

1. Record Nr.	UNISA996418271503316
Autore	Hug Daniel
Titolo	Lectures on Convex Geometry [[electronic resource] /] / by Daniel Hug, Wolfgang Weil
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-50180-9
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (300 pages)
Collana	Graduate Texts in Mathematics, , 0072-5285 ; ; 286
Disciplina	516.08
Soggetti	Convex geometry Discrete geometry Polytopes Measure theory Functional analysis Convex and Discrete Geometry Measure and Integration Functional Analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface -- Preliminaries and Notation -- 1. Convex Sets -- 2. Convex Functions -- 3. Brunn-Minkowski Theory -- 4. From Area Measures to Valuations -- 5. Integral Geometric Formulas.-6. Solutions of Selected Exercises -- References -- Index.
Sommario/riassunto	This book provides a self-contained introduction to convex geometry in Euclidean space. After covering the basic concepts and results, it develops Brunn–Minkowski theory, with an exposition of mixed volumes, the Brunn–Minkowski inequality, and some of its consequences, including the isoperimetric inequality. Further central topics are then treated, such as surface area measures, projection functions, zonoids, and geometric valuations. Finally, an introduction to integral-geometric formulas in Euclidean space is provided. The numerous exercises and the supplementary material at the end of each section form an essential part of the book. Convexity is an elementary and natural concept. It plays a key role in many mathematical fields,

including functional analysis, optimization, probability theory, and stochastic geometry. Paving the way to the more advanced and specialized literature, the material will be accessible to students in the third year and can be covered in one semester.
