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Introduction to Environmental Engineering John Wiley & Sons
This text presents a balanced treatment of environmental engineering by combining engineering concepts with the importance of environmental ethics. This third edition highlights sustainable development and emphasizes the need for engineers to become even more environmentally responsible during this time of increasing awareness of environmental concerns. The authors challenge students with problems that require not only a technical solution but a thorough consideration of its ethical ramifications. The text also provides comprehensive exposure to all types of environmental problems, including ecosystem dynamics, wastewater treatment, and air pollution control. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Environmental Science and Engineering John Wiley & Sons
Applies the principles of sanitary science and engineering to sanitation and environmental health. Examines the construction, maintenance, and operation of sanitation plants and structures. Gives state-of-the-art information on environmental factors associated with chronic and non-infectious diseases, environmental engineering planning and impact analysis, waste management and control, food sanitation, administration of health and sanitation programs, acid rain, noise control, and campground sanitation. Includes updated and expanded coverage of alternate on-site sewage disposal. Water reclamation and re-use, protection of groundwater quality, and control and management of hazardous waste.

Air Pollution Control Springer
FOCUSING ON CONTAMINANT FATE AND TRANSPORT, DESIGN OF ENVIRONMENTAL-CONTROL SYSTEMS, AND REGULATORY CONSTRAINTS This textbook details the fundamental equations that describe the fate and transport of contaminantsin the water environment. The application of these fundamental equations to the design of environmental-control systems and methodologies for assessing the impact of contaminant discharges into rivers, lakes, wetlands, ground water, and oceans are all covered. Readers learn to assess how much waste can be safely assimilatedinto a water body by developing a solid understanding of the relationship between the type of pollutant discharged, the characteristics of the receiving water, and physical, chemical, and biological impacts. In cases of surface runoff from urban and agricultural watersheds, quantitative relationships between the quality of surface runoff and the characteristics of contaminant sources located within the watersheds are presented. Some of the text's distinguishing features include its emphasis on the engineering design of systems that control the fate and transport of contaminants in the water environment, the design of remediation systems, and regulatory constraints. Particular attention is given to use-attainability analyses and the estimation of total maximum daily loads, both of which are essential components of water-quality control in natural systems. Readers are provided with a thorough explanation of the complex set of laws and regulations governing water-quality control in the United States. Proven as an effective textbook in several offerings of the author's class "Water Quality Control in Natural Systems," the flow of the text is carefully structured to facilitate learning. Moreover, a number of practical pedagogical tools are offered: * Practical examples used throughout the text illustrate the effects of controlling the quality, quantity, timing, and distribution of contaminant discharges into the environment * End-of-chapter problems, and an accompanying solutions manual, help readers assess their grasp of each topic as they progress through the text * Several appendices with useful reference material are provided, including current U.S. Water Quality Standards * Detailed bibliography guides readers to additional resources to explore particular topics in greater depth With its emphasis on contaminant fate and

transport and design of environmental-control systems, this text is ideal for upper-level undergraduates and graduate students in environmental and civil engineering programs.Environmental scientists and practicing environmental/civil engineers will also find the text relevant and useful.

Fundamentals of Environmental Engineering Waveland Press
In his latest book, the Handbook of Environmental Engineering, esteemed author Frank Spellman provides a practical view of pollution and its impact on the natural environment. Driven by the hope of a sustainable future, he stresses the importance of environmental law and resource sustainability, and offers a wealth of information based on real-worl

Environmental Engineering CRC Press
Introductory technical guidance for civil engineers, environmental engineers and marine engineers interested in coastal environmental engineering. Here is what is discussed: 1. OVERVIEW OF COASTAL SHORE PROTECTION PROJECTS 2. ENVIRONMENTAL REQUIREMENTS 3. ENVIRONMENTAL RESOURCE CATEGORIES. Environmental Engineering for the School Newnes
This book provides a comprehensive introduction to air, water, noise, and radioactive materials pollution and its control. Legal and regulatory principles and risk analysis are included in addition to engineering principles. The text presents the engineering principles governing the generation and control of air and water pollutants, solid and hazardous waste, and noise. Water quality and drinking water treatment are discussed, as well as the elements of risk analysis. Radioactive waste generation and treatment in relation to the nuclear fuel cycle, are discussed. The health and environmental effects of all these pollutants are discussed. An introduction to the Federal laws and regulations governing pollution is included. This text embraces the latest thinking in environmental engineering Includes updates in regulation and current pollution abatement technologies

Handbook of Environmental Engineering John Wiley & Sons
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.

