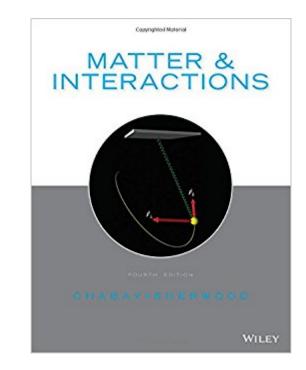


Matter And Interactions





Synopsis

Matter and Interactions, 4th Edition offers a modern curriculum for introductory physics (calculus-based). It presents physics the way practicing physicists view their discipline while integrating 20th Century physics and computational physics. The text emphasizes the small number of fundamental principles that underlie the behavior of matter, and models that can explain and predict a wide variety of physical phenomena. Matter and Interactions, 4th Edition will be available as a single volume hardcover text and also two paperback volumes.

Book Information

Hardcover: 1040 pages Publisher: Wiley; 4 edition (January 7, 2015) Language: English ISBN-10: 1118875869 ISBN-13: 978-1118875865 Product Dimensions: 8.5 x 1.6 x 10.9 inches Shipping Weight: 4.6 pounds (View shipping rates and policies) Average Customer Review: 4.4 out of 5 stars Â See all reviews (10 customer reviews) Best Sellers Rank: #73,857 in Books (See Top 100 in Books) #28 in Books > Science & Math > Physics > Mechanics #44 in Books > Textbooks > Science & Mathematics > Mechanics #205 in Books > Textbooks > Science & Mathematics > Physics

Customer Reviews

I have been teaching physics for 25 years. I have used Matter and Interactions for the past 9 years, since the second edition. M&I is the only introductory textbook that caused me to think deeply about the connections we make in physics and the principles that we espouse as most important. By emphasizing principles and process over content, M&I provides students the tools to adapt to the numerous sub-disciplines of physics and other disciplines of science. Since adopting M&I, I have found students spend more time seeking connections and less time memorizing factoids. By being exposed to problems that can either lack data or provide excess amounts of information, that require students to identify assumptions in problem solving, students who use M&I become comfortable with the ambiguity found in doing science. Given that we provide multiple tracks toward upper division physics courses, it is easy for me to identify students in my upper division courses who use a principles first approach vs. a memorize the technique approach when solving problems â " especially when they start analyzing a novel system.Emphasizing principles over content in

studying physics has been most important in our integrated introductory science curriculum where biology, chemistry and physics are taught as part of a full year science core. M&I includes direct connections between physics principles and topics of importance in biochemistry even though this is a text that is not aimed at the life science major. As a consequence, students value physics as a way to understand biochemical reactions and physiological outcomes. And by emphasizing a handful of principles, e.g., forces, energy, fields, I have had no difficulty teaching physics using this text completely out of order.

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