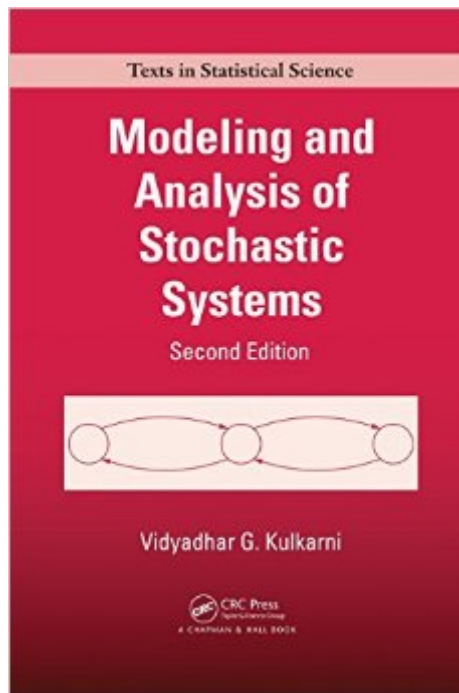# Modeling And Analysis Of Stochastic Systems, Second Edition (Chapman & Hall/CRC Texts In Statistical Science)

Synopsis

Based on the author's more than 25 years of teaching experience, Modeling and Analysis of Stochastic Systems, Second Edition covers the most important classes of stochastic processes used in the modeling of diverse systems, from supply chains and inventory systems to genetics and biological systems. For each class of stochastic process, the text includes its definition, characterization, applications, transient and limiting behavior, first passage times, and cost/reward models. Along with reorganizing the material, this edition revises and adds new exercises and examples. New to the second edition: a new chapter on diffusion processes that gives an accessible and non-measure-theoretic treatment with applications to finance; a more streamlined, application-oriented approach to renewal, regenerative, and Markov regenerative processes; and, two appendices that collect relevant results from analysis and differential and difference equations. Rather than offer special tricks that work in specific problems, this book provides thorough coverage of general tools that enable the solution and analysis of stochastic models. After mastering the material in the text, students will be well-equipped to build and analyze useful stochastic models for various situations. A collection of MATLAB[registered]-based programs can be downloaded from the author's website and a solutions manual is available for qualifying instructors.

Book Information

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Customer Reviews

The book arises from lectures at UNC-CH in a two-semester course on stochastic models. The author has exceptional precision andorganization in the classroom, and this comes through in the book. Great book for teachingfrom, as well as learning from. This book also takes a step which more venerable texts, such as the Trivedi book or the Ross series could not -- it has computational excercises suitable for math packages like Mathematica. Thus, the student can be introduced to scientific computer literacy as well as stochastic processes. I recommend this book to anyone interested in teaching today's student, or for preparing themselves for challenges in Operations Research. The book would make an above-average reference as well. Mike Bailey Associate Professor, Naval Postgraduate School

I used this book in a graduate course on Stochastic processes. The book would rate as average or just above that as I found it to be insufficient for a start in the subject unless you were in a classroom course. It does assume some background in probabilty. Also, the explanations, while complete, are not as easy to understand as the Roos book. I also found that the examples were extremely easy as compared to the excersice problems. THis makes it tougher to 'extrapolate' and understand. It has one nice feature though- solutions to half the problems are there at the end of the book making it better for students while giving faculty leeway too. The excercises are quite comprehensive too. I'd say this is an excellent book for someone with some prior knowlede of Stochastic Processes. For a beginner, this may not be the best start.

I notice a lot of the reviewers here are professors. As a student, my opinion of this book is that it is very difficult to understand without a mentor to guide you through it. The book consists of derivations of theorems and then examples. I don't find the derivations or examples particularly satisfying because there is very little illustration with why the math means. It takes a little imagination and a lot of patience to work through every page. The problems after each chapter are much more complex than the examples worked throughout the chapter and can be quite frustrating especially when you consider the numerous typos and errors. Not all of the problems have solutions provided in the back and the solutions that do exist are just the answers--no analyses or explanations. You would have to get the solutions manual if you wanted to tackle this on your own.Bottom line, it is not a beginner text and is fairly difficult to get through.

This text book isn't great but it isn't awful either. There are numerous typos and mistakes in the book. The author has a list of errata on his webpage that is 7 pages long and that is only a partial

list. The explaination in the book is okay and the exercises are pretty good. If you have a choice I recommend using the text by Ross for learning the material or Karlin and Taylor for reference.

This is a good book. It has concentrated on the modeling aspect a lot. But if you lack a little basics or aren't comfortable with the Probability & Statistics, you would have to study them first and then acquire this. This book takes it for granted that you are thorough with your basics.Therefore for students who performed average in prob& statistics, get your basics done before taking this up.But trust me, this is a good book about Stochastic processes.

Modeling and Analysis of Stochastic Systems, Second Edition (Chapman & Hall/CRC Texts in Statistical Science) Stochastic Processes: An Introduction, Second Edition (Chapman & Hall/CRC Texts in Statistical Science) Graphics for Statistics and Data Analysis with R (Chapman & Hall/CRC Texts in Statistical Science) Linear Models with R, Second Edition (Chapman & Hall/CRC Texts in Statistical Science) Introduction to Probability (Chapman & Hall/CRC Texts in Statistical Science) Computer Graphics Through OpenGL: From Theory to Experiments (Chapman & Hall/CRC Computer Graphics, Geometric Modeling, and Animation) Elementary Stochastic Calculus With Finance in View (Advanced Series on Statistical Science & Applied Probability, Vol 6) (Advanced Series on Statistical Science and Applied Probability) Numerical Techniques for Direct and Large-Eddy Simulations (Chapman & Hall/CRC Numerical Analysis and Scientific Computing Series) Coding Theory and Cryptography: The Essentials, Second Edition (Chapman & Hall/CRC Pure and Applied Mathematics) Introduction to Modern Cryptography, Second Edition (Chapman & Hall/CRC Cryptography and Network Security Series) Machine Learning: An Algorithmic Perspective, Second Edition (Chapman & Hall/Crc Machine Learning & Pattern Recognition) Introduction to Network Security (Chapman & Hall/CRC Computer and Information Science Series) An Introduction to Partial Differential Equations with MATLAB (Chapman & Hall/CRC Applied Mathematics & Nonlinear Science) Computational Partial Differential Equations Using MATLAB (Chapman & Hall/CRC Applied Mathematics & Nonlinear Science) Engineering Uncertainty and Risk Analysis, Second Edition: A Balanced Approach to Probability, Statistics, Stochastic Models, and Stochastic Differential Equations The Kurzweil-Henstock Integral and Its Differential: A Unified Theory of Integration on R and Rn (Chapman & Hall/CRC Pure and Applied Mathematics) A Concise Introduction to Pure Mathematics, Fourth Edition (Chapman Hall/CRC Mathematics) Image Processing and Acquisition using Python (Chapman & Hall/CRC Mathematical and Computational Imaging Sciences Series) Web 2.0 and Beyond: Principles and Technologies (Chapman &

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