

Environmental Engineering Peavy Rowe

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.

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.

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

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.

Environmental Engineering

Water Resources and Water Management

Waste Water Engineering

Principles of Environmental Engineering and Science

PRINCIPLES OF TRANSPORTATION ENGINEERING

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

Like most technical disciplines, environmental science and engineering is becoming increasingly specialized. As industry professionals focus on specific environmental subjects they become less familiar with environmental problems and solutions outside their area of expertise. This situation is compounded by the fact that many environmental science related terms are confusing. Prefixes such as bio-, enviro-, hydra-, and hydro- are used so frequently that it is often hard to tell the words apart. The Environmental Engineering Dictionary and Directory gives you a complete list of brand terms, brand names, and trademarks - right at your fingertips.

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.

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.

A Step-by-Step Guide to Implementation and Maintenance

Wastewater Treatment and Reuse, Theory and Design Examples, Volume 1

Environmental Chemodynamics

An Introduction to Industrial Chemistry

Appropriate Technologies for Environmental Protection in the Developing World

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.

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 has a leading role in the elimination of ecological threats, and can deal with a wide range of technical and technological problems due to its interdisciplinary character. It uses the knowledge of the basic sciences biology, chemistry, biochemistry and physics to neutralize pollution in all the elements of the environment. For many applications a randomized algorithm is either the simplest algorithm available, or the fastest, or both. This tutorial presents the basic concepts in the design and analysis of randomized algorithms. The first part of the book presents tools from probability theory and probabilistic analysis that are recurrent in algorithmic applications. Algorithmic examples are given to illustrate the use of each tool in a concrete setting. In the second part of the book, each of the seven chapters focuses on one important area of application of randomized algorithms: data structures; geometric algorithms; graph algorithms; number theory; enumeration; parallel algorithms; and on-line algorithms. A comprehensive and representative selection of the algorithms in these areas is also given. This book should prove invaluable as a reference for researchers and professional programmers, as well as for students.

Distribution System Performance Evaluation

Randomized Algorithms

Concepts and Design Approach

Physical / Chemical Treatment Processes

What happens to a chemical once it enters the natural environment? How do its physical and chemical properties influence its transport, persistence, and partitioning in the biosphere? How do natural forces influence its distribution? How are the answers to these questions useful in making toxicological and epidemiological forecasts? Environmental Chemodynamics, Second Edition introduces readers to the concepts, tools, and techniques currently used to answer these and other critical questions about the fate and transport of chemicals in the natural environment. Like its critically acclaimed predecessor, its main focus is on the mechanisms and rates of movement of chemicals across the air/soil, soil/water, and water/air interfaces, and on how natural processes work to mobilize chemicals near and across interfaces--information vital to performing human and ecological risk assessments. Also consistent with the first edition, Environmental Chemodynamics, Second Edition is organized to accommodate readers of every level of experience. The first section is devoted to theoretical underpinnings and includes discussions of mass balance, thermodynamics, transport science concepts, and more. The second section concentrates on practical aspects, including the movement between bed-sediment and water, movement between soil and air, and intraphase chemical behavior. This revised and updated edition of Louis J. Thibodeaux's 1979 classic features new or expanded coverage of: * Equilibrium models for environmental compartments * Dry deposition of particles and vapors onto water and soil surfaces * Chemical profiles in rivers and estuaries, particles and porous media * Fate and transport in the atmospheric boundary layer and within subterranean media * Chemical exchange between water column and bed-sediment * Intraphase chemical transport and fate This Second Edition of Environmental Chemodynamics also includes twice as many references and 50% more exercises and practice problems.

Brightwood Engineering Education's Environmental Engineering: FE Review Manual is the best exam preparation available for the Fundamentals of Engineering (FE) Environmental CBT exam. This volume contains a variety of practice problems and step-by-step solutions that provide you with a complete and thorough review of the test topics. Contents: - Mathematics - Probability and Statistics - Engineering Economics - Ethics and Professional Practices - Environmental Management Systems - Environmental Science and Ecology - Environmental Chemistry - Material Science - Thermodynamics and Phase Equilibrium - Fluid Mechanics - Water Resources Engineering - Soils and Groundwater - Water and Wastewater - Air Quality and Atmospheric Pollution Control - Solid and Hazardous Waste Features: - Representative of NCEES CBT exam format - 80+ end-of-chapter problems with complete solutions

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.

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.

