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Titolo	An Invitation to General Algebra and Universal Constructions / / by George M. Bergman
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ISBN	3-319-11478-6
Edizione	[2nd ed. 2015.]
Descrizione fisica	1 online resource (574 p.)
Collana	Universitext, , 0172-5939
Disciplina	512.9
Soggetti	Algebra Category theory (Mathematics) Homological algebra Associative rings Rings (Algebra) General Algebraic Systems Category Theory, Homological Algebra Associative Rings and Algebras
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1 About the course, and these notes -- Part I: Motivation and Examples -- 2 Making Some Things Precise -- 3 Free Groups -- 4 A Cook's Tour -- Part II: Basic Tools and Concepts -- 5 Ordered Sets, Induction, and the Axiom of Choice -- 6 Lattices, Closure Operators, and Galois Connections -- 7 Categories and Functors -- 8 Universal Constructions -- 9 Varieties of Algebras -- Part III: More on Adjunctions -- 10 Algebras, Coalgebras, and Adjunctions -- References -- List of Exercises -- Symbol Index -- Word and Phrase Index.
Sommario/riassunto	Rich in examples and intuitive discussions, this book presents General Algebra using the unifying viewpoint of categories and functors. Starting with a survey, in non-category-theoretic terms, of many familiar and not-so-familiar constructions in algebra (plus two from topology for perspective), the reader is guided to an understanding and appreciation of the general concepts and tools unifying these constructions. Topics include: set theory, lattices, category theory, the

formulation of universal constructions in category-theoretic terms, varieties of algebras, and adjunctions. A large number of exercises, from the routine to the challenging, interspersed through the text, develop the reader's grasp of the material, exhibit applications of the general theory to diverse areas of algebra, and in some cases point to outstanding open questions. Graduate students and researchers wishing to gain fluency in important mathematical constructions will welcome this carefully motivated book.