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Water and Wastewater Engineering: Design Principles and Practice, Second Edition - Mackenzie L. Davis 2019-10-04
Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. A Fully Updated, In-Depth Guide to Water and Wastewater Engineering Thoroughly revised to reflect the latest advances, procedures, and regulations, this authoritative resource contains comprehensive coverage of the design and construction of municipal water and wastewater facilities. Written by an environmental engineering expert and seasoned academic, Water and Wastewater Engineering: Design Principles and Practice, Second Edition, offers detailed explanations, practical strategies, and design techniques as well as hands-on safety protocols and operation and maintenance procedures. You will get cutting-edge information on water quality standards, corrosion control, piping materials, energy efficiency, direct and indirect potable reuse, and more. Coverage includes: • The design and construction processes • General water supply design considerations • 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 • 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 growth biological processes • Secondary

treatment by attached growth and hybrid biological processes • Tertiary treatment • Advanced oxidation processes • Direct and indirect potable reuse

Environmental Engineering - Howard S. Peavy 1985

Fundamentals of Air Pollution 2e - Arthur C. Stern 1984-05-28

Fundamentals of Air Pollution, Second Edition discusses the basic chemistry, physics, and engineering of air pollution. This edition explores the processes and equipment that produce less pollution in the atmosphere. This book is comprised of six parts encompassing 28 chapters. This text starts with an overview of the predominant air pollution problems during the Industrial Revolution, including smoke and ash produced by burning oil or coal in the boiler furnaces of power plants, marine vessels, and locomotives. This edition then explores the mathematical models of atmospheric transport and diffusion and discusses the air pollution control in communities. Other chapters deal with atmospheric chemistry, control technology, and visibility through the atmosphere. This book further examines the regulatory concepts that have become more significant, such as the bubble concept, air quality, emission standards, and the trading and banking of emission rights. Air pollution scientists, atmospheric scientists, ecologists, engineers, educators, researchers, and students will find this book extremely useful.

Sustainability Principles and Practice - Margaret Robertson 2017-03-16

This new and expanded edition builds upon the first edition’s accessible and comprehensive overview of the interdisciplinary field of sustainability. The focus is on furnishing solutions and equipping the student with both conceptual understanding and technical skills for the workplace. Each chapter explores one aspect of the field, first introducing concepts and presenting issues, then supplying tools for working toward solutions. Techniques for management and measurement as well as case studies from around the world are provided. The second edition includes a complete update of the text, with increased coverage of major topics including the Anthropocene; complexity; resilience; environmental ethics; governance; the IPCC’s latest findings on climate change; Sustainable Development Goals; and new thinking on native species and novel ecosystems. Chapters include further reading and discussion questions. The book is supported by a companion website with links, detailed reading lists, glossary, and additional case studies, together with projects, research problems, and group activities, all of which focus on real-world problem solving of sustainability issues. The textbook is designed to be used by undergraduate college and university students in sustainability degree programs and other programs in which sustainability is taught.

Globalization, Biosecurity, and the Future of the Life Sciences - National Research Council 2006-06-07

Biomedical advances have made it possible to identify and manipulate features of living organisms in useful ways--leading to improvements in public health, agriculture, and other areas. The globalization of scientific and technical expertise also means that many scientists and other individuals around the world are generating breakthroughs in the life sciences and related technologies. The risks posed by bioterrorism and the proliferation of biological weapons capabilities have

increased concern about how the rapid advances in genetic engineering and biotechnology could enable the production of biological weapons with unique and unpredictable characteristics. Globalization, Biosecurity, and the Future of Life Sciences examines current trends and future objectives of research in public health, life sciences, and biomedical science that contain applications relevant to developments in biological weapons 5 to 10 years into the future and ways to anticipate, identify, and mitigate these dangers.

Fundamentals of Air Pollution - Daniel Vallero 2007-10-01

Fundamentals of Air Pollution is an important and widely used textbook in the environmental science and engineering community. Written shortly after the passage of the seminal Clean Air Act Amendments of 1990, the third edition was quite timely. Surprisingly, the text has remained relevant for university professors, engineers, scientists, policy makers and students up to recent years. However, in light of the transition in the last five years from predominantly technology-based standards (maximum achievable control technologies or MACTs) to risk-based regulations and air quality standards, the text must be updated significantly. The fourth edition will be updated to include numerous MACTs which were not foreseen during the writing of the third edition, such as secondary lead (Pb) smelting, petroleum refining, aerospace manufacturing, marine vessel loading, ship building, printing and publishing, elastomer production, offsite waste operations, and polyethylene terephthalate polymer and styrene-based thermoplastic polymers production. * Focuses on the process of risk assessment, management and communication, the key to the study of air pollution. * Provides the latest information on the technological breakthroughs in environmental engineering since last edition * Updated information on computational and diagnostic and operational tools that have emerged in recent years.

