like The Schmertmann Procedure For Extrapolation Of Field Compressibility, Determination Of Secondary Compression, Lambes Stress - Path Concept, Pressure Meter Testing And Foundation Practices On Expansive Soils Including Certain Widespread Myths, Find A Place In The Text.The Book Includes Over 160 Fully Solved Examples, Which Are Designed To Illustrate The Application Of The Principles Of Soil Mechanics In Practical Situations. Extensive Use Of Si Units, Side By Side With Other Mixed Units, Makes It Easy For The Students As Well As Professionals Who Are Less Conversant With The Si Units, Gain Familiarity With This System Of International Usage. Inclusion Of About 160 Short-Answer Questions And Over 400 Objective Questions In The Question Bank Makes The Book Useful For Engineering Students As Well As For Those Preparing For Gate, Upsc And Other Qualifying Examinations.In Addition To Serving The Needs Of The Civil Engineering Students, The Book Will Serve As A Handy Reference For The Practising Engineers As Well.**

Principles of Environmental Engineering and Science

This text is well-suited for a course in introductory environmental engineering for sophomore, or junior level students. The emphasis is on concepts, definitions, descriptions, and abundant illustrations, rather than on engineering design detail.

Water Resources and Water Management

Elsevier The size and number of water projects and other development activities which influence the hydrological cycle have reached such proportions that the majority of problems involved extend beyond the boundaries of the traditional disciplines of hydraulics, hydrochemistry, hydrology and hydrogeology. New scientific methods for the solution of the contemporary problems in water management include analogy, operation research, system analysis and cybernetics. The distinctive features of these methods are their emphasis on measurement and on the use of conceptual models described in quantitative terms, the verification of their theoretical predictions, and their awareness that concepts are conditional and subject to growth and continuous change. This new approach should be defined within the framework of water resources management, i.e. within a complex of activities whose objective is the optimum utilization of water resources with regard to their quality and availability and the requirements of society. These water management activities should at the same time also ensure an optimum living environment, above all through protection of water resources against deterioration and exhaustion as well as through the protection of society against the harmful effects of water. In the course of these activities water resources management should avail itself of the entire spectrum of explicit sciences, gradually coming to form the sphere of its own theory. This monograph deals with the fundamental interdisciplinary problems of this complex sphere, an understanding of which is indispensable for successful water resources management in the widest sense of its social functions and environmental consequences. Thus, a common basis is provided for the mutual understanding of specialists from different backgrounds.

An Introduction to Industrial Chemistry

Springer Science & Business Media to the Third Edition Following the success of the first two editions of this book in which the core subject matter has been retained, we have taken the opportunity to add substantial new material, including an additional chapter on that most important activity of the chemical industry, research and development. Topical items such as quality, safety and environmental issues also receive enhanced coverage. The team of authors for this edition comprises both those revising and updating their chapters and some new ones. The latter's different approach to the subject matter is reflected in the new titles: Organisational Structures - A Story of Evolution (chapter 5) and Environmental Impact of the Chemical Industry (chapter 9). The chapter on Energy retains its original title but different approach of the new authors is evident. We have updated statistics and tables wherever possible and expanded the index. We hope readers find the brief 'pen pictures' of authors to be interesting. It is worth stressing again that this book is designed to be used with its companion volume - The Chemical Industry, 2nd Edition, ed. Alan Heaton (referred to as Volume 2) - for a complete introduction to the chemical industry. Thanks are due to all contributors and to my wife Joy for typing my contributions.

BIOCHEMICAL ENGINEERING

PHI Learning Pvt. Ltd. This text is intended to provide students with a solid grounding in basic principles of biochemical engineering. Beginning with a historical review and essential concepts of biochemical engineering in part I, the next three parts are devoted to a comprehensive discussion of various topics in the areas of life sciences, kinetics of biological reactions and engineering principles. Having described the different building blocks of life, microbes, metabolism and bioenergetics, the book proceeds to explain enzymatic kinetics and kinetics of cell growth and product formation. The engineering principles cover transport phenomena in bioprocess systems and various bioreactors, downstream processing and environmental technology. Finally, the book concludes with an introduction to recombinant DNA technology. This textbook is designed for B.Tech. courses in biotechnology, B.Tech. courses in chemical engineering and other allied disciplines, and M.Sc. courses in biotechnology.

