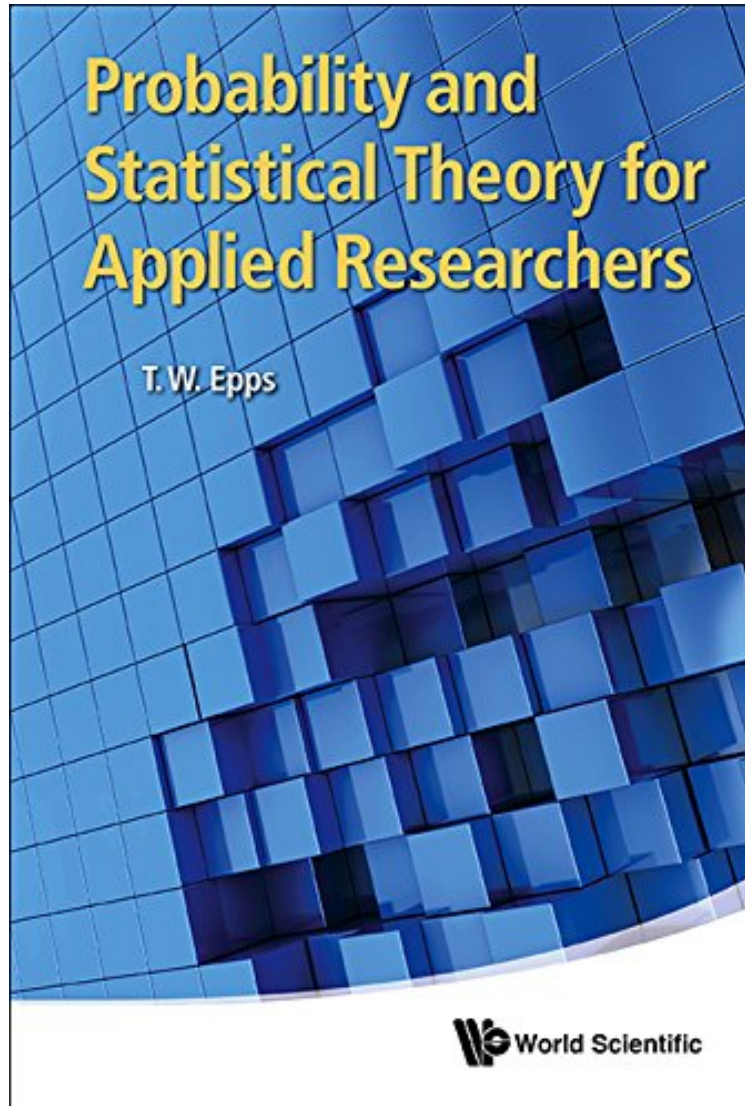


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Probability and Statistical Theory for Applied Researchers

T W Epps

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T W Epps : Probability and Statistical Theory for Applied Researchers before purchasing it in order to gage whether or not it would be worth my time, and all praised Probability and Statistical Theory for Applied Researchers:

5 of 5 people found the following review helpful. A carefully crafted bookBy Ronald MichenerI am not an unbiased reviewer, so let me be frank about it. I was a colleague of Professor Epps before he retired in 2006. It fell to me to teach the first semester graduate "econometrics" course (actually, a math stats course for economists) that Professor Epps had formerly taught for about three decades. I did so using notes he had written and repeatedly revised over those thirty years - those notes have been further revised and published as this book. I think I know more about this book than anyone outside the author himself. IMHO, the closest competitor to this book would be Ron C. Mittelhammer's