Introduction to Environmental Engineering - P. Aarne Vesilind 2009-05-19

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.

Municipal Solid Waste, Resource Recovery - David W. Schultz 1981

Hazardous and Industrial Waste Proceedings, 27th Mid-Atlantic Conference - Arup K. SenGupta 1995-07-06

Engineering Ethics: Concepts and Cases - Charles E. Harris, Jr. 2013-01-11

Bridging the gap between theory and practice, ENGINEERING ETHICS, Fifth Edition, will help you quickly understand the importance of your conduct as a professional and how

your actions can affect the health, safety, and welfare of the public. ENGINEERING ETHICS, Fifth Edition, provides dozens of diverse engineering cases and a proven and structured method for analyzing them; practical application of the Engineering Code of Ethics; focus on critical moral reasoning as well as effective organizational communication; and in-depth treatment of issues such as sustainability, acceptable risk, whistle-blowing, and globalized standards for engineering. Additionally, a new companion website offers study questions, self-tests, and additional case studies. Available with InfoTrac Student Collections http://gocengage.com/infotrac. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Socially Responsible Engineering - Daniel A. Vallero 2007

The only guide to understanding ethical challenges in engineering projects from both a technical and a social perspective What does it mean to be a "good" engineer, planner, or design professional in the ethical sense? Technical professionals must make daily decisions which impact upon the quality of life of those who live near the facilities, plants, structures, and thoroughfares they design, and in the cities and communities they plan and build. The questions of where these projects are built, who they are to serve, and how they will affect those who live near them are at the heart of Socially Responsible Engineering. Written from the perspective of the engineer, this new resource from two leading engineering authors is essential to professionals and students who must grapple with how solutions to engineering problems impact the people those solutions are meant to serve. The first book of its kind to focus on the environmental implications of engineering ethics and justice, Socially Responsible Engineering provides a wealth of tools for evaluating projects from an ethical perspective and properly assessing the inherent risk to communities affected by engineering projects. This thorough book provides a historical and philosophical foundation of environmental justice, as well as: Case studies highlighting real-world concepts of environmental justice Practical examples of investigations, resolutions when possible, and questions for further debate Biographical sketches of key scientists, engineers, and activists who have contributed to our growing sense of environmental justice

When Smoke Ran Like Water - Devra Davis 2003-12-25

In When Smoke Ran Like Water, the world-renowned epidemiologist Devra Davis confronts the public triumphs and private failures of her lifelong battle against environmental pollution. She documents the shocking toll of a public-health disaster-300,000 deaths a year in the U.S. and Europe from the effects of pollution-and asks why we remain silent. For Davis, the issue is personal: Pollution is what killed many in her family and forced some of the others, survivors of the 1948 smog emergency in Donora, Pennsylvania, to live out their lives with impaired health. She describes that episode and also makes startling revelations about how the deaths from the London smog of 1952 were falsely attributed to influenza; how the oil companies and auto manufacturers fought for decades to keep lead in gasoline, while knowing it caused brain damage; and many other battles. When Smoke Ran Like Water makes a devastating case for change.

Engineering, Ethics, and the Environment - P. Aarne Vesilind 1998-02-13
This text, first published in 1998, examines the ethical responsibilities of engineers for the environment - of interest to all engineers.
Fundamentals of Geotechnical Engineering - Braja M. Das 2016-01-01
FUNDAMENTALS OF GEOTECHNICAL ENGINEERING, 5E offers a powerful combination of essential components from Braja Das' market-leading books: PRINCIPLES OF GEOTECHNICAL ENGINEERING and PRINCIPLES OF FOUNDATION ENGINEERING in one cohesive book. This unique, concise geotechnical engineering book focuses on the fundamental concepts of both soil mechanics and foundation engineering without the distraction of excessive details or cumbersome alternatives. A wealth of worked-out, step-by-step examples and valuable figures help readers master key concepts and strengthen essential problem solving skills. Prestigious authors Das and Sivakugan maintain the careful balance of today's most current research and practical field applications in a proven approach that has made Das' books leaders in the field. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.
Hold Paramount: The Engineer's Responsibility to Society - P. Aarne Vesilind 2015-01-01
This practical and essential text, co-authored by an engineer and an ethicist, covers ethical dilemmas that any engineer might encounter on the job, emphasizing the responsibility of a practicing engineer to act in an ethical manner. To illustrate the complexities involved, the authors present characters who encounter situations that test the engineering code of ethics. The dialogue between the characters highlights different perspectives of each dilemma. As they proceed through the book, students see how the code of ethics can help in decision making, as well as the implications of various decisions. The philosophical theory that supports the ethical situations encountered is presented as boxed material following each section. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.
Solid Waste Engineering: A Global Perspective - William A. Worrell 2016-01-01
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.
Introduction to Environmental Engineering - C. David Cooper 2014-07-25
Dr. Cooper’s 35 years of university experience and his award-winning teaching style are evident in this highly readable, authoritative