Encyclopedia of Environmental Science and Engineering

Taylor & Francis First Published in 1992. Routledge is an imprint of Taylor & Francis, an informa company.

Irrigation and Water Resources Engineering

New Age International The Book Irrigation And Water Resources Engineering Deals With The Fundamental And General Aspects Of Irrigation And Water Resources Engineering And Includes Recent Developments In Hydraulic Engineering Related To Irrigation And Water Resources Engineering. Significant Inclusions In The Book Are A Chapter On Management (Including Operation, Maintenance, And Evaluation) Of Canal Irrigation In India, Detailed Environmental Aspects For Water Resource Projects, A Note On Interlinking Of Rivers In India, And Design Problems Of Hydraulic Structures Such As Guide Bunds, Settling Basins Etc.The First Chapter Of The Book Introduces Irrigation And Deals With The Need, Development And Environmental Aspects Of Irrigation In India. The Second Chapter On Hydrology Deals With Different Aspects Of Surface Water Resource. Soil-Water Relationships Have Been Dealt With In Chapter 3. Aspects Related To Ground Water Resource Have Been Discussed In Chapter 4. Canal Irrigation And Its Management Aspects Form The Subject Matter Of Chapters 5 And 6. Behaviour Of Alluvial Channels And Design Of Stable Channels Have Been Included In Chapters 7 And 8, Respectively. Concepts Of Surface And Subsurface Flows, As Applicable To Hydraulic Structures, Have Been Introduced In Chapter 9. Different Types Of Canal Structures Have Been Discussed In Chapters 10, 11, And 13. Chapter 12 Has Been Devoted To Rivers And River Training Methods. After Introducing

Planning Aspects Of Water Resource Projects In Chapter 14, Embankment Dams, Gravity Dams And Spillways Have Been Dealt With, Respectively, In Chapters 15, 16 And 17. The Students Would Find Solved Examples (Including Design Problems) In The Text, And Unsolved Exercises And The List Of References Given At The End Of Each Chapter Useful.

Environmental Pollution Control Engineering

New Age International This Revised Edition Of The Book On Environmental Pollution Control Engineering Features A Systematic And Thorough Treatment Of The Principles Of The Origin Of Air, Water And Land Pollutants, Their Effect On The Environment And The Methods Available To Control Them. The Demographic And Environmental Trends, Energy Consumption Patterns And Their Impact On The Environment Are Clearly Discussed. Application Of The Physical, And Chemical Engineering Concepts To The Design Of Pollution Control Equipment Is Emphasized. Due Importance Is Given To Modelling, Quality Monitoring And Control Of Specific Major Pollutants. A Separate Chapter On The Management Of Hazardous Wastes Is Added. Information Pertaining To Indian Conditions Is Given Wherever Possible To Help The Reader Gain An Insight Into India Sown Pollution Problems. This Book Is Mainly Intended As A Textbook For An Integrated One-Semester Course For Senior Level Undergraduate Or First Year Post-Graduate Engineering Students And Can Also Serve As A Reference Book To Practising Engineers And Decision Makers Concerned With Environmental Pollution Control.

