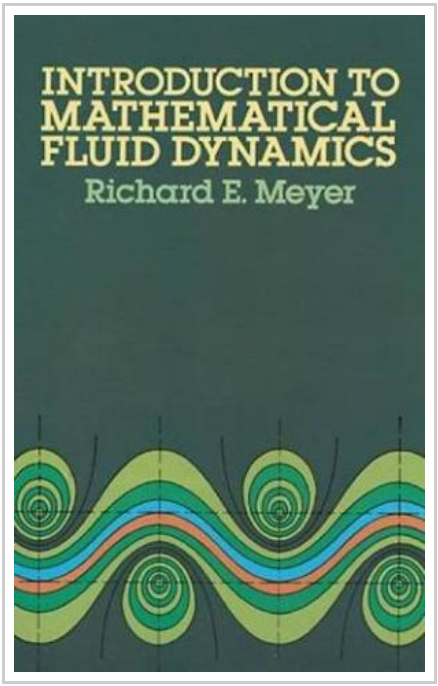




# Introduction to Mathematical Fluid Dynamics

By Richard E. Meyer

Dover Publications Inc., United States, 2010. Paperback. Book Condition: New. 216 x 137 mm. Language: English . Brand New Book ***** Print on Demand *****.Fluid dynamics, the behavior of liquids and gases, is a field of broad impact -- in physics, engineering, oceanography, and meteorology for example -- yet full understanding demands fluency in higher mathematics, the only language fluid dynamics speaks. Dr. Richard Meyer s work is indeed introductory, while written for advanced undergraduate and graduate students in applied mathematics, engineering, and the physical sciences. A knowledge of calculus and vector analysis is presupposed. The author develops basic concepts from a semi-axiomatic foundation, noting that for mathematics students such a treatment helps to dispel the all too common impression that the whole subject is built on a quicksand of assorted intuitions. Contents include: Kinematics: Lagrangian and Eulerian descriptions, Circulation and Vorticity. Momentum Principle and Ideal Fluid: Conservation examples, Euler equations, D Alembert s and Kelvin s theorems. Newtonian Fluid: Constitutive and Kinetic theories, exact solutions. Fluids of Small Viscosity: Singular Perturbation, Boundary Layers. Some Aspects of Rotating Fluids: Rossby number, Ekman layer, Taylor-Proudman Blocking. Some Effects of Compressibility: Thermodynamics, Waves, Shock relations and structure, Navier-Stokes equations. Dr. Meyer writes,...



### Reviews

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-- ***Roberto Friesen***

*This written book is excellent. It typically is not going to price a lot of. I found out this book from my dad and i encouraged this book to discover.*

-- ***Darrin Abbott***