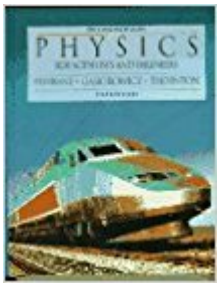
Ebook Directory
the best source of ebook

The book was found

Physics For Scientists And Engineers: Extended Version, 2nd Edition



PDF
Adobe
DOWNLOAD EBOOK

Synopsis

Appropriate for any introductory calculus-based physics course.Fishbane/Gasiorowicz/Thornton is a comprehensive introduction to calculus-based physics. The most successful first-edition physics text of the last decade, it is the only book written specifically to address the main issue in this course-namely, balancing the needs and wants of the students with those of the instructor. The authors, experienced researchers and teachers, represent both theoretical and experimental physicists. This text presents balance between theory and applications, between concepts and problem-solving, between mathematics and physics, and finally, between technology and traditional pedagogical methods. Appropriate for both scientists and engineers with increased applications for engineering students.

Book Information

Hardcover: 1329 pages

Publisher: Prentice Hall; 2 edition (December 29, 1995)

Language: English

ISBN-10: 0132311763

ISBN-13: 978-0132311762

Product Dimensions: 10.8 x 8.9 x 2 inches

Shipping Weight: 6.5 pounds (View shipping rates and policies)

Average Customer Review: 2.6 out of 5 stars 23 customer reviews

Best Sellers Rank: #4,084,171 in Books (See Top 100 in Books) #42 inÃ Â Books > Science & Math > Physics > Engineering #536 inÃ Â Books > Science & Math > Physics > Applied #9944 inÃ Â Books > Textbooks > Science & Mathematics > Physics

Customer Reviews

Appropriate for both scientists and engineers. A comprehensive introduction to calculus-based physics which presents balance between theory and applications, between concepts and problem-solving, between mathematics and physics, and finally, between technology and traditional pedagogical methods. Maintains theoretical coverage, but supplements it with applications boxes, on topics such as: timed traffic lights, jet engines, simple machines, drag racing, flight navigator, cranes, quartz watches, smoke detectors, capacitors as power sources for laptop computers, television antennas, and fiber optics. Places emphasis on concepts, showing the motivation for the physics. This conceptual emphasis has been maintained, but supporting problem-solving apparatus has been dramatically revised. All mathematics in the book is self-contained, and major

mathematical tools are introduced as needed. Vectors, a topic that requires a lot of practice, are covered in depth.

I tutor high school students and purchase the text books their teachers are using so that I can point to chapters the students can use. A more recent version of this book was used by Naperville North HighSchool. My rating is based on the suitability of this text if used by high school teachers teaching AP Physics C. This is likely not the target use intended by the authors-- but university professors selecting books for their own needs don't need my review. As such, I am writing a review for students and parents who are currently unfamiliar with physics and are interested in a resource that might help them achieve their goals.With that in mind, when writing I bear in mind this notion: The learning goals for those taking a course to called "AP Physics C" should be both to prepare students to pass the test and to have a foundation for higher level classes in engineering and physics bearing in mind students will get further exposure in later courses. For those purposes the text is mediocre with some positives and some negatives. My view is other available books are more suitable. That said: any book is better than no book-- which I mention only because "no book" seems to be a trend in high schools.(Note: this book is definitely not suitable for AP Physics I because AP Physics I is algebra based.)The actual review follows:On the positive side: The text does contain the necessary material to cover the syllabus for AP Physics C. For this purpose, the useful chapters are 1-13 for mechanics and 21-33 for EM. The student will be able to find examples and discussions of all relevant topics. So it is not a waste. As a general book to have on the shelf, it's also useful (though no better than other books. I'd rather have Halliday, Resnick &Walker or Young and Freedman, or the old Sears and Zemansky texts on my shelf any day.)On the neutral side: This book contains many chapters (12-21 and 34-46) that are unnecessary for AP Physics C. This feature is shared by most Calculus based physics books which are often used for a 3 semester series of required physic course. AP Physics C is the equivalent of 2 semesters. Since texts are generally written to dovetail with University needs, it unlikely a student will find a decent AP Physics text that doesn't share this feature. The only negative of the extra material is it makes the 1200+ page text ponderous and long. Those preparing for the AP Physics C course might prefer a different book for this reason. (Note: quite likely the vast majority of high school students will be assigned different text in college; those text will cover the same material. So there is no reason to worry the students will be harmed by using a book that does not contain that material.)On the negative side: Long.The book contains copious internal digressions that are both unhelpful, unnecessary and worse, make it difficult for students to locate the material they really need to master. For example, page 101 in the (very