Environmental Engineering

McGraw-Hill Companies

Environmental Pollution and Control

Butterworth-Heinemann Complex environmental problems are often reduced to an inappropriate level of simplicity. While this book does not seek to present a comprehensive scientific and technical coverage of all aspects of the subject matter, it makes the issues, ideas, and language of environmental engineering accessible and understandable to the nontechnical reader. Improvements introduced in the fourth edition include a complete rewrite of the chapters dealing with risk assessment and ethics, the introduction of new theories of radiation damage, inclusion of environmental disasters like Chernobyl and Bhopal, and general updating of all the content, specifically that on radioactive waste. Since this book was first published in 1972, several generations of students have become environmentally aware and conscious of their responsibilities to the planet earth. Many of these environmental pioneers are now teaching in colleges and universities, and have in their classes students with the same sense of dedication and resolve that they themselves brought to the discipline. In those days, it was sometimes difficult to explain what indeed environmental science or engineering was, and why the development of these fields was so important to the future of the earth and to human civilization. Today there is no question that the human species has the capability of destroying its collective home, and that we have indeed taken major steps toward doing exactly that. And yet, while, a lot has changed in a generation, much has not. We still have air pollution; we still contaminate our water supplies; we still dispose of hazardous materials improperly; we still destroy natural habitats as if no other species mattered. And worst of all, we still continue to populate the earth at an alarming rate. There is still a need for this book, and for the college and university courses that use it as a text, and perhaps this need is more acute now than it was several decades ago. Although the battle to preserve the environment is still raging, some of the rules have changed. We now must take into account risk to humans, and be able to manipulate concepts of risk management. With increasing population, and fewer alternatives to waste disposal, this problem is intensified. Environmental laws have changed, and will no doubt continue to evolve. Attitudes toward the environment are often couched in what has become known as the environmental ethic. Finally, the environmental movement has become powerful politically, and environmentalism can be made to serve a political agenda. In revising this book, we have attempted to incorporate the evolving nature of environmental sciences and engineering by adding chapters as necessary and eliminating material that is less germane to today's students. We have nevertheless maintained the essential feature of this book -- to package the more important aspects of environmental engineering science and technology in an organized manner and present this mainly technical material to a nonengineering audience. This book has been used as a text in courses which require no prerequisites, although a high school knowledge of chemistry is important. A knowledge of college level algebra is also useful, but calculus is not required for the understanding of the technical and scientific concepts. We do not intend for this book to be scientifically and technically complete. In fact, many complex environmental problems have been simplified to the threshold of pain for many engineers and scientists. Our objective, however, is not to impress nontechnical students with the rigors and complexities of pollution control technology but rather to make some of the language and ideas of environmental engineering and science more understandable.

Air Pollution

Measurement, Modelling and Mitigation, Second Edition

CRC Press Air pollution is a universal problem with consequences ranging from the immediate death of plants and people to gradually declining crop yields and damaging buildings.

Thin Plates and Shells

Theory: Analysis, and Applications

CRC Press Presenting recent principles of thin plate and shell theories, this book emphasizes novel analytical and numerical methods for solving linear and nonlinear plate and shell dilemmas, new theories for the design and analysis of thin plate-shell structures, and real-world numerical solutions, mechanics, and plate and shell models for engineering appli

PRINCIPLES OF TRANSPORTATION ENGINEERING

PHI Learning Pvt. Ltd. This detailed introduction to transportation engineering is designed to serve as a comprehensive text for under-graduate as well as first-year master's students in civil engineering. In order to keep the treatment focused, the emphasis is on roadways (highways) based transportation systems, from the perspective of Indian conditions.

Pavement Analysis and Design

For one/two-semester, undergraduate/graduate courses in Pavement Design. This up-to-date text covers both theoretical and practical aspects of pavement analysis and design. It includes some of the latest developments in the field, and some very useful computer software-developed by the author-with detailed instructions.

Introduction to Environmental Engineering

Prentice Hall In **Introduction to Environmental Engineering, First Edition**, authors Richard Mines and Laura Lackey explain complicated environmental systems in easy-to-understand terms, providing numerous examples and an emphasis on current environmental issues such as global warming, the failing infrastructure within the United States, risk assessment, and hazardous waste remediation. **KEY TOPICS:** Environmental Engineering as a Profession; Introduction to Environmental Engineering Calculations: Dimensions, Units, and Conversions; Essential Chemical Concepts; Biological and Ecological Concepts; Risk Assessment; Design and Modeling of Environmental Systems; Sustainability and Green Development; Water Quality and Pollution; Water Treatment; Domestic Wastewater Treatment; Air Pollution; Fundamentals of Hazardous Waste Site Remediation; Introduction to Solid Waste Management. **MARKET:** Appropriate for engineers interested in a comprehensive and up-to-date introduction to environmental engineering.

