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	Nota di contenuto	Intro -- Preface -- Contents -- Chapter 1: Introduction -- Chapter 2: Basic Probability -- 2.1 Random Events and Probability Set Functions -- 2.2 Properties of Probability Functions -- 2.3 Conditional Probability -- 2.4 Exercises -- Chapter 3: Random Variables and Probability Distributions -- 3.1 Discrete Random Variables -- 3.2 Discrete Random Variables -- 3.3 Continuous Random Variables -- 3.4 Exercises -- Chapter 4: General Properties of Random Variables -- 4.1 Cumulative Distribution Function -- 4.1.1 Relationship Between c.d.f. and p.d.f -- 4.1.2 General Properties of a c.d.f. $F_X(x)$ -- 4.2 Median of a Probability Distribution -- 4.3 Symmetric Probability Distribution -- 4.4 Mathematical Expectations -- 4.5 Chebyshev´s Inequality -- 4.6 Exercises -- Chapter 5: Joint Probability Distributions for Two Random Variables -- 5.1 Joint Probability Distributions of Two Variables -- 5.1.1 Discrete Variables -- 5.1.2 Continuous Variables -- 5.2 Marginal Probability Distributions -- 5.3 Covariance and Correlation -- 5.4 Conditional Probability Distributions -- 5.5 Exercises -- Chapter 6: Probability Distribution of a Function of a Single Random Variable -- 6.1 Change of Variable Technique -- 6.2 Moment Generating Function Technique -- 6.3 Distribution Function Technique -- 6.4 Exercises -- Chapter 7: Sampling Distributions -- 7.1 Simple Random Samples -- 7.2 Sampling Distributions -- 7.3 General Approaches for Obtaining Sampling Distributions -- 7.3.1 Moment Generating Function Technique -- 7.3.2 Distribution Function Technique -- 7.3.3 Change of

Variable Technique -- 7.4 Equal in Distribution Approach to Obtaining Properties of Sampling Distributions -- 7.5 Exercises -- Chapter 8: Asymptotic (Large-Sample) Properties of Statistics -- 8.1 Convergence in Probability -- 8.2 Convergence in Distribution -- 8.2.1 Convergence of Moment Generating Functions.
8.2.2 Central Limit Theorem (CLT) -- 8.2.3 Slutsky´s Theorem -- 8.2.4 Delta Method -- 8.3 Exercises -- Bibliography.

Sommario/riassunto	This book is specially designed to refresh and elevate the level of understanding of the foundational background in probability and distributional theory required to be successful in a graduate-level statistics program. Advanced undergraduate students and introductory graduate students from a variety of quantitative backgrounds will benefit from the transitional bridge that this volume offers, from a more generalized study of undergraduate mathematics and statistics to the career-focused, applied education at the graduate level. In particular, it focuses on growing fields that will be of potential interest to future M.S. and Ph.D. students, as well as advanced undergraduates heading directly into the workplace: data analytics, statistics and biostatistics, and related areas.