Mathematical Statistics for Economics and Business, which covers many of the same topics. Epps' book is much more careful of the mathematical niceties than Mittelhammer's. Also, Epps' book contains a large number of problems, many of them challenging. By contrast, many of Mittelhammer's end of chapter problems would not be out of place in a low level intro stat textbook. You can learn a great deal by doing Epps' problems, and one virtue of the book is that there are complete answers provided to every one of them. Compared to Epps, Mittelhammer seems to want to get past the math stat results as quickly as possible and into how they are going to be used in a graduate level Econometrics course. Epps, by contrast, wants to lay a firm math stat foundation and spends comparatively less time building bridges to future courses (there are some, just not so many as Mittelhammer). Having been burned a few times in the past from using first editions of statistics textbooks, I expect potential users of this book might be concerned that, as a first edition, it might be filled with typos and errors. It is practically impossible to write a highly mathematical 800 page book and avoid making any mistakes, and often it is only in the second or third editions that books like this become useable. All I can say is that the manuscript has been subjected to many, many years of proofreading. Although I think it is nearly impossible for any author to eradicate every error in a lengthy manuscript, I believe you will be pleasantly surprised at the small number of typos and errors remaining. I recommend this book for anyone looking for a rigorous introduction to classical mathematical statistics, but particularly for mathematically sophisticated graduate students in Economics. Buy the book; work the problems.

This book presents the theory of probability and mathematical statistics at a level suitable for researchers at the frontiers of applied disciplines. Examples and exercises make essential concepts in measure theory and analysis accessible to those with preparation limited to vector calculus. Complete, detailed solutions to all the exercises demonstrate techniques of problem solving and provide immediate feedback. Part I, The Theory of Probability, starts with elementary set theory and proceeds through basic measure and probability, random variables, integration and mathematical expectation. It concludes with an extensive survey of models for distributions of random variables. Part II, The Theory of Statistics, begins with sampling theory and distribution theory for statistics from normal populations, proceeds to asymptotic (large-sample) theory, and on to point and interval estimation and tests of parametric hypotheses. The last three chapters cover tests of nonparametric hypotheses, Bayesian methods, and linear and nonlinear regression. Researchers and graduate students in applied fields such as actuarial science, biostatistics, economics, finance, mathematical psychology, and systems engineering will find this book to be a valuable learning tool and an essential reference. Sample Chapter(s) Chapter 1: Probability on Abstract Sets (476 KB) Chapter 5: Sampling Distributions (405 KB) Request Inspection Copy

From the Inside Flap This book develops the theory of probability and mathematical statistics at a level suitable for those at the frontiers of applied research, and it provides the necessary concepts of measure theory and analysis along the way. Down-to-earth explanations and an abundance of examples and exercises throughout the text make these concepts accessible to those with preparation limited to vector calculus and elementary statistics. Complete, detailed solutions to all the exercises are at the end of each chapter. These both develop one's technique for problem solving and afford immediate self-assessment of the level of understanding. The book is in two parts. Part I, The Theory of Probability, begins with elementary set theory, proceeds through basic measure and probability on abstract spaces, to random variables and probability on sets of real numbers, to integration and mathematical expectation, and concludes with a survey of models for distributions of random variables. Part II, The Theory of Statistics, begins with sampling theory and distribution theory for statistics from normal populations, proceeds to asymptotic (large-sample) theory, and on to point and interval estimation and tests of parametric hypotheses. The three concluding chapters cover tests of nonparametric hypotheses (with emphasis on goodness of fit), Bayesian methods, and linear and nonlinear regression. Researchers and graduate students in such applied fields as actuarial science, biostatistics, economics, finance, mathematical psychology, and systems engineering will find this book to be a valuable learning tool and, thereafter, an essential reference. About the Author Thomas Wakefield Epps received the PhD degree in economics from Duke University. Following several years of commissioned military service he joined the faculty of the University of Virginia, where he taught graduate and undergraduate statistics and finance as Professor of Economics and Statistics. His research into the behavior of prices of financial assets led to interests in applied probability modeling and to theoretical contributions in distribution theory, stochastic processes, and tests of goodness of fit. Since retiring from teaching he has authored two graduate-level texts on financial derivatives and quantitative finance. His nonprofessional interests include shooting single-action revolvers and raising Angus cattle on his farm in the foothills of the Blue Ridge Mountains.