Waste Water Engineering

Firewall Media

Power System Stability and Control

IEEE

WASTEWATER TREATMENT

Concepts and Design Approach

PHI Learning Pvt. Ltd. This thoroughly revised **Second Edition** presents a comprehensive account of the principles of operation and design of wastewater treatment plants. Beginning with the basic concepts of treatment of wastewater and the design considerations required of an efficient treatment plant, the book moves on to spotlight the design criteria for domestic wastewater treatment units. In essence, the text gives the detailed procedures for design computations of all units of a wastewater treatment plant. It also describes the most common types of reactors used for physical operations and biological processes in wastewater treatment plants. Besides additional examples and exercises, this edition also includes a new chapter on "Disinfection of Wastewater". The book is intended for the undergraduate students of Civil and Environmental Engineering. It will also be useful to the practising professionals involved in the design of wastewater treatment plants. **Key Features** • Provides several examples supported by graphs and sketches to highlight the various design concepts of wastewater treatment units. • Encapsulates significant theoretical and computational information, and useful design hints in Note and Tip boxes. • Includes well-graded practice exercises to help students develop the skills in designing treatment plants.

Wastewater Characteristics, Treatment and Disposal

IWA Publishing **Wastewater Characteristics, Treatment and Disposal** is the first volume in the series **Biological Wastewater Treatment**, presenting an integrated view of water quality and wastewater treatment. The book covers the

following topics: wastewater characteristics (flow and major constituents) impact of wastewater discharges to rivers and lakes overview of wastewater treatment systems complementary items in planning studies. This book, with its clear and practical approach, lays the foundations for the topics that are analysed in more detail in the other books of the series. About the series: The series is based on a highly acclaimed set of best selling textbooks. This international version is comprised by six textbooks giving a state-of-the-art presentation of the science and technology of biological wastewater treatment. Other titles in the series are: Volume 2: Basic Principles of Wastewater Treatment; Volume 3: Waste Stabilisation Ponds; Volume 4: Anaerobic Reactors; Volume 5: Activated Sludge and Aerobic Biofilm Reactors; Volume 6: Sludge Treatment and Disposal

Appropriate Technologies for Environmental Protection in the Developing World

Selected Papers from ERTEP 2007, July 17-19 2007, Ghana, Africa

Springer Science & Business Media This book is the first edited compilation of selected, refereed papers submitted to ERTEP 2007. The selected papers either dealt with technologies or scientific work and policy findings that address specific environmental problems affecting humanity in general, but more specifically, people and ecosystems in developing countries. It was not necessary for the work to have been done in a developing country, but the findings and results must be appropriate or applicable to a developing country setting. It is acknowledged that environmental research, technology applications and policy implementation have been demonstrated to improve environmental sustainability and protection in several developed economies. The main argument of the book is that similar gains can be achieved in developing economies and economies in transition. The book is organized into six chapters along some of the key themes discussed at the conference: Environmental Health Management, Sustainable Energy and Fuel, Water Treatment, Purification and Protection, Mining and Environment, Soil Stabilization, and Environmental Monitoring. It is hoped that the contents of the book will provide an insight into some of the environmental and health management challenges confronting the developing world and the steps being taken to address them.

Water and Wastewater Engineering

McGraw Hill Professional An In-Depth Guide to Water and Wastewater Engineering This authoritative volume offers comprehensive coverage of the design and construction of municipal water and wastewater facilities. The book addresses water treatment in detail, following the flow of water through the unit processes and coagulation, flocculation, softening, sedimentation, filtration, disinfection, and residuals management. Each stage of wastewater treatment--preliminary, secondary, and tertiary--is examined along with residuals management. Water and Wastewater Engineering contains more than 100 example problems, 500 end-of-chapter problems, and 300 illustrations. Safety issues and operation and maintenance procedures are also discussed in this definitive resource. Coverage includes: Intake structures and wells Chemical handling and storage Coagulation and flocculation Lime-soda and ion exchange softening Reverse osmosis and nanofiltration Sedimentation Granular and membrane filtration Disinfection and fluoridation Removal of specific constituents Drinking water plant residuals management, process selection, and integration Storage and distribution systems Wastewater collection and treatment design considerations Sanitary sewer design Headworks and preliminary treatment Primary treatment Wastewater microbiology Secondary treatment by suspended and attached growth biological processes Secondary settling, disinfection, and postaeration Tertiary treatment Wastewater plant residuals management Clean water plant process selection and integration

Practices of Irrigation & On-farm Water Management: Volume 2

Springer Science & Business Media The comprehensive and compact presentation in this book is the perfect format for a resource/textbook for undergraduate students in the areas of Agricultural Engineering, Biological Systems Engineering, Bio-Science Engineering, Water Resource Engineering, and Civil & Environmental Engineering. This book will also serve as a reference manual for researchers and extension workers in such diverse fields as agricultural engineering, agronomy, ecology, hydrology, and meteorology.

