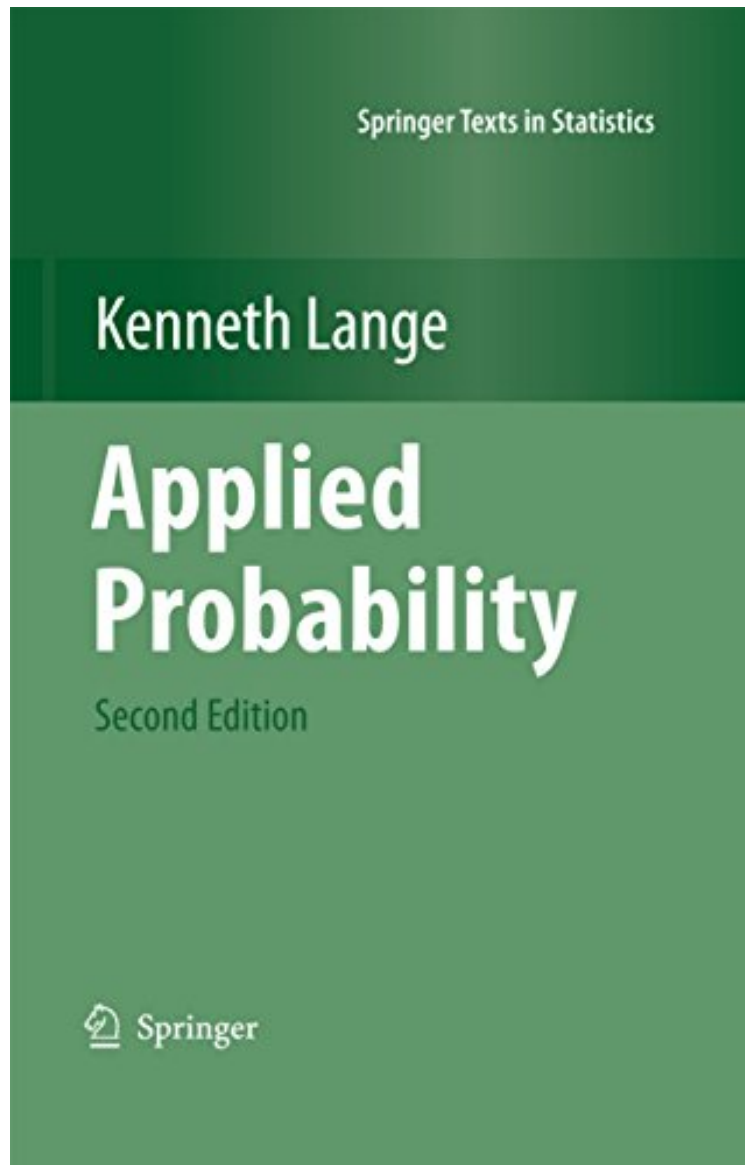


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Kenneth Lange

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Kenneth Lange : Applied Probability (Springer Texts in Statistics) before purchasing it in order to gage whether or not it would be worth my time, and all praised Applied Probability (Springer Texts in Statistics):

1 of 3 people found the following review helpful. good reference bookBy touchpianoIt is a really good reference book for graduate student in statistics. It covers almost all aspects of application of probablity theory and gives good examples as well. Worthy to have one.7 of 10 people found the following review helpful. Logical and conciseBy A CustomerI took Ken Lange's course while he was writing this book. It is an excellent book on applied probability and rather densely packed. The text assumes a background in basic probability theory but it is otherwise self-contained

with clear and logical development of each topic. The examples motivate and explain the theoretical development. 0 of 1 people found the following review helpful. Packed with interesting information By Fazul If probability theory tickles your fancy at all, this is a really great reference to have. My only criticism is that, at times, the book reads like just a collection of results. But it is mostly very inspirational and informative.

