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Titolo	Numerical Semigroups : A Commutative Algebra Approach // by Jürgen Herzog, Somayeh Moradi, Masoomeh Rahimbeigi
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ISBN	3-032-05424-9
Edizione	[1st ed. 2026.]
Descrizione fisica	1 online resource (408 pages)
Collana	Compact Textbooks in Mathematics, , 2296-455X
Disciplina	512.44
Soggetti	Commutative algebra Commutative rings Algebra, Homological Computer software Commutative Rings and Algebras Category Theory, Homological Algebra Mathematical Software
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Basic commutative algebra -- Homological methods (on graded structures) -- Cohen-Macaulay modules and the canonical module -- Numerical semigroups and their relations -- Pseudo-Frobenius numbers via minimal graded free resolutions -- Almost symmetric and nearly symmetric numerical semigroups.
Sommario/riassunto	This book offers an exploration of the rich interplay between numerical semigroups and commutative algebra. It fills a notable gap in the literature by bridging numerical semigroup theory with advanced algebraic methods. The book is structured to support both self-study and advanced coursework, and it is divided into two major parts. The first three chapters lay the algebraic groundwork for later applications to numerical semigroups. They introduce readers to foundational topics in commutative algebra, homological methods, Cohen–Macaulay and canonical modules—all with a focus on the graded structures that arise naturally in semigroup rings. Building on the first three chapters, Chapters 4-6 lead to deep results connecting semigroup properties and invariants to algebraic properties and homological data of

semigroup rings. Throughout, the exposition is enriched with illustrative examples, detailed proofs, and exercises to reinforce understanding. The book is designed for graduate students in mathematics as well as researchers in algebra, number theory, and combinatorics.

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