FE Review Manual

BIOCHEMICAL ENGINEERING

Environmental Pollution and Control

Basic and Applied Soil Mechanics

Environmental Engineering III

The Structural Engineer's Pocket Book British Standards Edition is the only compilation of all tables, data, facts and formulae needed for scheme design to British Standards by structural engineers in a handy-sized format. Bringing together data from many sources into a compact, affordable pocketbook, it saves valuable time spent tracking down information needed regularly. This second edition is a companion to the more recent Eurocode third edition. Although small in size, this book contains the facts and figures needed for preliminary design whether in the office or on-site. Based on UK conventions, it is split into 14 sections including geotechnics, structural steel, reinforced concrete, masonry and timber, and includes a section on sustainability covering general concepts, materials, actions and targets for structural engineers.

STRUCTURAL ANALYSIS (Second Edition) is a basic under-graduate text on Structural Analysis, presented with fresh insight and clarity.

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.

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.

Modeling Methods for Environmental Engineers

Environmental Pollution Control Engineering

A Design Approach

Structural Engineer's Pocket Book British Standards Edition

Movement of Chemicals in Air, Water, and Soil

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.

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.

Understanding the molecular underpinnings of life is a task requiring insight from multiple disciplines. In that likeness, biologists have moved toward a systemic approach drawing from the expertise of computational scientists, chemists, engineers, and mathematicians. This collaborative approach requires translation of biological semantics into common language so that the molecular mechanisms can be decoded to promote health, design devices, and preserve environmental homeostasis. This book provides context for biological forms and functions by starting at the molecular level then building outward to include trends in biomedical technology, evolutionary impact, and the lasting implications for our biosphere. In that likeness, biological concepts underlie most wastewater treatment and provide foundation for the hazardous waste treatment being done today. Furthermore, the relationship between biology and geology is starting to emerge as a key relationship for self-healing concrete and reinforcement protection within concrete.

Environmental Engineering McGraw-Hill Publishing Company Modeling Methods for Environmental Engineers CRC Press

Pavement Analysis and Design

Water and Wastewater Engineering

Solid Waste Engineering: A Global Perspective

Measurement, Modelling and Mitigation, Second Edition

Structural Analysis

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:

This book will present the theory involved in wastewater treatment processes, define the important design parameters involved, and provide typical values of these parameters for ready reference; and also provide numerical applications and step-by-step calculation procedures in solved examples. These examples and solutions will help enhance the readers' comprehension and deeper understanding of the basic concepts, and can be applied by plant designers to design various components of the treatment facilities. It will also examine the actual calculation steps in numerical examples, focusing on practical application of theory and principles into process and water treatment facility design.

Industrial Wastewater Treatment, Recycling and Reuse is an accessible reference to assist you when handling wastewater treatment and recycling. It features an instructive compilation of methodologies, including advanced physico-chemical methods and biological methods of treatment. It focuses on recent industry practices and preferences, along with newer methodologies for energy generation through waste. The book is based on a workshop run by the Indus MAGIC program of CSIR, India. It covers advanced processes in industrial wastewater treatment, applications, and feasibility analysis, and explores the process intensification approach as well as implications for industrial applications. Techno-economic feasibility evaluation is addressed, along with a comparison of different approaches illustrated by specific case studies. Industrial Wastewater Treatment, Recycling and Reuse introduces you to the subject with specific reference to problems currently being experienced in different industry sectors, including the petroleum industry, the fine chemical industry, and the specialty chemicals manufacturing sector. Provides practical solutions for the treatment and recycling of industrial wastewater via case studies Instructive articles from expert authors give a concise overview of different physico-chemical and biological methods of treatment, cost-to-benefit analysis, and process comparison Supplies you with the relevant information to make quick process decisions

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.

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

Air Conditioning Engineering

Environmental Management Systems

Encyclopedia of Environmental Science and Engineering

Cell and Molecular Biology for Environmental Engineers

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.

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. Designed for students and professional engineers, the fifth edition of this classic text deals with fundamental science and design principles of air conditioning engineering systems. W P Jones is an acknowledged expert in the field, and he uses his experience as a lecturer to present the material in a logical and accessible manner, always introducing new techniques with the use of worked examples.

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.

Wastewater Biosolids to Compost

Environmental Engineering Dictionary and Directory

Applied Hydrology

Principles and Basic Treatment

WASTEWATER TREATMENT

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.

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.

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.

Water-Resources Engineering provides comprehensive coverage of hydraulics, hydrology, and water-resources planning and management. Presented from first principles, the material is rigorous, relevant to the practice of water resources engineering, and reinforced by detailed presentations of design applications. Prior knowledge of fluid mechanics and calculus (up to differential equations) is assumed.

Introduction to Environmental Engineering and Science

Industrial Wastewater Treatment, Recycling and Reuse

Air Pollution

Water Quality Engineering

Water-resources Engineering