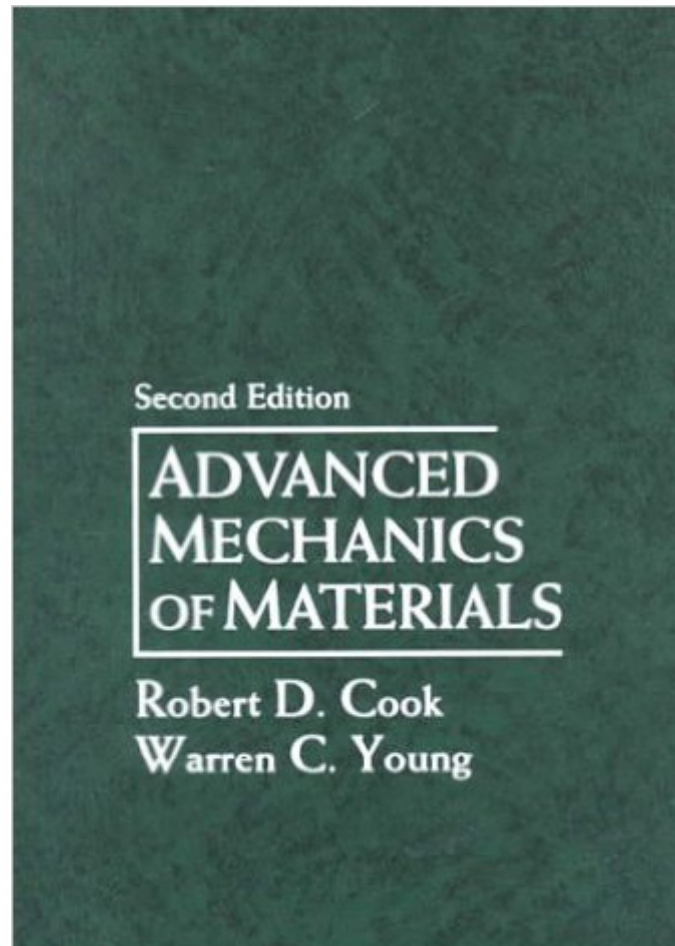


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Advanced Mechanics Of Materials (2nd Edition)



Synopsis

Treats topics by extending concepts and procedures a step or two beyond elementary mechanics of materials and emphasizes the physical view -- mathematical complexity is not used where it is not needed. Includes new coverage of symmetry considerations, rectangular plates in bending, plastic action in plates, and critical speed of rotating shafts. Expands the coverage of fatigue, the reciprocal theorem, semi-inverse problems in elasticity, thermal stress, and buckling.

Book Information

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Customer Reviews

As a university professor, I chose this book for a graduate course because it seemed to cover the same topics that I wanted to cover. Unfortunately, after using it for a semester, I've found that the book always skips the key steps in a derivation. Often, it is only evident to the reader that steps have been skipped from the cryptic language used by the authors: "Using equilibrium and compatibility, the following expression results". Very important information is left out. The book is so short on detail that it would be better if the authors simply published a stack of formulas.

This book contains a lot of valuable information. However, for self-study, there are too few examples and no answers provided to the problems. It's sometimes hard to decide whether you understand because you don't know whether you're solving problems correctly. A solutions manual would make this a 5-star book. In a class-room setting, I'd give the book 4 stars.

I just got this book in the mail and am really disappointed in its quality. For \$130 I was expecting a good quality binding and pages. I bought it new from Amazon and I can barely open the pages because they are warped so badly. The binding is so fragile I am afraid all the pages will pop out of it if I open it all the way. Prentice Hall - you guys should be ashamed of yourselves.

I agree with those reviewers who contend that the book does not explain things step by step, nor give many worked examples. Still, it gives information that is seldom presented in engineering books. For instance, it shows, in some detail, how membrane theory works in engineering. A section on curved beams shows how irregular cross-sections can be "sliced up" into sections, and then the sections can be summated instead of doing numerical integration. Other topics discuss subjects such as virtual work, beam on Winkler foundation, beams with wide flanges, Saint-Venant's torsion, beams subject to unsymmetric bending, shear center and shear flow, etc.

I was mainly interested in the beam stuff. They have a decent amount of material on beam limit states - both LTB failure and plastic hinge analysis. They include a pretty thorough treatment of unsymmetric cross-sections. I consider these aforementioned topics to be fundamental "advanced mechanics of materials" topics, and I haven't come across any other text that has them all.. so this book wins by default.

If you've just had your undergraduate level course and you're taking a second level or advanced course soon enough that you'll remember the basics this book will work. If you're like me or some of my fellow classmates, you'll have not had your basic course in at least 3 years. If that's the case, get used to using Google to find explanations. This book has two, maybe three, examples per chapter; difficult problems; little to no explanation of concepts; and no answers in the back to check if your work is even correct. It also has no solution manual that I've been able to find. This book is also made extremely cheap. I bought the paperback version and have had paperbacks before, but I'm a month and a half into my class and the book is starting to break along the binding (glue cracking). I would suggest either making it into a spiral-bound book yourself or finding a business that will do it for you before you lose pages. Overall, if you have to have it for a class, I hope you have a good professor because this is not a self-study book that stands up to a lot of page flipping.

They tend to skip large portions of derivations. On the other hand, there is a lot of good information from a design point of view.

This book is perhaps the only text book in the market which deals with this particular subject. This is perhaps the only reason why the book is still being sold. The book is very difficult to understand. The language is often cryptic and the most critical mathematical steps are omitted during derivations which makes this book practically useless. However, if you are already familiar with the principles of Advanced Solid Mechanics, you may find this book relatively useful. Until someone writes a better book, I guess we are stuck with this.

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