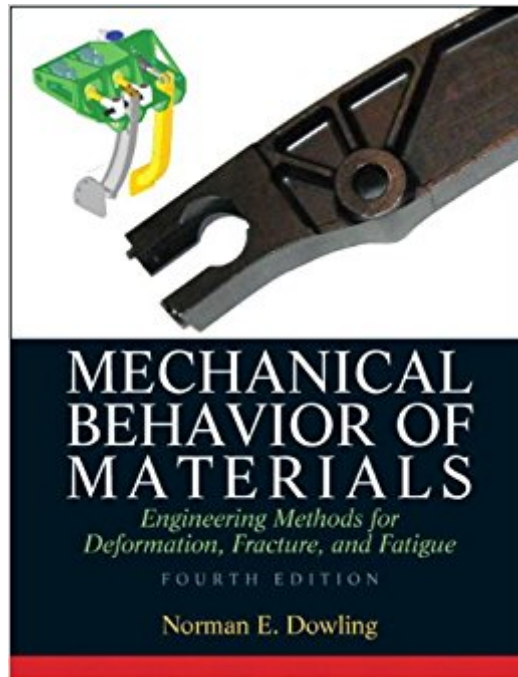




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# Mechanical Behavior Of Materials (4th Edition)



## Synopsis

For upper-level undergraduate engineering courses in Mechanical Behavior of Materials.   
 **Mechanical Behavior of Materials**, 4/e introduces the spectrum of mechanical behavior of materials, emphasizing practical engineering methods for testing structural materials to obtain their properties, and predicting their strength and life when used for machines, vehicles, and structures. With its logical treatment and ready-to-use format, it is ideal for practicing engineers and upper-level undergraduates who have completed elementary mechanics of materials courses.

## Book Information

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## Customer Reviews

Norman E. Dowling earned his B.S. in civil engineering (structures) from Clemson University in Clemson, S.C., and his M.S. and Ph.D. in theoretical and applied mechanics from the University of Illinois in Urbana.   
 An ASTM International member since 1972, Dowling serves on a number of E08 subcommittees and has recently been member-at-large of the E08 Executive Subcommittee. Professionally he has worked in the areas of fatigue, fracture, and deformation of engineering materials and components. Specific topics of interest include life prediction for irregular loading histories, plasticity effects on notches and in crack growth, and standard test methods for low cycle fatigue and for fatigue crack growth. He has also consulted on applications to engineering design, troubleshooting, and failure analysis.   
 In addition to ASTM International, Dowling is a member of the Fatigue Design and Evaluation Committee of the Society of Automotive Engineers, ASM International, and Sigma Xi.

I find it really suspicious that a lot of the reviewers here refer to the author as "professor". It makes me think that they had the author as their college professor, and maybe they were given some kind of extra credit for writing a good review about his book. But it seems that the good reviews are accurate! The majority of the book is pretty much review material (for me, at least). If you have a set of machine design books (Shigley, Juvinall, etc), then you will most likely have seen the material that's covered in the first 10 chapters of this book. The juicy part starts at chapter 11, and after that it covers stuff I haven't seen in machine design or mechanics of materials: 12 and 13: plasticity 14: strain-based approach to fatigue 15: Creep and damping Overall it's a really good book with clear explanations, but I encourage you to go onto the Pearson website and look at the table of contents before buying. Then you can decide whether it's worth spending the hundred-something dollars for 5 chapters worth of new material, if your situation is similar to mine. I bought it because I needed it for class, and the scope is just a bit beyond Hibbeler books.

I am an undergraduate mechanical engineering student doing research on designing for metal fatigue. I have done a reasonably thorough literature review of both journal articles and textbooks. I've raided most of my professors' libraries and the school library as well. I found this book to be so helpful I purchased my own copy. It is very well written and easily accessible at the undergraduate level, not to say that it is basic. If you're trying to understand fatigue and fatigue life prediction you're going to need more than a chapter or two of Shigley's Engineering Design. Look up the table of contents on Pearson's website. Dowling's book is well organized, well written, and enjoyable to read. Pick up a used copy for a few dollars. You won't regret it. P.S. If you're working with strain gauges and need to learn a little bit more about them, HBM's free reference book on their website is worth a read.

I like the material but they leave important equations and graphs and tables in the middle of chapters and not in appendices and end of chapter summaries which made quick searching it as a reference more tedious. :(

Brilliant textbook written in an exceptionally efficient and useful manner. Highly recommend this book for any MSE or ME student who is currently going through a materials behavior course. Examples are worked out in a clear and concise manner, and the appendix does an amazing job of showing and explaining loading scenarios so the reader is not left in the dark.

I bought this book to learn about strain-life fatigue analysis, and I can't imagine that there is a better reference out there. I am very pleased with all of the content. The book is well structured, and the descriptions are very easy to follow. The book gave the best explanation of micro-structure and slip planes I have ever read. Stress-life analysis is covered in detail, and the last few chapters focus strain-life analysis. I highly recommend this book. I am a structural engineer and I keep this book within arm length for quick reference.

This is a terrific textbook. One of the few still worth paying for.

Good.

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