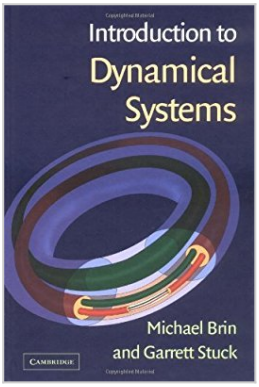

Introduction to Dynamical Systems

By Michael Brin, Garrett Stuck

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This book provides a broad introduction to the subject of dynamical systems, suitable for a one- or two-semester graduate course. In the first chapter, the authors introduce over a dozen examples, and then use these examples throughout the book to motivate and clarify the development of the theory. Topics include topological dynamics, symbolic dynamics, ergodic theory, hyperbolic dynamics, one-dimensional dynamics, complex dynamics, and measure-theoretic entropy. The authors top off the presentation with some beautiful and remarkable applications of dynamical systems to such areas as number theory, data storage, and Internet search engines. This book grew out of lecture notes from the graduate dynamical systems course at the University of Maryland, College Park, and reflects not only the tastes of the authors, but also to some extent the collective opinion of the Dynamics Group at the University of Maryland, which includes experts in virtually every major area of dynamical systems.

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Editorial Review

Review
"... an ideal choice for a graduate course on dynamical systems ... warmly recommended ..."
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"... exceptionally well written ... You should consider adopting this wonderful text for your next graduate course on the pure mathematics of the modern theory of dynamical systems."
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"... despite the breadth, one finds here major results rigorously treated and substantial applications. By itself, the clean, accessible exposition of the amazing Sharkovsky theorem would justify the acquisition of this book ... Highly recommended."
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"While the pace is fast and the book is very concise, the organization and selection of topics has been considered carefully, and the writing is strong enough to support the speedy treatment ... It certainly does give a notion of the scope of dynamical systems in a way that few other single books do."
Bill Satzer, MAA Reviews

About the Author
Michael Brin is Professor Emeritus of Mathematics at the University of Maryland. He is the author of over thirty papers, three of which appeared in the Annals of Mathematics, and he has lectured at conferences and universities around the world. His main research areas are dynamical systems and Riemannian geometry. In 2008, he established the Michael Brin Prize in Dynamical Systems.

Garrett Stuck is a former professor of mathematics at the University of Maryland and has held visiting positions at the Institut des Hautes Etudes Scientifiques in Paris and the Mathematical Sciences Research Institute in Berkeley. He has co-authored several textbooks, including The Mathematica Primer. Dr Stuck is also a founder of Chalkfree, Inc. He currently works in the finance industry.

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