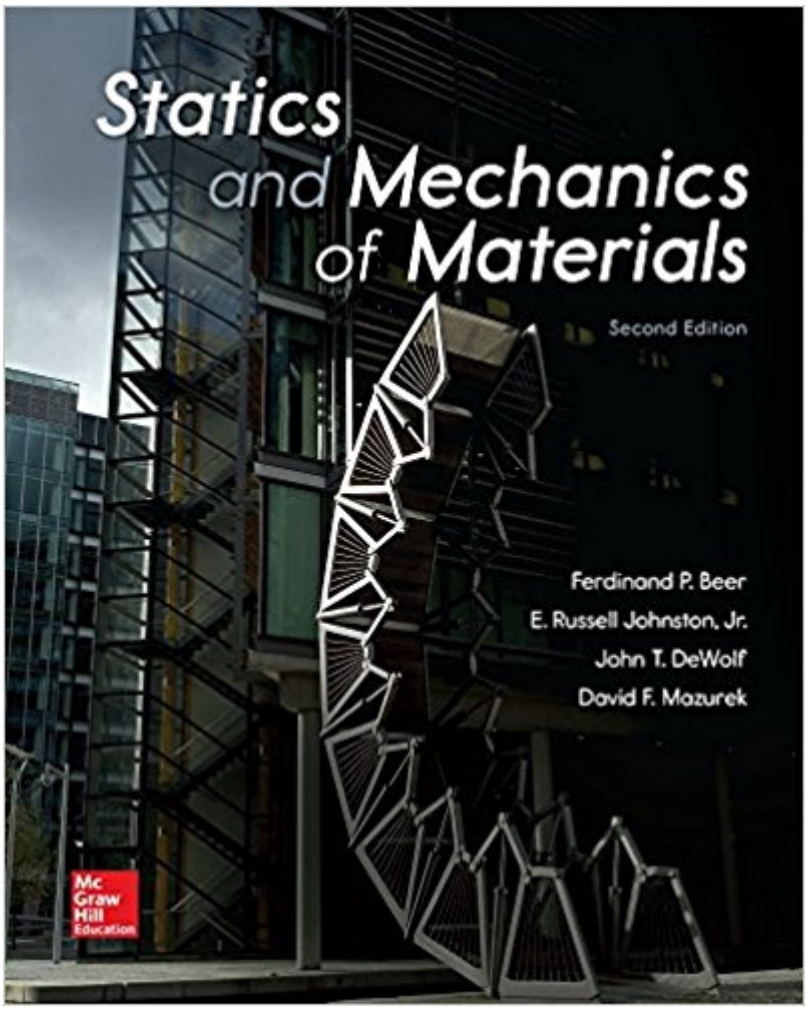
Statics And Mechanics Of Materials



Synopsis

The approach of the Beer and Johnston series has been appreciated by hundreds of thousands of students over decades of engineering education. The Statics and Mechanics of Materials text uses this proven methodology in an extensively revised edition, aimed at programs that teach these two subjects together or as a two semester sequence. Maintaining the proven methodology and pedagogy of the Beer and Johnson series, Statics and Mechanics of Materials combines the theory and application behind these two subjects into one cohesive text. A wealth of problems, Beer and Johnston's hallmark sample problems, and valuable review and summary sections at the end of each chapter, highlight the key pedagogy of the text.McGraw-Hill Education's Connect, is also available as an optional, add on item. Connect is the only integrated learning system that empowers students by continuously adapting to deliver precisely what they need, when they need it, how they need it, so that class time is more effective. Connect allows the professor to assign homework, quizzes, and tests easily and automatically grades and records the scores of the student's work. Problems are randomized to prevent sharing of answers an may also have a "multi-step solution" which helps move the students' learning along if they experience difficulty.

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Customer Reviews

David holds a B.S. degree in ocean engineering and a M.S. degree in civil engineering from the Florida Institute of Technology, and a Ph.D. degree in civil engineering from the University of Connecticut. Â He was employed by General Dynamics Corporation Electric Boat Division for five

years, where he provided submarine construction support and conducted engineering design and analysis associated with pressure hull and other structures. Â In addition, he conducted research in the area of noise and vibration transmission reduction in submarines. Â He then taught at Lafayette College for one year prior to joining the civil engineering faculty at the U.S. Coast Guard Academy, where he has been since 1990. Â David is currently a member of the American Railway Engineering & Maintenance-of-way Association Committee 15 (Steel Structures), and the American Society of Civil Engineers Committee on Blast, Shock, and Vibratory Effects. Â He has also worked with the Federal Railroad Administration on their bridge inspection training program. Â Professional interests include bridge engineering, railroad engineering, tall towers, structural forensics, and blast-resistant design. Â He is a licensed professional engineer in Connecticut and Pennsylvania.John T. DeWolf, Professor of Civil Engineering at the University of Connecticut, joined the Beer and Johnston team as an author on the second edition of Mechanics of Materials. Â John holds a B.S. degree in civil engineering from the University of Hawaii and M.E. and Ph.D. degrees in structural engineering from Cornell University. Â His research interests are in the area of elastic stability, bridge monitoring, and structural analysis and design. Â He is a registered Professional Engineer and a member of the Connecticut Board of Professional Engineers. Â He was selected as the University of Connecticut Teaching Fellow in 2006.Born in France and educated in France and Switzerland, Ferd held an M.S. degree from the Sorbonne and an Sc.D. degree in theoretical mechanics from the University of Geneva. He came to the United States after serving in the French army during the early part of World War II and had taught for four years at Williams College in the Williams-MIT joint arts and engineering program. Following his service at Williams College, Ferd joined the faculty of Lehigh University where he taught for thirty-seven years. He held several positions, including the University Distinguished Professors Chair and Chairman of the Mechanical Engineering and Mechanics Department, and in 1995 Ferd was awarded an honorary Doctor of Engineering degree by Lehigh University.Â Born in Philadelphia, Russ holds a B.S. degree in civil engineering from the University of Delaware and an Sc.D. degree in the field of structural engineering from The Massachusetts Institute of Technology (MIT). He taught at Lehigh University and Worchester Polytechnic Institute (WPI) before joining the faculty of the University of Connecticut where he held the position of Chairman of the Civil Engineering Department and taught for twenty-six years. In 1991 Russ received the Outstanding Civil Engineer Award from the Connecticut Section of the American Society of Civil Engineers.

