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Titolo	A Probability Path / / by Sidney I. Resnick
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Descrizione fisica	1 online resource (XIV, 453 p. 11 illus.) : online resource
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Soggetti	Probabilities Mathematics Operations research Management science Statistics Probability Theory Applications of Mathematics Operations Research, Management Science Statistical Theory and Methods
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Note generali	Originally published 1999, reprint of 5th printing. Reprint of the 2005 edition.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Sets and events -- Probability spaces -- Random variables, elements, and measurable maps -- Independence -- Integration and expectation -- Convergence concepts -- Laws of large numbers and sums of independent random variables -- Convergence in distribution -- Characteristic functions and the central limit theorem -- Martingales.
Sommario/riassunto	Many probability books are written by mathematicians and have the built-in bias that the reader is assumed to be a mathematician coming to the material for its beauty. This textbook is geared towards beginning graduate students from a variety of disciplines whose primary focus is not necessarily mathematics for its own sake. Instead, A Probability Path is designed for those requiring a deep understanding of advanced probability for their research in statistics, applied probability, biology, operations research, mathematical finance, and engineering. A one-semester course is laid out in an efficient and

readable manner covering the core material. The first three chapters provide a functioning knowledge of measure theory. Chapter 4 discusses independence, with expectation and integration covered in Chapter 5, followed by topics on different modes of convergence, laws of large numbers with applications to statistics (quantile and distribution function estimation), and applied probability. Two subsequent chapters offer a careful treatment of convergence in distribution and the central limit theorem. The final chapter treats conditional expectation and martingales, closing with a discussion of two fundamental theorems of mathematical finance. Like Adventures in Stochastic Processes, Resnick's related and very successful textbook, A Probability Path is rich in appropriate examples, illustrations, and problems, and is suitable for classroom use or self-study. The present uncorrected, softcover reprint is designed to make this classic textbook available to a wider audience. This book is different from the classical textbooks on probability theory in that it treats the measure theoretic background not as a prerequisite but as an integral part of probability theory. Theresult is that the reader gets a thorough and well-structured framework needed to understand the deeper concepts of current day advanced probability as it is used in statistics, engineering, biology and finance.... The pace of the book is quick and disciplined. Yet there are ample examples sprinkled over the entire book and each chapter finishes with a wealthy section of inspiring problems. —Publications of the International Statistical Institute This textbook offers material for a one-semester course in probability, addressed to students whose primary focus is not necessarily mathematics.... Each chapter is completed by an exercises section. Carefully selected examples enlighten the reader in many situations. The book is an excellent introduction to probability and its applications. —Revue Roumaine de Mathématiques Pures et Appliquées.