important) section discussing application of Newton's laws rambles on about the distinction between analytical solutions and numerical solutions. This ramble is followed by a paragraph on Chaos which is then followed by a philosophical discourse on "What is a Law of Physics?" While much of this is interesting in a "Nova Science Special" or "Interesting blog post" it lessons the value of the book to students trying to learn how to understand and apply physical principles at the entry level. A chapter summary follows these digressions.Some, though not all, sub-chapters in early sections should be edited and shifted to later chapters. For the most part the ones that should be relegated to other chapters focus on modern physics. For example subchapters discussing "Barrier Tunneling in Quantum Physics" into the introduction of conservation of energy, "Momentum transfer at high energies" shoved into the introduction to conservation of momentum and "Quantization of angular momentum" make the book a poor choice for high school teachers teaching AP Physics C. Placing a "*" in front of the chapter to indicate it can be skipped is not the correct way to deal with the fact the material is utterly misplaced. If this book is to be used for AP Physics C (and in my view even introductory college physics) both those sections should be deferred to modern physics.While discussing misplacement of material involving modern physics: AP Physics C texts should avoid including conservation of momentum problems that aren't obviously non-relativistic before solution is attempted. So: problem 28 on page 229 involving nuclear physics and asking students to determine speed should be avoided (especially since these student may also not have taken chemistry.) Other potential homework problems sharing this issue appear in later sections of the book.Back to neutral: Sub-chapters exist in correct locations, but high school teachers should place a "*" next to them as a reminder the material does not appear on the AP Physics C. For example: Damped harmonic motion (13.7) and Driven harmonic motion do not appear on the AP Physic C test-- and for good reason. Calculus I and II are co-requisites for these introductory physics courses, many students will not have covered the ordinary differential equations (ODEs) in any depth. Most university curricula defer topics in physics that require solutions of all but the most basic ODE's to a time when students have covered these topics in their math sequence. High schools should certainly defer these to that time as well.The reason the sub-chapter issues are "neutral" is that students who buy these books my appreciate those topics being discussed and any informed teacher can take care to highlight all sub-chapters not on the AP Physics C curriculum. She can then avoid devoting time to things like precession, electric and magnetic dipoles are not specifically addressed on an AP Physics C exam. More importantly, teachers should also avoid any and all homework problems that require understanding of application of ODE's beyond that discussed in Calculus II. Even viewed as "challenge" problems, these problems do not help students grasp

concepts necessary to progress in physics and also don’t help them learn to apply physics later on.----I am adding this because I can’t help myself: I mostly avoided reading the sections that are not on the AP Physics C. But I couldn’t help examining the section on fluid mechanics. Figure 16-31 claiming to illustrate "Poseuille Flow" is pathologically incorrect. The velocity profile does not come to a "point" in the center of the pipe. I hope this is corrected in later versions. This will not harm students in an AP Physics C course because the chapter will be skipped entirely.

As a doctoral student studying Clinical Neuroscience, I have studied a lot of statistics and data analysis methods, and I wanted to learn more about physics. With a knowledge of math up through differential equations and the luxury of self-study time, I wanted a comprehensive and calculus-based introduction to physics text that I could learn from on my own, with plenty of examples. I orginally began studying Halliday-Resnick-Walker, which provides many excellent examples, but teaches physics in rather a "cookbook" fashion. Having now completed 6 chapters of text and odd-numbered exercises in Fishbane et al. 2nd ed. Extended, I would say that Fishbane et al. is more detailed, rigourous, and comprehensive; it can be challenging at times to understand some of the concepts presented and one needs to take some time and think deeply about what they mean, but that is the nature of science. Many of the exercises can be challenging, but once you figure them out and complete them, you feel that you really know something solid. Fishbane et al. came bundled with LOGAL’s Physic’s CD, which is absolutely outstanding as an interactive learning tool; the "experiments" with function parameters and the animation really bring the physics concepts and mathematics to life. I feel that Fishbane et al. teaches physics in a thorough and thought provoking manner. I only wish that they would have kept in all those derivations from the last edition.