This book is fine. I think they gave enough examples with high quality and sufficient learning

material for the Statics portion as long as you could find answers. With Chegg or google, most of the time, you could get the answers and learn it well.The Mechanics of Materials section lacked I believe in quality. Their examples completely idealized the mechanics; such a perfect situation would never occur on a midterm, unless the instructor is trying to make it easy. All Mohr's Circle problems were plug and chug type problems whereas my final were far more simple and theoretical in nature (that means the equations and such were almost useless). For Morh's Circle problems, most problems had a trivial solution for the value of R for which is normally a much more tedious process and the pole method was not introduced, however, a very useful tool depending on the student. So, the construction was the biggest lacking factor for Morh's Circle discussion in the textbook and should be presented in much easier steps to follow than jumbled clunky paragraphs.Also, the problems involving equivalent coupled systems and using that to find shear and bending moments at particular points along a section were very idealized and plug and chug problems; those problems required a heavier amount of emphasis on the process (thinking involved). The biggest issue with this is that the particular cases for the couple systems and it's orientations were not at all described in ch.14 as would other Mechanics of Materials texts.Ch. 8 I think skipped way too fast into the design problems, because instead of forcing/motivating the student to calculate bearing, shear, normal and flexural (which flexural wasn't covered until ch. 11) stresses with exercises on that, there were problems involving all those stresses which if a student couldn't apply, would get so lost on all design problems. The student must really know all the parameters of calculations before using all combinations of them that the problem won't even hint at (e.g. prob 8.45 was a painful 10 hours for me). Also, it would have helped if this chapter were covered mixed in with statics course material to get the student motivated on this early on and know what the real deal is ahead.Ch. 9 & 10 were not bad, but they needed more plots. There were not enough plots of internal forces, moments, etc. that allowed it easy assurance for the student that they understand the system. Otherwise, the student is at the mercy of spending like 20 minutes just figuring out if their math matches when the plots could save 19 minutes.Ch. 11, 12 and 13 really were all similar focusing on beam type structural elements and chapter 11 was exceptional with it's depth on reinforced concrete sections and flexural stress effect on sections, but ch. 11 design problems were not extensive enough to be anything more than trivial, since they should have included small LRFD and ASD calculation of allowable moments and stresses as a good intro for a later chapter. Also, Ch. 12 and 13 I would say same thing, because with 12 and 13, they were just highly trivialized, yet methodically diverted for the shear flow and bending moment and shear diagram drawing as well as the lack of ch. 12 and 13's design problem complexity; the ASD and

LRFD methods for buildings should have been introduced allowing a very easy, but most applicable application for the content learned in ch. 12 and 13 hence should go before ch. 11, but still after ch. (8 & 9). Ch. 12 should have also introduced the idea of an axial load diagram and the odds parts of it.Ch. 15 on beam analysis (differential equation math) was extensive and fairly concise. However, it didn't cover the Heaviside singularity functions that make the differential equation solutions a matter of working itself out. So, doing that would make it a lot easier to work out what they have in the book.Ch. 16 on buckling was fine, except I prefer that the text go over a detailed derivation on the different formulas for Pcrit depending on the boundary conditions for the column. The text did cover 2, but not all.My other problem was that there were not enough plots of internal forces, moments, etc. that allowed it easy assurance for the student that they understand the system. Otherwise, the student is at the mercy of spending like 20 minutes just figuring out if their math matches when the plots could save 19 minutes.Overall, I think the example problems should have had more explanation in the steps rather than mostly math as it is, but this book is still fine. It's definitely better than some 'okay' books.

It's a book and it has the information but the quality was not as stated. This books exterior is in poor condition. Biding is very loose and almost feels like it's ready to separate. The corners are frayed as well.

Great book! Exactly what I was looking for!

Its pretty easy to understand, and there are lots of examples and diagrams, but I wouldn't have bought it had it not been a required text. Also, I bought it used and almost every other word is highlighted.

A lot of examples, wish there were more theoretical explanations

I am sure there are better statics books out there. This is the required text so I have no choice. The flow is choppy because examples occupy every other page. It does convey the concepts but overall, not a great treatment of the material.

It came pretty quickly and in good shape. I needed this for a class in college. It has great examples and is easy to read.

Great book and service. I order this book instead of from my universities book store, and saved more than half. Boy, do those book stores rip students off..... Students do some research on the internet before buying overpriced books from campus bookstores you'll save a lot of money.

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