



Case Studies in Fluid Mechanics with Sensitivities to Governing Variables

M. Kemal Atesmen

E-Book	ISBN: 978-1-119-52487-8	November 2018	\$65.00
Paperback	ISBN: 978-1-119-52478-6	February 2019	\$65.00
O-Book	ISBN: 978-1-119-52486-1	December 2018	Available on Wiley Online Library

DESCRIPTION

Covers a wide range of practical fluid mechanics, heat transfer, and mass transfer problems

This book covers the many issues that occur in practical fluid mechanics, heat transfer, and mass transfer, and examines the basic laws (the conservation of matter, conservation of momentum, conservation of energy, and the second law of thermodynamics) of these areas. It offers problem solutions that start with simplifying engineering assumptions and then identifies the governing equations and dependent and independent variables. When solutions to basic equations are not possible, the book utilizes historical experimental studies. It also looks at determining appropriate thermo-physical properties of the fluid under investigation, and covers solutions to governing equations with experimental studies.

Case Studies in Fluid Mechanics with Sensitivities to Governing Variables offers chapters on: draining fluid from a tank; vertical rise of a weather balloon; wind drag forces on people; Venturi meter; fluid's surface shape in a rotating cylindrical tank; range of an aircraft; designing a water clock; water turbine under a dam; centrifugal separation of particles; ideal gas flow in nozzles and diffusers; water supply from a lake to a factory; convection mass transfer through air-water interface; heating a room by natural convection; condensation on the surface of a vertical plate in laminar flow regime; bubble rise in a glass of beer; and more.

- Covers a broad spectrum of problems in practical fluid mechanics, heat transfer, and mass transfer
- Examines the basic laws of fluid mechanics, heat transfer and mass transfer
- Presents solutions to governing equations with experimental studies

Case Studies in Fluid Mechanics with Sensitivities to Governing Variables will appeal to engineers working in thermo-physical sciences and graduate students in mechanical engineering.

ABOUT THE AUTHOR

M. Kemal Atesmen, PhD, pursued an academic and an industrial career in parallel and became an associate professor in mechanical engineering before dedicating his professional life to international engineering management and engineering project management for thirty-three years. He is now retired, but has helped many young engineers to bridge the gap between college and professional life in automotive, computer component, data communication, and offshore oil industries. He is a life member of ASME.

SERIES

Wiley-ASME Press Series

For additional product details, please visit <https://www.wiley.com/en-ky>