introduction to environmental engineering. Appropriate for all branches of engineering, this text presents fundamental knowledge in a logical, up-to-date manner, incorporating abundant examples with step-by-step solutions to illustrate key concepts. Central to Cooper’s treatment is the use of material and energy balances to solve specific environmental engineering problems and to instill a problem-solving mind-set that will benefit readers throughout their careers. Introduction to Environmental Engineering offers an overview of the profession and reviews the math and science essential to environmental engineering practice. The comprehensive coverage includes water resources, drinking water treatment, wastewater treatment, air pollution control, solid and hazardous wastes, energy resources, risk assessment, indoor air quality, and noise pollution. Featuring more than 80 graphics, real-world examples, and extensive end-of-chapter problems (with selected answers), this volume is an outstanding choice for a first course in environmental engineering.

Civil and Environmental Systems Engineering - Charles S. Revelle 2013-11-01

For junior/senior-level courses in Systems Analysis or Systems Analysis and Economics as applied to civil engineering. With a reorganization and new material, the Second Edition of this acclaimed text is designed to enhance the student's learning experience by providing exposure to modeling ideas and concepts. Network flow problems are emphasized by highlighting their study separately from the general integer programming models that are considered. With a wider range of examples and exercises that conclude many chapters, this text offers students an extremely practical, accessible study on the most modern skills available for the design, operation and evaluation of civil and environmental engineering systems.

Sludge Treatment and Disposal - Albrecht R. Bresters 1998

Recoge: 1. Introduction - 2. Background - 3. Sludge characterisation - 4. Transportation and storage - 5. Agricultural use - 6. Composting - 7. Drying - 8. Incinaration - 9. Landfilling - 10. New technologies - 11. Environmental impact assessments - 12. How to decide on sludge disposal - 13. Appendices - 14. References.

ASCE Combined Index - American Society of Civil Engineers 1994

Indexes materials appearing in the Society's Journals, Transactions, Manuals and reports, Special publications, and Civil engineering.

Environmental Engineering - Ruth Weiner 2003-04-14

Table of contents

Handbook of Environment and Waste Management: Air and water pollution control - Yung-Tse Hung 2012

This is a compilation of topics that are at the forefront of many technical advances and practices in air and water control. These include air pollution control, water pollution control, water treatment, wastewater treatment, industrial waste treatment and small scale wastewater treatment.

Introduction to Environmental Engineering - P. Aarne Vesilind 1997

Vesilind also incorporates issues of ethics and ethical decision making throughout the text discussion and accompanying problems - challenging the reader to consider the ethical ramifications of problem solutions. The concept of materials balances unifies coverage of all types of environmental problems, including ecosystem dynamics, wastewater treatment, and air pollution control.

Engineering Peace and Justice - P.

Aarne Vesilind 2010-10-17
Some years ago when I was chair of the department of civil and environmental engineering, a colleague introduced me to a visitor from Sandia Laboratories, perhaps the largest developer of armaments and weapons systems in the world. We had a nice visit, and as we chatted, the talk naturally centered on the visitor’s engineering work. It turned out that his job in recent years had been to develop a new acoustic triggering device for bombs. As he explained it, the problem with bombs was that the plunger triggering mechanism could fail if the bomb hit at an angle, and thus the explosives would not detonate. To get around this, he dev- oped an acoustic trigger that would detonate the explosives as soon as the bomb hit any solid surface, even at an angle. As he talked, I watched his face. His enthusiasm for his work was clearly e- dent, and his animated explanations of what they had developed at Sandia exuded pride and excitement. I thought about asking him what it felt like to have spent his engineering career designing better ways to kill people or to destroy property — the sole purpose of a bomb. I wondered how many people had been killed because this man had dev- oped a clever acoustic triggering device. But good sense and decorum prevailed and I did not ask him such questions. We parted as friends and in good spirits.

Basic Environmental Engineering - R. C. Gaur 2008

Controlling Environmental Pollution - P. Aarne Vesilind 2006
New introductory textbook designed for a one-semester course in environmental technology. Created to appeal to a range of students, it combines lucid presentations of environmental technologies with fascinating stories and biographies illustrating milestones in environmental science and engineering.

Ethics in Engineering Practice and Research - Caroline Whitbeck 2011-08-15
The first edition of Caroline Whitbeck's Ethics in Engineering Practice and Research focused on the difficult ethical problems engineers encounter in their practice and in research. In many ways, these problems are like design problems: they are complex, often ill defined; resolving them involves an iterative process of analysis and synthesis; and there can be more than one acceptable solution. In the second edition of this text, Dr Whitbeck goes above and beyond by featuring more real-life problems, stating recent scenarios and laying the foundation of ethical concepts and reasoning. This book offers a real-world, problem-centered approach to engineering ethics, using a rich collection of open-ended case studies to develop skill in recognizing and addressing ethical issues.

