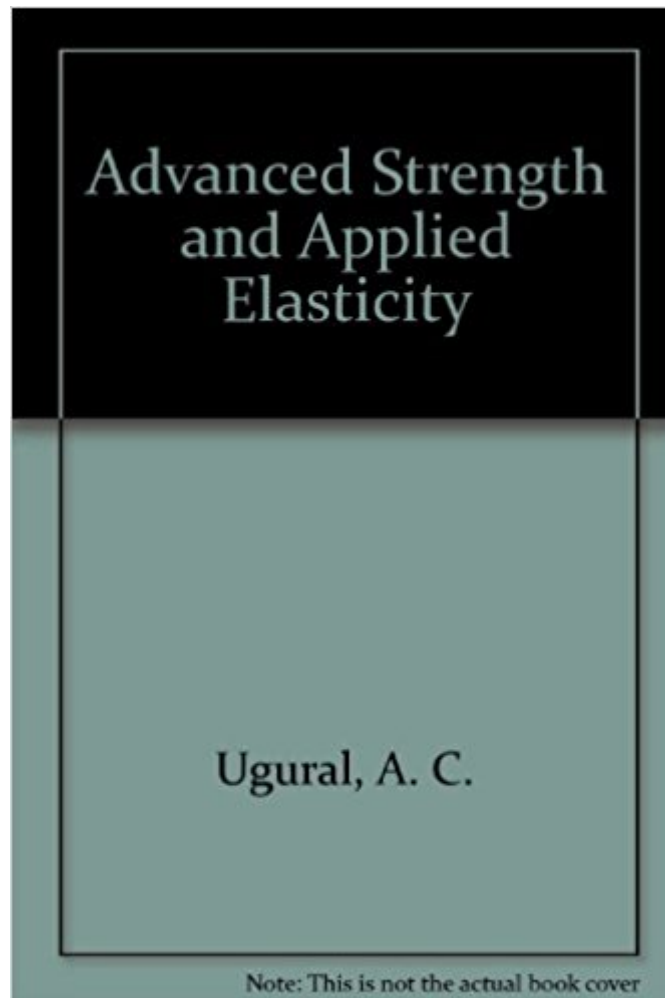




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# Advanced Strength And Applied Elasticity



## Synopsis

This systematic exploration of real-world stress analysis has been completely revised and updated to reflect state-of-the-art methods and applications now in use throughout the fields of aeronautical, civil, and mechanical engineering and engineering mechanics. Distinguished by its exceptional visual interpretations of the solutions, it offers an in-depth coverage of the subjects for students and practicing engineers. The authors carefully balance comprehensive treatments of solid mechanics, elasticity, and computer-oriented numerical methods. In addition, a wide range of fully worked illustrative examples and an extensive problem sets—many taken directly from engineering practice—have been incorporated. Key additions to the Fourth Edition of this highly acclaimed textbook are materials dealing with failure theories, fracture mechanics, compound cylinders, numerical approaches, energy and variational methods, buckling of stepped columns, common shell types, and more. Contents include stress, strain and stress-strain relations, problems in elasticity, static and dynamic failure criteria, bending of beams and torsion of bars, finite difference and finite element methods, axisymmetrically loaded members, beams on elastic foundations, energy methods, elastic stability, plastic behavior of materials, stresses in plates and shells, and selected references to expose readers to the latest information in the field. --This text refers to an out of print or unavailable edition of this title.

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## Customer Reviews

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ANSEL C. UGURAL, Ph.D., is Research Professor at New Jersey Institute of Technology. He has held various faculty and administrative positions at Fairleigh Dickinson University, and he taught at the University of Wisconsin. Ugural has considerable industrial experience in both full-time and consulting capacities. A member of several professional societies, he is the author of the books *Mechanics of Materials*, *Stresses in Plates and Shells*, and *Mechanical Design: An Integrated Approach*.     SAUL K. FENSTER, Ph.D., is Professor at New Jersey Institute of Technology, where he served as a president for over two decades. In addition to experience in industry, he has held varied positions at Fairleigh Dickinson University and taught at the City University of New York. Fenster, a Fellow of the American Society of Mechanical Engineers and the American Society for Engineering Education, is co-author of a text on mechanics. --This text refers to an out of print or unavailable edition of this title.

