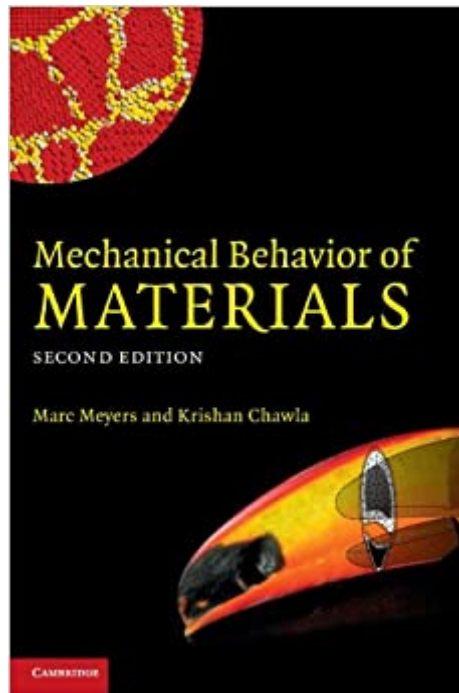


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# Mechanical Behavior Of Materials



## Synopsis

A balanced mechanics-materials approach and coverage of the latest developments in biomaterials and electronic materials, the new edition of this popular text is the most thorough and modern book available for upper-level undergraduate courses on the mechanical behavior of materials. To ensure that the student gains a thorough understanding the authors present the fundamental mechanisms that operate at micro- and nano-meter level across a wide-range of materials, in a way that is mathematically simple and requires no extensive knowledge of materials. This integrated approach provides a conceptual presentation that shows how the microstructure of a material controls its mechanical behavior, and this is reinforced through extensive use of micrographs and illustrations. New worked examples and exercises help the student test their understanding. Further resources for this title, including lecture slides of select illustrations and solutions for exercises, are available online at [www.cambridge.org/97800521866758](http://www.cambridge.org/97800521866758).

## Book Information

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## Customer Reviews

"I would certainly recommend this book to senior undergraduate and postgraduate students studying mechanical behavior of materials in Schools of Engineering or Solid State Physics. The book would be an excellent resource for a faculty staff to deliver a course on this topic" [Materials Today](#), March 2009

A balanced mechanics-materials approach and coverage of the latest developments in biomaterials and electronic materials, this a thorough and modern textbook for upper-level undergraduates. The fundamental mechanisms at micro- and nano-meter level are presented across a wide-range of materials, with mathematical simplicity and a conceptual focus.

Possibly the worst textbook I've ever had the displeasure to use. There were typos in the boxed equations with addition/subtraction operators being replaced with equals signs. The writers must have been learning English while writing the textbook because there's little semblance of logical flow in sentences. Just kidding it's not that bad, but really compared to other textbooks, this is well below average. I LITERALLY (I don't use the word "literally" freely) read each section twice in an attempt to understand the concepts. I would read a chapter and then start over and read it over again a few days later only to get a marginally better understanding. Most times, if a professor is poor teacher, I can rely on the textbook. But not even the textbook was redeemable in this case. I won't give it 1 star since it is was organized in a way that sort of made sense. But, dear god, in all other aspects of textbook evaluation (clarity of thought, logical progression) it was a shitshow

This is not an introductory text for materials. It is a solid reference for intermediate level students in materials, civil and mechanical engineering, even chemical, where the engineer is focusing on the effects on materials which are used in design. The text is a second edition and it is really an expanded and improved version of the first edition. The text covers the standard topics such as: 1. basic strength of materials issues such as elasticity 2. plastic regions for materials 3. imperfections 4. deformation 5. fracture all sections are generally well done with a blend of theory and detailed descriptions of the materials involved. The text also discusses practical applications and the means and methods to measure the various values. Overall the text is up to date and the presentation is clear and not cluttered with useless photos and excess color all too common in many recent texts. The material is logically presented. I have found it quite useful, but again it is not an introductory text. It includes many topics and they are presented at a reasonable professional level. The material presented may most likely be something that most engineers will have to refer to again and again. I especially like the discussions on fracture and the Paris equations towards the end. The presentation should be quite useful for any student trying to get a solid hold on fracture mechanisms. Also the authors have introduced biomechanics into the material. This is a growing and important area and this text manages to blend it in quite well.

The chapters are way too long and difficult to follow. I gave up trying to read the book and I just take really good notes from class. I'll probably sell this book back, even though Materials Science is my area. You're probably better off just renting the book for the semester. The only good part about the book is that the examples help you to solve the homework problems. Somehow this book manages to make Materials Science boring.

Ordered a brand-new hardcover version. Hardcover binder detached and fell apart during the first use. Content and organization is below average for an engineering book. In addition, important information blends into the text (not bold or underlined).

First time using the renting service and I really enjoyed it. It was fast and kept you informed when to return the book. The book was in great condition too. Thanks.

Personally, I don't like this book. So many things are just stated there and don't have any explanation come with them. Why do we need this book if what we can learn from it is just facts, most of the times it is those behind the story that matters. As a graduate student, this is the worst book I have ever used. I highly doubt the justice of those comments made during 26 Oct.

The book takes a general approach, which makes it extremely helpful to obtain a general overview of the topic. The book not only covers the basics, but it additionally covers many interesting materials that are not normally included in other textbooks, such as biological materials. I used this textbook as an undergraduate which I found useful, because the basic concepts were clear and the figures demonstrated the idea easily; as a grad student I still find myself constantly using the book to refresh on the material. It is a great book to have at hand and a textbook you will still find helpful even after you finish your courses.

The treatment of most topics in this text is qualitative at best, not the quantitative, rigorous analysis that top materials engineering programs expect. The text also has some glaring errors in mathematical manipulations and very little explanation of what the authors are trying to do, which makes it harder to catch mistakes.

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