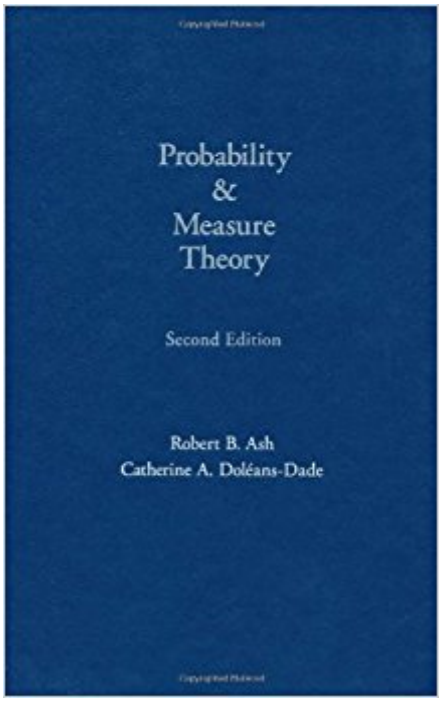
Probability And Measure Theory, Second Edition



Synopsis

Probability and Measure Theory, Second Edition, is a text for a graduate-level course in probability that includes essential background topics in analysis. It provides extensive coverage of conditional probability and expectation, strong laws of large numbers, martingale theory, the central limit theorem, ergodic theory, and Brownian motion.Clear, readable styleSolutions to many problems presented in textSolutions manual for instructorsMaterial new to the second edition on ergodic theory, Brownian motion, and convergence theorems used in statisticsNo knowledge of general topology required, just basic analysis and metric spacesEfficient organization

Book Information

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Customer Reviews

This book deal with the whole picture of probability. One learns the very first roots of rigurous probability. And when I say rigurous I am not regarding it as "engineers rigour = nothing" but as "mathematicians rigour". The book is self-contained, the exposition is clear and is organized in the mathematic classical fashion: definition, lema, proof, theorem, proof.That rigour, when it comes to probability beyond "number of successful cases / total number of cases", can only be achieved when the theory is developed in the most general background: measure theory. This gives general tools (theorems) which are applied to measures in general, a particular case of which is probability. Measure theory and general abstract Lebesgue integration go together, so the book defines and deepens in Lebesgue theory: integration, convergence theorems, Fubini’s theorem, etc.Once you feel confident and capable of deal with almost anything regarding Lebesgue integration the books

moves on relations between integrals and measures: the Radon-Nikodym theorem which is perhaps one of the most important results of the book and whose proof is outstanding. It provides the reader with the tools to tackle Lebesgue almost everywhere differentiation theorem and absolutely continuous measures and functions.Finally, before starting with probability as special case, there is a functional analysis chapter which gives proof of the three most important theorems of functional analisys in Hilbert and Banach spaces.From chapter 4 on, everything about probability is covered. From basic distributions to martingales, ergodicity or central limit theoroem.