Solid Waste Engineering: A Global Perspective

Cengage Learning Readers gain the knowledge to address the growing and increasingly intricate problem of controlling and processing the refuse created by global urban societies with SOLID WASTE ENGINEERING: A GLOBAL PERSPECTIVE, 3E. While the authors prepare readers to deal with issues, such as regulations and legislation, the main emphasis throughout the book is on mastering solid waste engineering principles. The book first explains the basic principles of

the field and then demonstrates through worked examples how readers can apply these principles in real world settings. Readers learn to think reflectively and logically about the problems and solutions in today's solid waste engineering. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Optical Fiber Communications

Principles and Practice

Pearson Education This text succeeds in giving a practical introduction to the fundamentals, problems and techniques of the design and utilisation of optical fiber systems. This edition retains all core features, while incorporating recent improvements and developments in the field.

Basic Environmental Engineering and Elementary Biology (WBUT)

Vikas Publishing House The book 'Basic Environmental Engineering and Elementary Biology' has been written for the engineering students. It starts with basic concepts of ecology and concerns on environment. It then discusses how the spiraling rate of population growth and the requirements of human beings have led to large-scale deforestation, depletion of the ozone layer, creation of greenhouse effect, acid rain, smog and environmental pollution. The book equips students to manage environment-related issues by showing how technology can be used to control these problems. This well thought-out book on one of the most talked about issues today, can serve as a ground for future environmentalists. It can also be a highly useful reference work for those interested in working towards a better and cleaner environment. Fundamental aspects of environment principles have been explained in great detail, which can be used to manage environment and restore nature's balance.

Environmental Management Systems

A Step-by-Step Guide to Implementation and Maintenance

Routledge This third edition of Sheldon and Yoxon's authoritative Environmental Management Systems (previously entitled Installing Environmental Management Systems) has been extensively revised to cover changes in international standards and other related developments in the field such as British Standard BS 8555. Drawing on the authors' extensive hands-on experience in both implementing and training others, it describes how such systems can be used to prioritize actions and resources, increase efficiency, minimize costs and lead to better, more informed decision making. Set out in a straightforward series of steps, it cuts through the jargon and demolishes the myths that surround this important management tool. The authors explain the importance of carrying out an initial environmental review, identifying cause and effect, understanding legislative and regulatory issues, developing a policy and defining objectives and targets. They also describe how to design an effective environmental management programme and implement a successful audit and review. Clear and concise, and packed with helpful practical examples and insider tips, it has become the standard manual for managers and consultants at all levels.

Water Quality Engineering

Physical / Chemical Treatment Processes

John Wiley & Sons Explains the fundamental theory and mathematics of water and wastewater treatment processes By carefully explaining both the underlying theory and the underlying mathematics, this text enables readers to fully grasp the fundamentals of physical and chemical treatment processes for water and wastewater. Throughout the book, the authors use detailed examples to illustrate real-world challenges and their solutions, including step-by-step mathematical calculations. Each chapter ends with a set of problems that enable readers to put their knowledge into practice by developing and analyzing complex processes for the removal of soluble and particulate materials in order to ensure the safety of our water supplies. Designed to give readers a deep understanding of how water treatment processes actually work, Water Quality Engineering explores: Application of mass balances in continuous flow systems, enabling readers to understand and predict changes in water quality Processes for removing soluble contaminants from water, including treatment of municipal and industrial wastes Processes for removing particulate materials from water Membrane processes to remove both soluble and particulate materials Following the discussion of mass balances in continuous flow systems in the first part of the book, the authors explain and analyze water treatment processes in subsequent chapters by setting forth the relevant mass balance for the process, reactor geometry, and flow pattern under consideration. With its many examples and problem sets, Water Quality Engineering is

recommended as a textbook for graduate courses in physical and chemical treatment processes for water and wastewater. By drawing together the most recent research findings and industry practices, this text is also recommended for professional environmental engineers in search of a contemporary perspective on water and wastewater treatment processes.