Water Quality Engineering John Wiley & Sons
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.

Introduction to Environmental Engineering John Wiley & Sons
Dieses Lehrbuch entwickelt die Grundprinzipien der Umwelttechnik: Wasser- und Abwasserbehandlung, Luftreinhaltung und die Entsorgung von Gefahrstoffen werden ausgewogen dargestellt und anhand zahlreicher realit ä tsnaher Beispiele in die Praxis umgesetzt. Die Studenten lernen, wissenschaftliche Erkenntnisse im ingenieurtechnischen Alltag sinnvoll anzuwenden. (12/00)

Discovering the Deep Pearson
Fundamentals of Environmental Engineering is the outgrowth of a team-taught course at Michigan Technological University which provides a bridge for a student to move from their basic science and math courses to their introductory and upper level environmental engineering courses which apply those fundamentals to local and global environmental problems. Fundamentals of Environmental Engineering presents those required fundamentals along with close to one hundred applications for a diverse set of relevant environmental situations including multimedia issues encompassing engineered treatment and chemical fate and transport in air, water, and soil. This text is not just intended for students majoring in civil, environmental engineering or environmental science, but for students from a wide variety of disciplines who may work on environmental problems or incorporate environmental concerns into their specialty.

Environmental Pollution and Control Morgan & Claypool Publishers
Environmental engineers support the well-being of people and the planet in areas where the two intersect. Over the decades the field has improved countless lives through innovative systems for delivering water, treating waste, and preventing and remediating pollution in air, water, and soil. These achievements are a testament to the multidisciplinary, pragmatic, systems-oriented approach that characterizes environmental engineering. Environmental Engineering for the 21st Century: Addressing Grand Challenges outlines the crucial role for environmental engineers in this period of dramatic growth and change. The report identifies five pressing challenges of the 21st century that environmental engineers are uniquely poised to help advance: sustainably supply food, water, and energy; curb climate change and adapt to its impacts; design a future without pollution and waste; create efficient, healthy, resilient cities; and foster informed decisions and actions.

Environmental Engineering: Review for the Professional Engineering Examination CRC Press
Key topics in environmental engineering are discussed in sufficient detail as to provide a concise and useful overview for the graduate or professional student. Subjects approached herein include water and wastewater treatment systems, hazardous materials, and alternative energy. The intent of this volume is to provide a repository of general information for consultation and reference of the user.

Environmental Engineering Cengage Learning
Air pollution control and air quality engineering are some of the key subjects in any environmental engineering curriculum. This book will cover topics that are fundamental to pollution control engineers and professionals, including air pollution and its management through regulatory approaches, calculating and estimating emissions, and appying control technologies for different forms of pollutants and emission characteristics for several key industries. It will also include topics that address issues such as fugitive component leak detection and repair, odor containment and control, greenhouse gas emissions, and indoor air pollution, which are often not found in other similar books.

Environmental Engineering and the Science of Sustainability CRC Press

Principles of Environmental Engineering and Science is well suited for a course in introductory environmental engineering for sophomore- or junior-level students. The emphasis is on engineering principles rather than on engineering design. The concept of mass balance is carried throughout the text as a tool for problem solving. The book includes more extensive coverage of chemistry, biology, and hydrology than other books in this field. The chemistry review in Chapter 2 and coverage of ethics will aid students in better understanding the engineering topics presented in the book.

Essentials of Environmental Engineering Cambridge University Press

A beautifully illustrated reference providing fascinating insights into the hidden world of the seafloor using the latest deep-sea imaging.

