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Soggetti	Economics, Mathematical Game theory Finance Macroeconomics Quantitative Finance Game Theory, Economics, Social and Behav. Sciences Finance, general Macroeconomics/Monetary Economics//Financial Economics
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	1. Preliminaries via Gambles -- 2. Options -- 3. Modeling -- 4. Some Probability -- 5. The Black–Scholes Equation -- 6. Solutions of Black–Scholes -- 7. Partial information: the Greeks -- 8. Sketching and the American Options -- 9. Embellishments.
Sommario/riassunto	This textbook invites the reader to develop a holistic grounding in mathematical finance, where concepts and intuition play as important a role as powerful mathematical tools. Financial interactions are characterized by a vast amount of data and uncertainty; navigating the inherent dangers and hidden opportunities requires a keen understanding of what techniques to apply and when. By exploring the conceptual foundations of options pricing, the author equips readers to choose their tools with a critical eye and adapt to emerging challenges. Introducing the basics of gambles through realistic scenarios, the text goes on to build the core financial techniques of Puts, Calls, hedging,

and arbitrage. Chapters on modeling and probability lead into the centerpiece: the Black–Scholes equation. Omitting the mechanics of solving Black–Scholes itself, the presentation instead focuses on an in-depth analysis of its derivation and solutions. Advanced topics that follow include the Greeks, American options, and embellishments. Throughout, the author presents topics in an engaging conversational style. “Intuition breaks” frequently prompt students to set aside mathematical details and think critically about the relevance of tools in context. Mathematics of Finance is ideal for undergraduates from a variety of backgrounds, including mathematics, economics, statistics, data science, and computer science. Students should have experience with the standard calculus sequence, as well as a familiarity with differential equations and probability. No financial expertise is assumed of student or instructor; in fact, the text’s deep connection to mathematical ideas makes it suitable for a math capstone course. A complete set of the author’s lecture videos is available on YouTube, providing a comprehensive supplementary resource for a course or independent study.