Engineering has its share of poorly-written books, and this is certainly one of them. Rather than give a clear, concise explanations, the authors instead focus on pointless derivations and other filler material that's of little use to the student. The result is a confusing mess that makes students like myself frustrated and stressed. The problems are only compounded by the lack of examples. To me, in engineering books, examples are just as important as explanations because let's face it,

engineering is *\*not\** an abstract art. Its basis is the physical application of scientific theories to real-world problems. Sadly, this book's examples are all too limited in scope, explanation, and depth. The authors will derive equations for multiple sections and then have a single, brief, elementary example (where barely anything is explained and you're forced to become a psychic to determine their line of thought) and then expect you to do the exponentially more difficult problems in the back of each chapter. It's ridiculous. When I first got the book, I thought it was interesting they were able to cram such an involved field into a relatively small book (~500 small-sized pages). Then you realize they were able to do such a feat by skipping over tremendous amounts of vital explanations and examples. Be prepared to be flipping through the book constantly to refer back to formulas in various chapters, and also be prepared to scratch your head staring at terrible illustrations. Equations are also poorly labeled because when you're quickly flipping through the pages, it's quite difficult to see if an equation is one of importance, or simply an intermediate step in a derivation. Good books box their important or foundational equations (which of course means this book does not). What's really sad is that poorly-written books like this one have the capability to turn an otherwise-enthused student off from a topic. Before taking a class where this book was the assigned reading, I was quite interested in advanced stress analysis. Now I look upon the subject with disdain because it seems like a big confusing mess. I gave the book one star for two reasons: first, doesn't allow 0-star reviews, and second, perhaps the book would be of some use for reference, but as far as a text for learning the material, avoid at all costs!

I found myself reviewing the details of other books checked out from the library (Timoshenko 1956, Seely and Smith 1952, Boresi 2003, and Hibbeler 2003) often hidden in this text just to do the exercise. Furthermore, a lot of examples were the same as those from other textbooks but with much less clarity here. The diagrams were often confusing and the details showing the development of the theory were often highly masked or left out completely. On a positive note (if there is actually one), the book will probably be used later for reference, because, after struggling through the minute details and solving the problems posed here, I have a better understanding of the principles, but definitely NOT because of this book or the professor who used it almost exclusively to teach the course!

I'm a student in mechanical engineering, and I recently took a class called Advanced Mechanics of Materials. Unfortunately, this book was the required textbook for the course. I know that a lot of text books can be considered "bad", but this is by far the worst textbook I have ever used. Ideally a

textbook will explain concepts well and give relevant examples to reinforce the concepts. The textbook does neither. This textbook explains concepts extremely poorly which makes it bad enough. On top of that, moreover, this book does not give examples for 90% of the concepts. If this book is the required text for a course, I would recommend changing classes. If you're looking for a book on advanced mechanics of materials, this is NOT a good book to consider. I would have given this book zero stars if that had been an option.

Great book for introducing Theory of Elasticity.

The book was used and not new as it was written in the description. Unfortunately it was written on many pages not just one. The book itself is a good textbook. Would recommend it to anybody who wants to learn something about strength of materials.

Its an average text. Concepts r not as clear as I would have expected it to be. Some of problems at the end of the chapters r challenging and I was able to solve them with other reference texts. Since I couldn't find equations to solve those problems.

The book makes things look difficult, but I'm pretty sure they are not that difficult. One of the worst books I have had so far. The book does not explain theories in a good way, and no examples after every section to help you understand the material.

The book is in good state and the marks help quite a lot! The content is the same as in the new edition and some of the exercises of the new one also appear in the 3rd one. So yes I recommend it!!

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