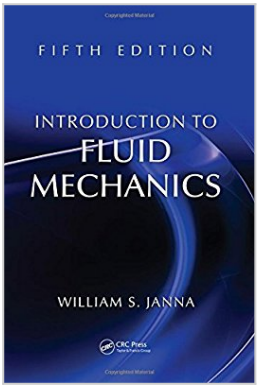

Introduction to Fluid Mechanics, Fifth Edition

By William S. Janna

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The book begins with the fundamentals, addressing fluid statics and describing the forces present in fluids at rest. It examines the forces that are exerted on a body moving through a fluid, describes the effects that cause lift and drag forces to be exerted on immersed bodies, and examines the variables that are used to mathematically model open-channel flow. It discusses the behavior of fluids while they are flowing, covers the basic concepts of compressible flow (flowing gases), and explains the application of the basic concepts of incompressible flow in conduits. This book presents the control volume concept; the continuity, momentum, energy, and Bernoulli equations; and the Rayleigh, Buckingham pi, and inspection methods. It also provides friction factor equations for the Moody diagram, and includes correlations for coiled and internally finned tubes.

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Introduction to Fluid Mechanics, Fifth Edition offers a basic analysis of fluid mechanics designed for a first course in fluids. This latest edition adds coverage of experimental methods in fluid mechanics, and contains new and updated examples that can aid in understanding and applying the equations of fluid mechanics to common, everyday problems.

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Editorial Review

Review

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?A. K. Oskouie, Illinois Institute of Technology, Chicago, USA

About the Author

William S. Janna received his BSME, MSME, and Ph.D from the University of Toledo, Ohio. He joined the mechanical engineering faculty of the University of New Orleans in 1976, where he became department chair, and served in that position for four years. Subsequently, he joined the University of Memphis in 1987 as chair of the Department of Mechanical Engineering. He also served as associate dean for graduate studies and research in the Herff College of Engineering. He is the author of three textbooks and teaches short courses for the American Society of Mechanical Engineers (ASME).

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