Applied Probability presents a unique blend of theory and applications, with special emphasis on mathematical modeling, computational techniques, and examples from the biological sciences. It can serve as a textbook for graduate students in applied mathematics, biostatistics, computational biology, computer science, physics, and statistics. Readers should have a working knowledge of multivariate calculus, linear algebra, ordinary differential equations, and elementary probability theory. Chapter 1 reviews elementary probability and provides a brief survey of relevant results from measure theory. Chapter 2 is an extended essay on calculating expectations. Chapter 3 deals with probabilistic applications of convexity, inequalities, and optimization theory. Chapters 4 and 5 touch on combinatorics and combinatorial optimization. Chapters 6 through 11 present core material on stochastic processes. If supplemented with appropriate sections from Chapters 1 and 2, there is sufficient material for a traditional semester-long course in stochastic processes covering the basics of Poisson processes, Markov chains, branching processes, martingales, and diffusion processes. The second edition adds two new chapters on asymptotic and numerical methods and an appendix that separates some of the more delicate mathematical theory from the steady flow of examples in the main text. Besides the two new chapters, the second edition includes a more extensive list of exercises, many additions to the exposition of combinatorics, new material on rates of convergence to equilibrium in reversible Markov chains, a discussion of basic reproduction numbers in population modeling, and better coverage of Brownian motion. Because many chapters are nearly self-contained, mathematical scientists from a variety of backgrounds will find Applied Probability useful as a reference

From the reviews of the second edition: "Like the first edition, the new edition presents additional probability background material with applications to graduate students studying mathematical statistics, mathematical biology, engineering and applied mathematics. ... one important feature of this edition is that it includes a more extensive list of exercises. I think both instructors and students will appreciate this welcome addition. Further, the new edition offers more than 200 important references. ... researchers and graduate students in mathematical sciences with a host of backgrounds will find this new edition a useful reference." (Technometrics, Vol. 53 (1), February, 2011) "This text contributes to bridging the increasing gap between sophisticated mathematical themes in probability theory and pragmatic, application-oriented concepts in statistics and data analysis. ... A large number of exercises, many of which are newly included in this edition, facilitates the usage of the book for teaching purposes." (Thorsten Dickhaus, Zentralblatt MATH, Vol. 1216, 2011) From the Back Cover Applied Probability presents a unique blend of theory and applications, with special emphasis on mathematical modeling, computational techniques, and examples from the biological sciences. It can serve as a textbook for graduate students in applied mathematics, biostatistics, computational biology, computer science, physics, and statistics. Readers should have a working knowledge of multivariate calculus, linear algebra, ordinary differential equations, and elementary probability theory. Chapter 1 reviews elementary probability and provides a brief survey of relevant results from measure theory. Chapter 2 is an extended essay on calculating expectations. Chapter 3 deals with probabilistic applications of convexity, inequalities, and optimization theory. Chapters 4 and 5 touch on combinatorics and combinatorial optimization. Chapters 6 through 11 present core material on stochastic processes. If supplemented with appropriate sections from Chapters 1 and 2, there is sufficient material for a traditional semester-long course in stochastic processes covering the basics of Poisson processes, Markov chains, branching processes, martingales, and diffusion processes. The second edition adds two new chapters on asymptotic and numerical methods and an appendix that separates some of the more delicate mathematical theory from the steady flow of examples in the main text. Besides the two new chapters, the second edition includes a more extensive list of exercises, many additions to the exposition of combinatorics, new material on rates of convergence to equilibrium in reversible Markov chains, a discussion of basic reproduction numbers in population modeling, and better coverage of Brownian motion. Because many chapters are nearly self-contained, mathematical scientists from a variety of backgrounds will find Applied Probability useful as a reference. Kenneth Lange is the Rosenfeld Professor of Computational Genetics in the Departments of Biomathematics and Human Genetics at the UCLA School of Medicine and the Chair of the Department of Human Genetics. His research interests include human genetics, population modeling, biomedical imaging, computational statistics, high-dimensional optimization, and applied stochastic processes. Springer previously published his books Mathematical and Statistical Methods for Genetic Analysis, 2nd ed., Numerical Analysis for Statisticians, 2nd ed., and Optimization. He has written over 200 research papers and produced with his UCLA colleague Eric Sobel the computer program Mendel, widely used in statistical genetics. About the Author Kenneth Lange is the Rosenfeld Professor of Computational Genetics in the Departments of Biomathematics and Human Genetics at the UCLA School of Medicine and the Chair of the Department of Human Genetics. His research interests include human genetics,

population modeling, biomedical imaging, computational statistics, high-dimensional optimization, and applied stochastic processes. Springer previously published his books *Mathematical and Statistical Methods for Genetic Analysis*, 2nd ed., *Numerical Analysis for Statisticians*, 2nd ed., and *Optimization*. He has written over 200 research papers and produced with his UCLA colleague Eric Sobel the computer program Mendel, widely used in statistical genetics.