Environmental Engineering

John Wiley & Sons Incorporated A banner edition of the prominent reference covering environmental engineering Upholding the reputation of its predecessors as the most trusted single-source handbook on the subject, this new edition of Environmental Engineering provides up-to-date, practical guidance on a full range of environmental issues, while delivering the critical material on sanitation management and engineering used by today's leaders in the field. Emphasizing environmental control through practical applications of sanitary science and engineering theories and principles, this Fifth Edition includes new chapters from leading experts, as well as new material by Franklin Agardy; Anthony Wolbarst and Weihsueh Chiu; George Tchobanoglous; Walter Lyon; Glen Nemerow and Laurie Bloomer; John Kieffer; Tim Chinn; Robert Jacko and Tim LaBreche; and Xudong Yang. Environmental Engineering's highly illustrative coverage addresses environmental control in urban, suburban, and rural settings-including general design, construction, maintenance, and operation details related to plants and structures-with new material on such topics as: Soil and groundwater remediation Radiation exposure and safety Environmental emergencies and preparedness Hazardous waste remediation Incineration Transporting pollutants Communicable and noninfectious diseases Food protection Noise control Water filtration system technology Solid waste management Environmental Engineering, Fifth Edition is an essential reference for environmental and civil engineers, environmental consultants and scientists, and regulatory and safety professionals in the public and private sectors.

Chemistry and Biology of Water, Air and Soil

Environmental Aspects

Elsevier Environmental pollution is a universal problem which threatens the continued existence of mankind, rendering it one of the primary concerns of society. This book provides a comprehensive view of the chemistry and biology of water, air and soil, particularly those aspects connected with the protection of the environment. The first part of the book presents fundamental information on the chemistry and biology of water in its natural state, and the effects of water pollution from industry, traffic, agriculture and urbanization. It covers the composition of natural, service and wastewaters as well as methods of chemical and biological water analysis and water treatment. The second part deals with atmospheric problems, particularly the basic composition of atmosphere and the different sources of its pollution, methods of restriction, and air analysis. The final part of the volume focuses on the characteristics of soil and soil components, natural and anthropogenous soil processes, the chemistry, biology and microbiology of soil, and soil analysis. This book will be of great value to chemists, biologists, physicians, pharmacists, farmers, veterinarians and university students, as well as to those engaged in the sphere of environmental protection.

Introduction to Environmental Engineering and Science

Appropriate for undergraduate engineering and science courses in Environmental Engineering. Balanced coverage of all the major categories of environmental pollution, with coverage of current topics such as climate change and ozone depletion, risk assessment, indoor air quality, source-reduction and recycling, and groundwater contamination.

Environmental Engineering

A Design Approach

Pearson College Division This work provides a thorough treatment of environmental engineering. It encompasses environmental chemistry; biology; hydraulics, and pneumatics; water treatment; wastewater treatment, both conventional and advanced; solid waste management; air pollution control; hazardous waste management and risk assessment; noise pollution and control; and environmental quality modelling. The authors provide clear coverage while approaching the subject matter in a direct analytical manner. The text makes use of many practical, hands-on examples throughout to demonstrate the applied nature of the field. This text combines comprehensive and authoritative coverage with current applications.

Wastewater Biosolids to Compost

CRC Press FROM THE INTRODUCTION The purpose of this text is to address one small but important and significant aspect (or process) of making man-made waste disposal more earth-friendly: biosolids composting. Since 1970, much progress has been made in sewage treatment technology. Corrective actions in treating domestic and industrial wastes have advanced to the point and have been underway for a long enough period now so that today one can visit most local lakes and streams and clearly see the lake or river bottom near a shallow shoreline. This, of course, is an example

of an environmental improvement that can be readily seen. This visible improvement is also a "predictor" of what the future can hold for present and future generations who respect lakes and streams, and thus the environment. Recent improvements in the water quality of streams and lakes are only a small part of the progress that has been made. Improvements in wastewater technology have also worked to improve the quality of water we use; that is, the water we drink. This last statement may seem strange to some readers. How does wastewater treatment improve the quality of potable water when we do not receive our drinking water from wastewater treatment plant effluent? Effluent from wastewater treatment plants is not normally cross-connected with their municipality's drinking water supply. Many communities draw water from streams and rivers for use in domestic potable water supplies and these same streams and rivers serve as outfalls, normally upstream, for wastewater treatment plant effluent. Communities are growing. Populations within these burgeoning communities are also growing. Along with growth in community size and in population is a corresponding growth in the need for more potable water. Thus, the stream or river that provides the water supply and serves as the outfall for wastewater treatment plant effluent is put under increasing demand for its main product: potable water. Wastewater Biosolids to Compost covers EPA 503 regulations, testing procedures, advancements in odor control, marketing the product, and composting program economics.

