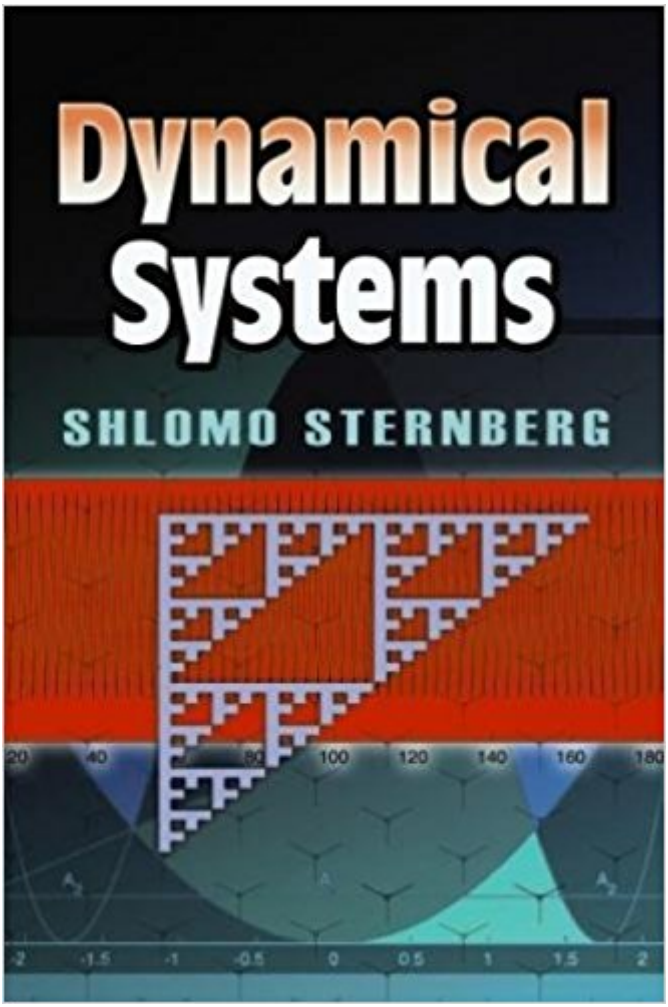
Dynamical Systems (Dover Books On Mathematics)



Synopsis

Celebrated mathematician Shlomo Sternberg, a pioneer in the field of dynamical systems, created this modern one-semester introduction to the subject for his classes at Harvard University. Its wide-ranging treatment covers one-dimensional dynamics, differential equations, random walks, iterated function systems, symbolic dynamics, and Markov chains. Supplementary materials offer a variety of online components, including PowerPoint lecture slides for professors and MATLAB exercises."Even though there are many dynamical systems books on the market, this book is bound to become a classic. The theory is explained with attractive stories illustrating the theory of dynamical systems, such as the Newton method, the Feigenbaum renormalization picture, fractal geometry, the Perron-Frobenius mechanism, and Google PageRank." — Oliver Knill, PhD, Preceptor of Mathematics, Harvard University.

Book Information

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Customer Reviews

The book is well organized by topics and IMO a very good second course after ordinary differential equations. The author has a pdf version for free here:[...]If you like a paper copy, then buy this Dover published. It is very inexpensive. The Dover copy is an slightly updated version of the online version.

It’s very good.

I don’t like it because the equations are tiny, the figures are small, and these elements don’t change size with font size adjustments. I am attempting to read on Kindle for PC.

I read Steven H. Strogatz’s Nonlinear Dynamics And Chaos about a decade ago, and found it interesting, entertaining, and just barely useful.Now, I wish I’d had this book to jump into immediately after finishing Strogatz.Sternberg’s writing is perfect for a mathematically mature reader. As he says in the introduction, you need a firm grip on calculus and linear algebra. I’d say that a good understanding of undergraduate level differential equations would help as well. As I implied above, you might want to read and work through Strogatz’s book first as well. If I was making a reading list to bring an undergraduate (or graduate student!) up to speed in this field, I might have them start with James Gleick’s Chaos first, just to get a feel for the material, then Strogatz, then this excellent book by Sternberg.