Failure Case Studies in Civil Engineering - Paul A. Bosela 2013
This report provides short descriptions of 50 real-world examples of performance failures designed specifically for classroom use.

Made to Break - Giles Slade 2009-06-30
Made to Break is a history of twentieth-century technology as seen through the prism of obsolescence. Giles Slade explains how disposability was a necessary condition for America's rejection of tradition and our acceptance of change and impermanence. This book gives us a detailed and harrowing picture of how, by choosing to support ever-shorter product lives, we may well be shortening the future

of our way of life as well.

Introduction to Environmental Engineering - Richard O. Mines 2009
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.

Wastewater Bioaugmentation and Biostimulation - Michael Gerardi 2015-11-20
Useful guide to solving problems of deficient biomass in wastewater treatment plantsStrategies for using microbes for biogas, controlling filamentous organisms, floc formation, odor reduction, sludge management and more Written by a leading wastewater biologist with many years' experience in plant operation, this book is a guide to understanding and enhancing existing microbial populations in wastewater treatment. It is a practical book that addresses operational problems arising from deficiencies in biomass and shows how these situations can be recognized and corrected. After presenting background on major wastewater microbes, the text explains the types of bacteria used in bioaugmentation and the nutrients, enzymes and growth factors needed to solve processing problems and achieve operational goals, for example, the conversion of starches such as cellulose to soluble sugars. Using numerous case studies, the text focuses on the treatment functions performed by augmented microbes: improved anaerobic biogas production, control of undesired filamentous organisms growth, floc formation, nitrification, odor control, resistance to toxicity, sludge reduction, and many more.

Water Resources Impact - 1999

Environmental Engineering - P Aarne Vesilind 2013-10-22
Environmental Engineering, Second Edition is an introductory book on environmental engineering, which includes materials important to environmental engineers: water resources, air quality, solid and hazardous wastes (including radioactive waste), noise, and social and ethical considerations. The text begins with a short introduction on the roots of environmental engineering and presents the concept of risk and safety. The following chapters are devoted to discussions on such topics as sources of water pollution, measurement of water quality, wastewater treatment, quantities and characteristics of municipal solid waste, and solid and hazardous waste law. The types of air pollutants, air pollution control, and noise measurement and control are dealt with in detail as well. The last chapter covers the topic on environmental ethics. This book will be of use to junior or senior level engineering students.

Principles of Environmental Engineering & Science - Mackenzie Davis 2008

New Venture Creation - Jeffry A. Timmons 2007
This new 7th Edition of New Venture Creation: Entrepreneurship for the 21st Century, is the most heavily revised edition since its existence, yet it still maintains the market defining "Timmons Model of the Entrepreneurial Process." As always, Timmons & Spinelli cover the process of getting a new venture started, growing the venture, and successfully harvesting it. Through text, case studies, and hands-on exercises, this how-to text guides students in discovering the concepts of entrepreneurship and the competencies, skills, tools, and experience to equip students to successfully launch a new venture and recognize entrepreneurial opportunities.

Environmental Pollution and Control - J. Jeffrey Peirce 1998-01-15
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.

ENR - 1996

Encyclopedia of Global Resources - Craig Willard Allin 2010

The topic of our natural resources has become an important issue over the last few years. The abundance of some (and scarcity of others) has sparked many a debate. The four volumes in this set discuss not only the aspects of the resources themselves, but their economic and social impact as well. Plus, complimentary online access is provided through Salem Science.

Environmental Engineering and Sustainable Design - Bradley Striebig 2022-01-05

Focus on critical contemporary issues as you examine engineering design and technologies within the context of models for managing systems' sustainability with ENVIRONMENTAL ENGINEERING AND SUSTAINABLE DESIGN, 2nd Edition. This best-selling invaluable resource, specifically designed for those studying engineering or applied environmental science, is updated with the latest developments and current, relevant case studies from across the globe. You learn how to incorporate sustainable practices into engineering design process, technological systems and the built environment. Expanded active learning exercises for each chapter guide you in applying theory to real situations. New chapters address developing issues and help bring sustainability science, environmental impact analysis and models of sustainability in engineering practice to the forefront. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Solid Waste Engineering and Management - Lawrence K. Wang 2022-01-01

This book is the first volume in a three-volume set on Solid Waste Engineering and Management. It provides an introduction to the topic, and focuses on legislation, transportation, transfer station, characterization, mechanical volume reduction, measurement, combustion, incineration, composting, landfilling, and systems planning as it pertains to solid waste management. The three volumes comprehensively discuss various contemporary issues associated with

solid waste pollution management, impacts on the environment and vulnerable human populations, and solutions to these problems.