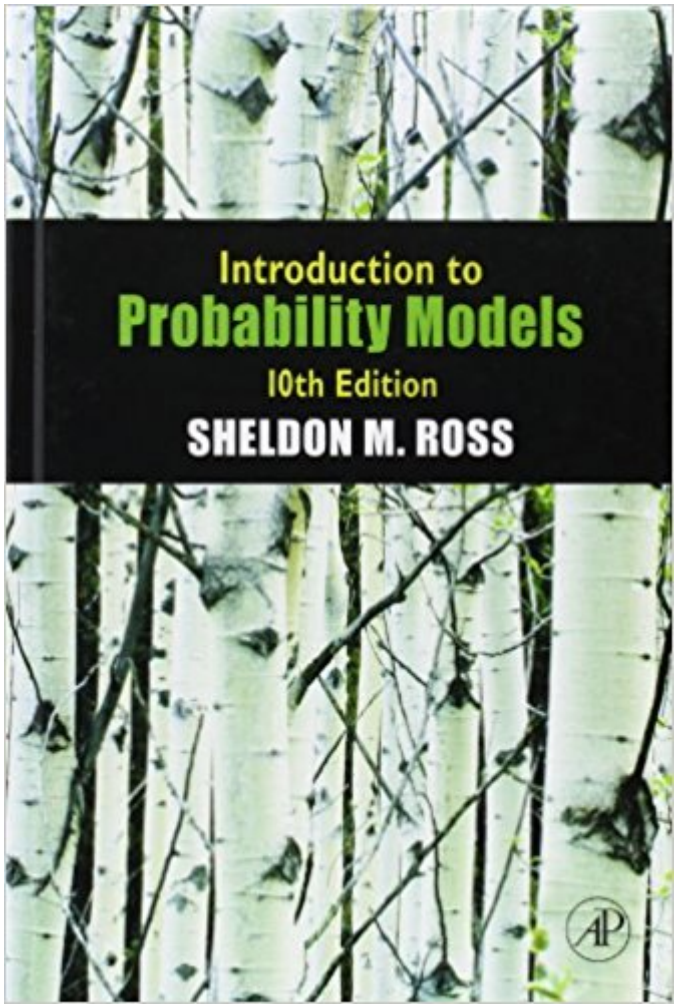
Introduction To Probability Models, Tenth Edition



Synopsis

Introduction to Probability Models, Tenth Edition, provides an introduction to elementary probability theory and stochastic processes. There are two approaches to the study of probability theory. One is heuristic and nonrigorous, and attempts to develop in students an intuitive feel for the subject that enables him or her to think probabilistically. The other approach attempts a rigorous development of probability by using the tools of measure theory. The first approach is employed in this text. The book begins by introducing basic concepts of probability theory, such as the random variable, conditional probability, and conditional expectation. This is followed by discussions of stochastic processes, including Markov chains and Poison processes. The remaining chapters cover queuing, reliability theory, Brownian motion, and simulation. Many examples are worked out throughout the text, along with exercises to be solved by students. This book will be particularly useful to those interested in learning how probability theory can be applied to the study of phenomena in fields such as engineering, computer science, management science, the physical and social sciences, and operations research. Ideally, this text would be used in a one-year course in probability models, or a one-semester course in introductory probability theory or a course in elementary stochastic processes. New to this Edition: 65% new chapter material including coverage of finite capacity queues, insurance risk models and Markov chainsContains compulsory material for new Exam 3 of the Society of Actuaries containing several sections in the new examsUpdated data, and a list of commonly used notations and equations, a robust ancillary package, including a ISM, SSM, and test bankIncludes SPSS PASW Modeler and SAS JMP software packages which are widely used in the field Hallmark features: Superior writing styleExcellent exercises and examples covering the wide breadth of coverage of probability topics Real-world applications in engineering, science, business and economics

