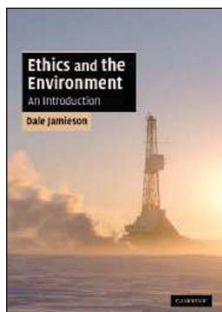


Ethics and the Environment

Dale Jamieson, Cambridge University Press, Cambridge, 234 pp., \$30, Feb. 2008, ISBN: 978-0-521-68284-8



Green engineering and environmental awareness are at an all-time high. Why are we now valuing our environment more? Is it because our impact on the environment is now affecting us? Is it because saving the Earth makes us feel good?

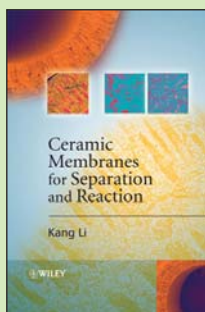
Author Jamieson, Director of Environmental Studies at New York Univ., gives philosophers a voice in a discussion currently

dominated by politicians, scientists, activists and pundits.

This book introduces the philosophical issues that come into play when humans interact with the environment, focusing primarily on ethics but encompassing questions of aesthetics and politics. Topics include the environment as an ethical question, human mortality, other animals and the environment, the value of nature, and nature's future. The book will be valuable for students taking courses in ethics and environmental studies, but should also appeal to a wider audience of readers who are interested in the moral questions and philosophies of environmentalism and the implications of our actions — past, present and future.

Ceramic Membranes for Separation and Reaction

Kang Li, John Wiley & Sons, Ltd., Chichester, West Sussex, U.K., 316 pp., \$180, May 2007, ISBN: 978-0-470-01440-0

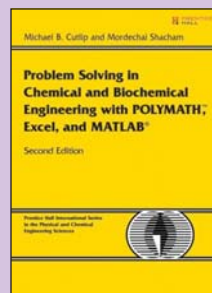


This guide to ceramic membranes is aimed at industrial and academic researchers and process developers working with membrane technology. The author begins by documenting established procedures for ceramic membrane preparation and characterization, and then exposes the reader to different aspects of ceramic membranes. Chapters focus on gas separation, the processes

involved in the transport and separation of gases in porous ceramic membranes, ceramic membrane modules for gas treatment, the transport of oxygen and hydrogen in dense ceramic membranes, and ceramic hollow-fiber membrane reactors. Examples illustrate membrane synthesis, characterization, and applications in industry, and the theoretical principles, advantages and disadvantages of using ceramic membranes under various conditions are discussed.

Problem Solving in Chemical and Biochemical Engineering with POLYMATH, Excel, and MATLAB, Second Edition

Michael B. Cutlip and Mordechai Shacham, Prentice Hall PTR, Upper Saddle River, NJ, 752 pp., \$50, Sep. 2007, ISBN: 978-0-131-48204-3



This expanded and revised second edition integrates the use of numerical problem-solving in the three most widely used software packages. Recently developed POLYMATH capabilities allow the automatic creation of Microsoft Excel spreadsheets and the generation of MATLAB code for problem solutions. Problems can be entered

into POLYMATH and then solved independently in all three software packages, while taking advantage of the unique capabilities within each package.

Designed for both students and professional engineers, this book incorporates engineering subject matter, including thermodynamics, fluid mechanics, heat and mass transfer, reaction engineering, process dynamics and more. It places special emphasis on biochemical engineering, integrating biochemical problems throughout the text and its more than 170 problems requiring numerical solutions. New chapters cover how to get started with Excel and MATLAB. Practical aspects of problem-solving are addressed, and the book's companion website provides solved and partially solved problem files for the three software packages.

Catalyst Preparation: Science and Engineering

John Regalbuto, Editor, CRC Press, Boca Raton, FL, 488 pp., \$180, Dec. 2006, ISBN: 978-0-849-37088-5

An overview of good catalyst design, this book explores traditional and novel methods of catalyst preparation, characterization and monitoring, on both the laboratory and industrial scales. Many key principles of heterogeneous-catalyst preparation and methods of synthesis are presented, beginning with bulk materials, with subsequent chapters devoted to heterogeneous nanoscale materials. The book illustrates the use of characterization tools and computational methods to elucidate preparation-structure relationships, and explores major industrial processes using heterogeneous catalysts — highlighting methods that are readily scaleable and industrially feasible. The book concludes with a prognosis of future applications involving catalyst preparation and the technological advances necessary for continued progress.

