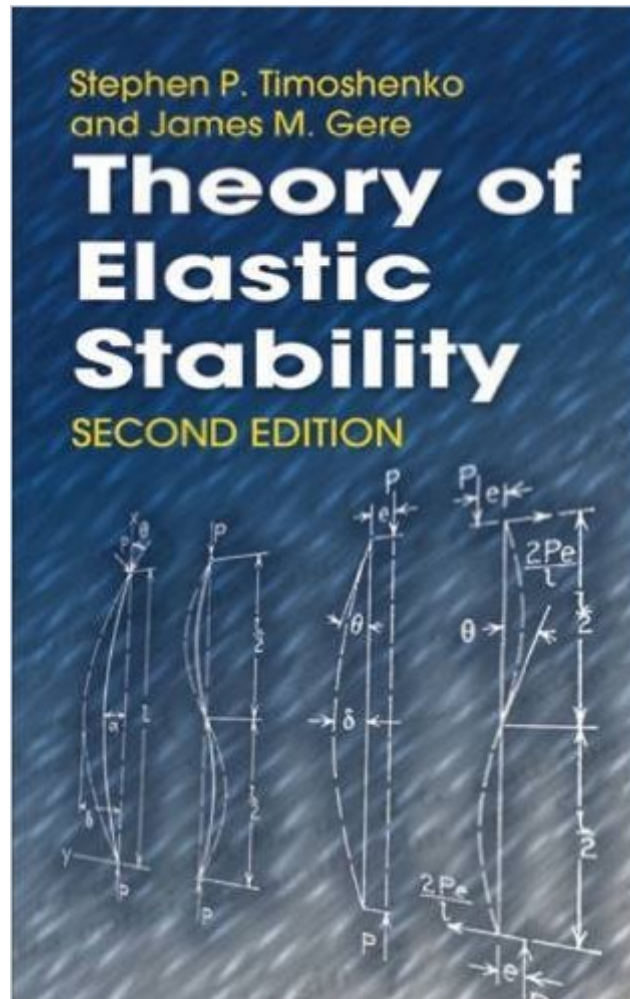


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# Theory Of Elastic Stability (Dover Civil And Mechanical Engineering)



## Synopsis

The best available guide to the elastic stability of large structures, this book introduces the principles and theory of structural stability. It was co-authored by the father of modern engineering mechanics, Stephen Timoshenko, and James Gere, who updated the materials and worked closely with Dr. Timoshenko. Relevant to aspects of civil, mechanical, and aerospace engineering, this classic covers the essentials of static and dynamic instabilities. Topics range from theoretical explanations of 2- and 3-D stress and strain to practical applications such as torsion, bending, thermal stress, and wave propagation through solids. Additional subjects include beam columns, curved bars and arches, buckling of rings, and experiments and design formulas. Particularly suitable for advanced undergraduate and graduate students of engineering, this volume is also an indispensable reference for professionals.

## Book Information

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## Customer Reviews

According to one review that I've read so far, there is some truth to a certain extent. Yes, the book does not have example problems, but at the same time this book is probably not the best choice to teach an undergrad class. Timoshenko is a classic, it shows all the mathematical derivations and the theoretical fundamentals. Students usually do not appeal to that, rather they prefer something "mulched" and easy to digest. So, this is a book for more experienced students and professionals.

This book covers most of the major topics related to elastic stability in structural members. Our

professor stated that this was more of a "guide book" than a text book and I do agree. There is a noticeable lack of examples which could be used to transition to valid applications. But if you are looking for theory relating to the elastic stability of most structures, this is a good place to start your search.

In summary, excellent for a beginners understanding in graduate level plate buckling, column buckling, energy methods, etc. I used it more for plate buckling rather than columns and shells, however still packed with useful information. Also, many professors use the problems from this book on exams, so it's a great study guide as well. I used this book for a graduate course in structural stability. It can be very technical at sometimes, and has an abundance of information, that probably won't apply to you, however when I found myself struggling with a topic, and the professors notes and required textbook didn't help at all (a lot of times they didn't) this book covered a lot of what I was missing! A lot! I found myself using it more than the assigned class textbook. And for the price, it's worth it to give it a shot!

This is the most extensive/useful book on Elastic Stability I've ever read. It covers an incredibly wide range of stability problems; Beams, Columns, Plates, Tubes, elastic foundations, etc. I wouldn't recommend this as your very first introduction to the world of buckling. But if you're a structural engineer of any kind, buy this book, you won't be disappointed.

As a professional engineer I found this book to be very informative. It does not have example problems, but in practice I use code based analysis. This book gave me a deeper understanding of where the code came from. Personally I just wanted to know concepts to keep in mind while I am designing. This book is perfect for that. I am a more recent graduate, and had no problem following the math or concepts. Timoshenko is a great author, I plan on buying his plates and shells book after I finish this one.

This is a classic book on the theory of elastic stability. Most graduates students in engineering these days would have trouble understanding much of this book because they are not taught many of the analytic methods used in the book. The book assumes a solid understanding of analytic methods of structural analysis (e.g. slope-deflection method) and differential equations. Lots of good information on special cases whose solution is tabulated/graphed. Fortunately this paperback edition is cheap enough for anyone to buy.

Excellent classic book in theory of elasticity. This one is about elastic stability, which is a very important subject in mechanical engineering.

I like its writing style, especially for the beam column part. It contains many useful skills.

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