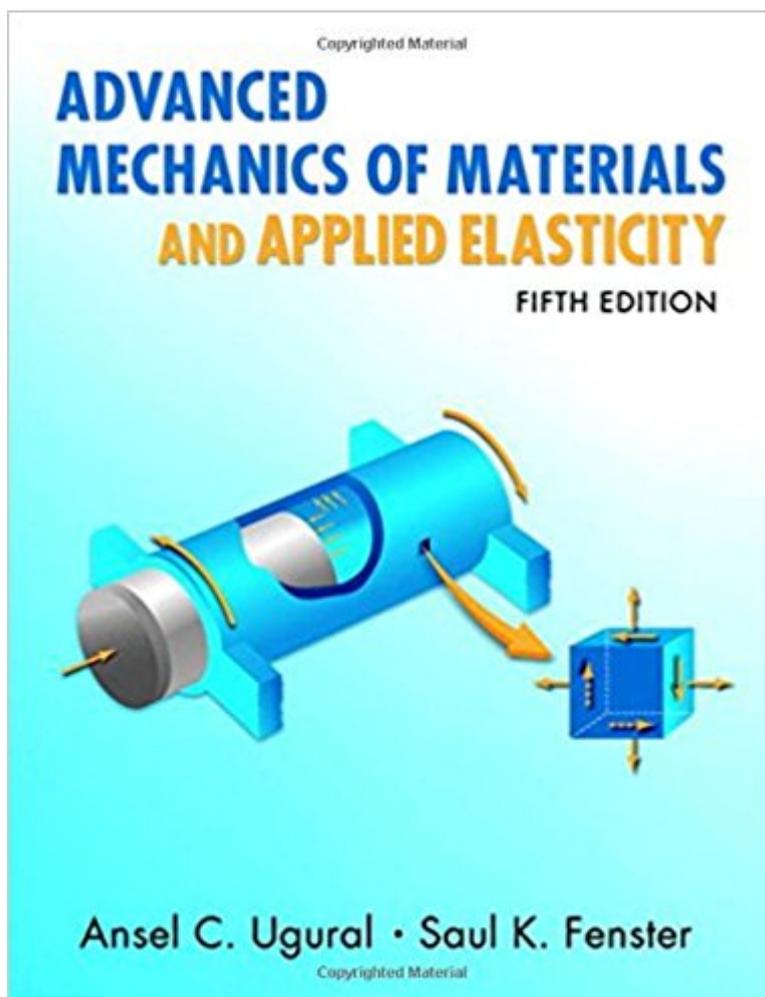


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# Advanced Mechanics Of Materials And Applied Elasticity (5th Edition)



## Synopsis

This systematic exploration of real-world stress analysis has been completely updated to reflect state-of-the-art methods and applications now used in aeronautical, civil, and mechanical engineering, and engineering mechanics. Distinguished by its exceptional visual interpretations of solutions, *Advanced Mechanics of Materials and Applied Elasticity* offers in-depth coverage for both students and engineers. The authors carefully balance comprehensive treatments of solid mechanics, elasticity, and computer-oriented numerical methodsâpreparing readers for both advanced study and professional practice in design and analysis. Â This major revision contains many new, fully reworked, illustrative examples and an updated problem setâincluding many problems taken directly from modern practice. It offers extensive content improvements throughout, beginning with an all-new introductory chapter on the fundamentals of materials mechanics and elasticity. Â Readers will find new and updated coverage of plastic behavior, three-dimensional Mohrâs circles, energy and variational methods, materials, beams, failure criteria, fracture mechanics, compound cylinders, shrink fits, buckling of stepped columns, common shell types, and many other topics. The authors present significantly expanded and updated coverage of stress concentration factors and contact stress developments. Finally, they fully introduce computer-oriented approaches in a comprehensive new chapter on the finite element method.

## Book Information

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## Customer Reviews

I used this book to teach a graduate level mechanics of materials course. The students were

relatively satisfied with the book, but it has some weaknesses.1) The pedagogy of the book is somewhat weak. It is only moderately suited for self study.2) The derivations shown skip steps to the point where they approach sleight of hand.3) There are errors in some of the derivations. I found the same errors in the third edition. It is disappointing that these haven't been fixed. On the positive side, the book includes a comprehensive set of topics, each of which are covered sufficiently for introductory purposes. It also gives a good introduction to plasticity, which most mechanics books skip. Of the advanced mechanics books out there, it is in the upper half.

I used this textbook for my undergraduate class. The problem sets were good, but the textbook contained so many errors that my professor asked us not to read the book to avoid confusion. The most startling error is the one of the moment of inertia equations in the back of the book. Do not use this textbook as a reference book.

This book struggles to find a good voice to present the material. Its examples are okay, the problems take a bit of work to exactly figure out what is being asked on occasion. The book overall doesn't do a decent job at presenting new concepts. I only have this book because it was required for the course I am taking and I have barely cracked it open as I can get by better with the course notes and google.

The book really dives into theory without providing real world examples, or any examples for that matter. It was not the easiest book to follow, but it did have great problems to be used for class assignments. It is a better class supplement than a standalone learning tool.

If you purchased this book on Amazon and you go to sell it back, there is a reason you get offered a \$63 buy-back option by Amazon (vs. the usual \$5 or less). This book holds its value because of its continued high demand, which speaks volumes about the quality of this book. I have owned many mechanical engineering text books in my collegiate and professional career and I must say that this book is one of the most rewarding, enlightening books that I have ever had the pleasure of reading. Given the inherent complex nature of exact elastic solutions, the author does a great job of streamlining classic elastic theory concepts all the way through to applied elasticity problems. A must-buy introductory book if you want to learn about advanced solid mechanics. It's safe to say that this text book can be considered the "bible" of classic elastic theory.

Good Book for advance mechanics of materials. The only thing I will say is that it doesnt explain things that well.

Well I expected to have more topics such as energy and tensor

high quality and fast

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