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Edizione	[Second edition.]
Descrizione fisica	1 online resource (XVI, 285 p. 1 illus.)
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Nota di contenuto	Preface -- Notation -- 1. The Classical Theory.-2. Measures. -3. Lebesgue Integration.-4. Products of Measures.-5. Changes of Variable.-6. Basic Inequalities and Lebesgue Spaces.-7. Hilbert Space and Elements of Fourier Analysis.-8. Radon–Nikodym, Hahn, Daniell Integration, and Carathéodory- Index.
Sommario/riassunto	When the first edition of this textbook published in 2011, it constituted a substantial revision of the best-selling Birkhäuser title by the same author, A Concise Introduction to the Theory of Integration. Appropriate as a primary text for a one-semester graduate course in integration theory, this GTM is also useful for independent study. A complete solutions manual is available for instructors who adopt the text for their courses. This second edition has been revised as follows: §2.2.5 and §8.3 have been substantially reworked. New topics have been added. As an application of the material about Hermite functions in §7.3.2, the author has added a brief introduction to Schwartz's theory of tempered distributions in §7.3.4. Section §7.4 is entirely new and contains applications, including the Central Limit Theorem, of Fourier analysis to measures. Related to this are subsections §8.2.5 and §8.2.6, where Lévy's Continuity Theorem and Bochner's characterization of the Fourier transforms of Borel probability on N are proven. Subsection 8.1.2 is new and contains a proof of the Hahn

Decomposition Theorem. Finally, there are several new exercises, some covering material from the original edition and others based on newly added material. From the reviews of the first edition: “The presentation is clear and concise, and detailed proofs are given. … Each section also contains a long and useful list of exercises. … The book is certainly well suited to the serious student or researcher in another field who wants to learn the topic. …the book could be used by lecturers who want to illustrate a standard graduate course in measure theory by interesting examples from other areas of analysis.” (Lars Olsen, Mathematical Reviews 2012) “…It will help the reader to sharpen his/her sensitivity to issues of measure theory, and to renew his/her expertise in integration theory.” (Viceniu D. Rdulescu, Zentralblatt MATH, Vol. 1228, 2012).