Principles of Environmental Engineering and Science Bernan Press

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 and Sanitation John Wiley & Sons

Environmental ENGINEERING Environmental ENGINEERING PREVENTION and RESPONSE to Water-, Food-, Soil-, and Airborne Disease and Illness Sixth Edition First published in 1958, Salvato ’ s Environmental Engineering has long been the definitive reference for generations of sanitation and environmental engineers. Approaching its fiftieth year of continual publication in a rapidly changing field, the Sixth Edition has been fully reworked and reorganized into three separate, succinct volumes to adapt to a more complex and scientifically demanding field with dozens of specializations. Updated and reviewed by leading experts in the field, this revised edition offers new coverage of appropriate technology for developing countries. Stressing the practicality and appropriateness of treatment, the Sixth Edition provides realistic solutions for the practicing public health official or environmental engineer. This volume, Environmental Engineering: Prevention and Response to Water-, Food-, Soil-, and Airborne Disease and Illness, Sixth Edition covers: Disease transmission by contaminated water Food-borne diseases Control of diseases of the air and land Appropriate technology for developing countries Environmental emergencies and emergency preparedness Also available: Environmental Engineering, Sixth Edition: Water, Wastewater, Soil and Groundwater Treatment and Remediation 978-0-470-08303-1 Environmental Engineering, Sixth Edition: Environmental Health and Safety for Municipal Infrastructure, Land Use & Planning, and Industry 978-0-470-08305-5

Environmental Engineering for the 21st Century McGraw-Hill Science, Engineering & Mathematics

A comprehensive guide for both fundamentals and real-world applications of environmental engineering Written by noted experts, Handbook of Environmental Engineering offers a comprehensive guide to environmental engineers who desire to contribute to mitigating problems, such as flooding, caused by extreme weather events, protecting populations in coastal areas threatened by rising sea levels, reducing illnesses caused by polluted air, soil, and water from improperly regulated industrial and transportation activities, promoting the safety of the food supply. Contributors not only cover such timely environmental topics related to soils, water, and air, minimizing pollution created by industrial plants and processes, and managing wastewater, hazardous, solid, and other industrial wastes, but also treat such vital topics as porous pavement design, aerosol measurements, noise pollution control, and industrial waste auditing. This important handbook: Enables environmental engineers to treat problems in systematic ways Discusses climate issues in ways useful for environmental engineers Covers up-to-date measurement techniques important in environmental engineering Reviews current developments in environmental law for environmental engineers Includes information on water quality and wastewater engineering Informs environmental engineers about methods of dealing with industrial and municipal waste, including hazardous waste Designed for use by practitioners,

students, and researchers, Handbook of Environmental Engineering contains the most recent information to enable a clear understanding of major environmental issues.

Environmental Engineering Science CRC Press

Principles of Environmental Engineering and Science by Mackenzie Davis and Susan Masten is intended for a course in introductory environmental engineering for sophomore- or junior-level students. The emphasis of this new text is on engineering principles rather than on engineering design. The concept of mass balance is carried throughout the text as a tool for problem solving, and the text boasts extensive coverage of chemistry, biology, and hydrology than other books have. The chemistry review in Chapter 2 and coverage of ethics will aid students in better understanding the engineering topics presented in the book.

Principles of Environmental Engineering and Science Elsevier

Bioprocess Engineering involves the design and development of equipment and processes for the manufacturing of products such as food, feed, pharmaceuticals, nutraceuticals, chemicals, and polymers and paper from biological materials. It also deals with studying various biotechnological processes. "Bioprocess Kinetics and Systems Engineering" first of its kind contains systematic and comprehensive content on bioprocess kinetics, bioprocess systems, sustainability and reaction engineering. Dr. Shijie Liu reviews the relevant fundamentals of chemical kinetics-including batch and continuous reactors, biochemistry, microbiology, molecular biology, reaction engineering, and bioprocess systems engineering- introducing key principles that enable bioprocess engineers to engage in the analysis, optimization, design and consistent control over biological and chemical transformations. The quantitative treatment of bioprocesses is the central theme of this book, while more advanced techniques and applications are covered with some depth. Many theoretical derivations and simplifications are used to demonstrate how empirical kinetic models are applicable to complicated bioprocess systems. Contains extensive illustrative drawings which make the understanding of the subject easy Contains worked examples of the various process parameters, their significance and their specific practical use Provides the theory of bioprocess kinetics from simple concepts to complex metabolic pathways Incorporates sustainability concepts into the various bioprocesses