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Customer Reviews

Praise from Reviewers:â œI think Ross has done an admirable job of covering the breadth of applied probability. Ross writes fantastic problems which really force the students to think divergently...The examples, like the exercises are great.”- Matt Carlton, California Polytechnic Instituteâ œThis is a fascinating introduction to applications from a variety of disciplines. Any curious student will love this book."- Jean LeMaire, University of Pennsylvaniaâ œThis book may be a model in the organization of the education process. I would definitely rate this text to be the best probability models book at its level of difficulty...far more sophisticated and deliberate than its competitors.”- Kris Ostaszewski, University of Illinois

Sheldon M. Ross is a professor in the Department of Industrial Engineering and Operations Research at the University of Southern California. He received his Ph.D. in statistics at Stanford University in 1968. He has published many technical articles and textbooks in the areas of statistics and applied probability. Among his texts are A First Course in Probability, Introduction to Probability Models, Stochastic Processes, and Introductory Statistics. Professor Ross is the founding and continuing editor of the journal Probability in the Engineering and Informational Sciences. He is a Fellow of the Institute of Mathematical Statistics, and a recipient of the Humboldt US Senior Scientist Award.

I bought this book as a supplement to Resnick’s "Adventures in stochastic processes." Basically I really liked how there is a lot of exercises with many solutions in the back of the book. It makes this text ideal for self study. It is not quite as rigorous as Resnick but it provides a lot of examples, intuitive explanations, and applications that make the book extremely valuable for any quantitative scientist. I would recommend this book as a main text for an upper level undergraduate class in stochastic processes, a text for mathematically minded scientists in biology, physics, and economics who want to learn some stochastic processes on their own, or as a supplemental text for a graduate class that focuses more on theory. In the latter case the book will provide added examples and explanations when you get lost in some of the mathematical formalism of more

advanced books. Reading the simple non-rigorous explanation will allow you to go back to some of the difficult proofs with a better understanding for what you are trying to prove.

This was a required text for a class I took. The book is pretty good, but I recommend having a calculus-based probability course in your background before cracking this one open. Ross explains most of the material well, and his practice problems and examples are great. I would recommend, in future editions, to including more graphics in the text. A lot of these topics can be supplemented with figures for more clarity, and for an engineer taking a class in a probability world, this would have helped quite a bit.

This is a prescribed book for a module on stochastic modelling that I doing. It starts of real well (though I thought some basics were missing, but it’s completely forgiveable). Many, many examples. My biggest criticism here is that there is actually valuable information in the examples, meaning that if you just do the theory and gloss over the examples, you might be missing plenty. As the topics become more complex though, the examples become more and more mathematical proofs, and less and less real world applications. My progress through the second half of the book was excruciatingly slow, since I had to research every topic independently to get a thorough understanding of the concepts.

This book is best served with a strong background in probability. I would recommend the same authors "A First Course in Probability" to acquire the knowledge necessary to really get the most out of this book.As for this book itself, the first two chapters are pretty quick, cut, and dry. They cover the material necessary and adequately for later sections with no real B.S., but sometimes it can feel a little too dry (which is why I recommend a stronger background first).Chapter 3 is perhaps the most important chapter in the book. I can not stress enough the importance of mastering the concepts in chapter 3 - conditioning is by far the most important problem solving technique in this book.Tons of good exercises ranging from easy to very hard, and starred exercises have detailed solutions in the back.

Very good book about stochastic processes. Explains Markov Chains and Poisson Processes very clearly. Also has a very nice introduction to probability in the first couple of chapters.

This book was very useful for the class that I took as a graduate student in IEOR at UC Berkeley.

The professor was also very organized and made the class interesting but she relied on the book a lot. Even if I bought it used, it was still in a great condition and I was glad I could save some dollars this way. I would definitely recommend this book and seller in general

It’s fine to study and learn, it’s perfect to teach and great to just get fun if you like (love) the subject. The book have a lot of examples and problems that helps students.The book combined theory and applications. It’s a imprescindible for those studying engineering or sciences and professionals.

Useful book

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