Environmental Engineering: Review for the Professional Engineering Examination

Springer Science & Business Media This book will help the reader expand further into chemical engineering and become a licensed professional engineer (PE), which can offer a tremendous boost to one's career, as there are certain career opportunities available only to licensed engineers. Licensure demonstrates high standards of professionalism, knowledge, and ability. Because of the work experience requirement, PE examinees have generally been out of school for some time. This book summarizes the theoretical background of topics covered in the exam, which will help potential examinees refresh their memories on subjects they may not have been exposed to since their undergraduate classes. Another advantage of using this book to prepare for the PE exam is that two or three "logical distractors" (answers that result from common mistakes) are included among the answer choices for each problem. The solutions to the problems also explain why the logical distractors are incorrect. Research has shown that this is an efficient teaching tool. Thus, the inclusion of these logical distractors and their explanations will give individuals a better foundation in the subject matter in a shorter period of time. Although this book is intended primarily to help engineers prepare for the PE environmental engineering examination, it will also be useful in undergraduate engineering courses that cover environmental engineering topics.

TEXTBOOK OF ENVIRONMENTAL ENGINEERING

PHI Learning Pvt. Ltd. Designed for a first-course in environmental engineering for undergraduate engineering and postgraduate science students, the book deals with environmental pollution and its control methodologies. It explains the basic environmental technology - environmental sanitation, water supply, waste management, air pollution control and other related issues - and presents a logical and systematic treatment of topics. The book, an outgrowth of author's long experience in teaching the postgraduate science and engineering students, is presented in a student-oriented approach. It is interspersed with solved examples and illustrations to reinforce many of the concepts discussed and apprise the readers of the current practices in areas of water processing, water distribution, collection and treatment of domestic sewage and industrial waste water, and control of air pollution. It emphasizes fundamental concepts and basic applications of environmental technology for management of environmental problems. Besides students, the book will be useful to the academia of environmental sciences, civil/environmental engineering as well as to environmentalists and administrators working in the field of pollution control.

Essentials of Environmental Engineering

Bernan Press Essentials of Environmental Engineering is designed for use in an introductory university undergrad course. This book introduces environmental engineering as a profession applying science and math theories to describe and explore the relationship between environmental science and environmental engineering. Environmental engineers work to sustain human existence by balancing human needs from impacts on the environment with the natural state of the environment. In the face of global pollution, diminishing natural resources, increased population growth (especially in disadvantaged countries), geopolitical warfare, global climate change (cyclical and/or human-caused), and other environmental problems, it is clear that we live in a world that is undergoing rapid ecological transformation. Because of these rapid changes, the role of environmental engineering has become increasingly prominent. Moreover, advances in technology have created a broad array of modern environmental issues. To mitigate these issues, we must capitalize on environmental protection and remediation opportunities presented by technology. Essentials of Environmental Engineering addresses these very issues. It was written with the student in mind. Complex topics are explained in an easy-to-understand format and style. Numerous examples are given and chapter review questions along with solutions are provided in the text.

FUNDAMENTALS OF HEAT AND MASS TRANSFER

PHI Learning Pvt. Ltd. "This comprehensive text on the basics of heat and mass transfer provides a well-balanced treatment of theory and mathematical and empirical methods used for solving a variety of engineering problems. The book helps students develop an intuitive and practical understanding of the processes by emphasizing the underlying physical phenomena involved. Focusing on the requirement to clearly explain the essential fundamentals and impart the art of problem-solving, the text is written to meet the needs of undergraduate students in mechanical engineering, production engineering, industrial engineering, auto-mobile engineering, aeronautical engineering, chemical engineering, and biotechnology.