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	Autore	Shult Ernest
	Titolo	Algebra : A Teaching and Source Book / / by Ernest Shult, David Surowski
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
	ISBN	3-319-19734-7
	Edizione	[1st ed. 2015.]
	Descrizione fisica	1 online resource (XXII, 539 p. 6 illus.)
	Disciplina	512.9
	Soggetti	Associative rings
		Rings (Algebra)
		Group theory
		Algebra
		Field theory (Physics)
		Associative Rings and Algebras
		Group Theory and Generalizations
		Field Theory and Polynomials
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Basics -- Basic Combinatorial Principles of Algebra -- Review of Elementary Group Properties -- Permutation Groups and Group Actions -- Normal Structure of Groups -- Generation in Groups -- Elementary Properties of Rings -- Elementary properties of Modules -- The Arithmetic of Integral Domains -- Principal Ideal Domains and Their Modules -- Theory of Fields -- Semiprime Rings -- Tensor Products.
	Sommario/riassunto	This book presents a graduate-level course on modern algebra. It can be used as a teaching book – owing to the copious exercises – and as a source book for those who wish to use the major theorems of algebra. The course begins with the basic combinatorial principles of algebra: posets, chain conditions, Galois connections, and dependence theories. Here, the general Jordan–Holder Theorem becomes a theorem on interval measures of certain lower semilattices. This is followed by basic courses on groups, rings and modules; the arithmetic of integral domains; fields; the categorical point of view; and tensor products.

Beginning with introductory concepts and examples, each chapter proceeds gradually towards its more complex theorems. Proofs progress step-by-step from first principles. Many interesting results reside in the exercises, for example, the proof that ideals in a Dedekind domain are generated by at most two elements. The emphasis throughout is on real understanding as opposed to memorizing a catechism and so some chapters offer curiosity-driven appendices for the self-motivated student.