I read physics and higher order math books and I had taken a college physics class before that covered all the same material with a different textbook. I then changed my major and had to take a physics class which unfortunately used this book. I am thankful that I all ready new the concepts from my other textbook, because this book explaines what I thought were simple concepts in the most convoluted and obscure manner. If I did not have my other textbook I don’t know how I would have understood the concepts covered in an applicable manner. There is not enough examples in the text and when they do give examples they are not even comprable in difficulty level to the homework questions. This book also has poor organization as far as topics covered in the text. For example, the uniform dynamic circular motion topics should be in one chapter not smattered throughout several, and everytime the book refers to a figure it is always on the other page. This last

critism may sound kind of petty, but when your reading this book four hours a day it slows things down when you keep having to locate the figure the text is reffering to.

I am an engineering student, and this book was the required text for my University Physics course. My teacher sucked big time, and I couldn't grasp ANYTHING from lectures alone. I thought by concentrating on the textbook alone, I could get the material. One thing I can tell you is that if you read the book with utmost concentration, you can understand the material to a moderate level. HOWEVER, this process takes up much of your time, because the book is filled with derivations of several formulae that you don't really need to know, and the syntax can confuse you often. If Physics is your true passion and you WANT to learn EVERYTHING about it (and have enough free time to read through this book without ever feeling a little bored), then this book will be useful for you. Otherwise, you're better off with a study guide and also, another physics text for reference.

Download to continue reading...

Physics for Scientists and Engineers with Modern Physics: Volume II (3rd Edition) (Physics for Scientists & Engineers) Physics for Scientists and Engineers: Extended Version, Vol. 1, 2nd Edition Physics for Scientists and Engineers: Extended Version, Vol. 2, 2nd Edition Physics for Scientists and Engineers: Extended Version, 2nd Edition Physics for Scientists and Engineers: Vol. 2: Electricity and Magnetism, Light (Physics, for Scientists & Engineers, Chapters 22-35) Bundle: Physics for Scientists and Engineers: Foundations and Connections, Advance Edition, Loose-leaf Version + WebAssign Printed Access Card for ... and Connections, 1st Edition, Multi-Term Physics for Scientists and Engineers: A Strategic Approach with Modern Physics (4th Edition) Physics for Scientists and Engineers: A Strategic Approach with Modern Physics (3rd Edition) Physics for Scientists and Engineers, Technology Update, Hybrid Edition (with Enhanced WebAssign Multi-Term LOE Printed Access Card for Physics) Physics for Scientists and Engineers with Modern Physics Pearson New International Edition Physics for Scientists and Engineers with Modern Physics (3rd Edition) Physics for Scientists and Engineers with Modern Physics International Edition Physics: for Scientists and Engineers with Modern Physics, Third Edition Physics for Scientists and Engineers: A Strategic Approach with Modern Physics (Chs 1-42) Plus MasteringPhysics with Pearson eText -- Access Card Package (4th Edition) Physics for Scientists & Engineers with Modern Physics (4th Edition) Physics for Scientists & Engineers with Modern Physics, Books a la Carte Plus MasteringPhysics (4th Edition) Principles of Physics: For Scientists and Engineers (Undergraduate Lecture Notes in Physics) Student Study Guide & Selected Solutions Manual for Physics for Scientists & Engineers with Modern Physics Vols. 2 & 3 (Chs.21-44) (v. 2 & 3, Chapters

2) Advice to Rocket Scientists: A Career Survival Guide for Scientists and Engineers (Library of Flight) Physics for Scientists and Engineers: A Strategic Approach, Standard Edition (Chs 1-36) (4th Edition)

Contact Us

DMCA

Privacy

FAQ & Help