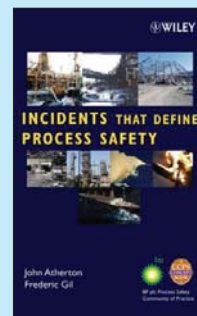
New Books from CCPS

Incidents that Define Process Safety

John Atherton and Frederic Gil, Center for Chemical Process Safety, New York, NY, and John Wiley & Sons, Inc., Hoboken, NJ, 336 pp., \$89.95, April 2008, ISBN: 978-0-470-12204-4

This book describes approximately 50 incidents that have had a significant impact on the chemical and refining industries' approach to process safety. Events are explained in detail to give readers a fundamental understanding of the root causes, the consequences, the lessons learned, and actions that can prevent a recurrence. Containing exhaustive investigative reports about these events, the book consolidates and archives concise information on representative incidents that are relevant today so readers can apply the resulting safety principles to their current operations. These safety principles deal with process and plant design, inspection and maintenance, knowledge and training, hazard identification, management of change, learning from "near misses," operating practices, external causes, permit-to-work systems, emergency response, and human factors.

Among the incidents the book describes are: the Exxon Valdez oil spill; the hydrogen fluoride release at the Marathon Oil Refinery in Texas City in October 1987; the explosion in an isomerization unit at BP's Texas City Refinery in March 2005; and the methyl isocyanate release at Union Carbide India Ltd.'s Bhopal facility in December 1984. It also explores infamous events that are typically not associated with the process industries — such as NASA's loss of the Space Shuttles Challenger and Columbia, the Hindenburg explosion, the sinking of the Titanic, the Chernobyl nuclear reactor failure, an earthquake, and various airplane crashes — and demonstrates how the lessons learned from those events can be applied to the chemical process industries.



Guidelines for Management of Change for Process Safety

Center for Chemical Process Safety, New York, NY, and John Wiley & Sons, Inc., Hoboken, NJ, 170 pp., \$89.95, April 2008, ISBN: 978-0-470-04309-7

This book defines the important features of management of change (MOC) systems, which are used not only for process safety purposes, but also to manage quality, security, environmental, and organizational risk issues. The book outlines a process that can be used for designing, developing, installing, operating, maintaining, and improving MOC systems at individual company sites and at corporate or support locations. The appendices provide examples, flowcharts, and forms, and an accompanying CD contains an MOC system design tool, an MOC system diagnostic tool, and examples of typical MOC system procedures and forms.

Guidelines for Hazard Evaluation Procedures, Third Edition

Center for Chemical Process Safety, New York, NY, and John Wiley & Sons, Inc., Hoboken, NJ, 542 pp., \$125, April 2008, ISBN: 978-0-47197815-2

Enhancements to the classic CCPS reference include: a new section on inherent safety reviews, and expanded descriptions of hazard evaluation methods to indicate how inherent safety concepts can be considered; reorganization of the hazard-evaluation methodologies into scenario-based and non-scenario-based methods; a new chapter on qualitative and order-of-magnitude quantitative scenario risk estimation approaches for determining the adequacy of safeguards; a new section summarizing layer of protection analysis (LOPA), with descriptions of how LOPA has been combined with hazard evaluation techniques; an emphasis

on the use of the cause-by-cause approach to documenting hazard and operability (HAZOP) studies; new sections on evaluating procedure-based operations, evaluating the hazards of programmable systems, and addressing issues related to facility siting; new material on addressing human factors; and additional checklists and forms for evaluating changes, reactivity, and inherent safety. Part 2 of the book contains more than 150 pages of worked examples.

Human Factors Methods for Improving Performance in the Process Industries

Center for Chemical Process Safety, New York, NY, and John Wiley & Sons, Inc., Hoboken, NJ, 542 pp., \$99.95, 2007, ISBN: 978-0-470-11754-5

This book provides guidance for managers and plant engineering staff on specific, practical techniques and tools for addressing human factors issues that impact process safety. Complete with examples, case histories, techniques, and implementation methodologies, it includes: an overview on implementing a human factors program at the corporate level, covering business value, developing a program to meet specific needs, improving existing systems, roles and responsibilities, measures of performance, and more; summaries of 40 different human factors relating to process safety, with a description of the tools, a practical example with graphics and visual aids, and additional resources; and information on addressing the OSHA Process Safety Management (PSM) requirement for conducting human factors reviews in process hazard analyses. A CD-ROM containing a color version of the book, including all illustrations, is also provided.

To order, visit www.wiley.com/go/ccps
CCPA and AIChE members receive 20% off list price.