



Water Quality Engineering: Physical / Chemical Treatment Processes

Mark M. Benjamin, Desmond F. Lawler

E-Book	978-1-118-63227-7	June 2013	\$145.99
Hardcover	978-1-118-16965-0	July 2013	\$182.00

DESCRIPTION

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.

ABOUT THE AUTHOR

MARK M. BENJAMIN, PhD, is Professor of Environmental Engineering at the University of Washington. A Fulbright Fellow, Dr. Benjamin is an expert in physical and chemical treatment processes. His research examines the behavior of natural organic matter and its removal from potable water sources. Moreover, he has developed adsorption-based processes for the removal of metals, natural organic matter, and other contaminants from solutions. A major focus of his current research has been the membrane treatment of drinking water.

DESMOND F. LAWLER, PhD, holds the Nasser I. Al-Rashid Chair in Civil Engineering at the University of Texas and is a member of the University's Distinguished Teaching Academy. Throughout his career, his research and teaching have focused on physical-chemical treatment processes. The research has emphasized particle removal in drinking water and wastewater but has also involved gas transfer, precipitation, oxidation, and desalination. Fourteen of his Ph.D. advisees hold academic positions, while his numerous M.S. research graduates work in consulting firms and government agencies.

To purchase this product, please visit <https://www.wiley.com/en-cv/9781118632277>