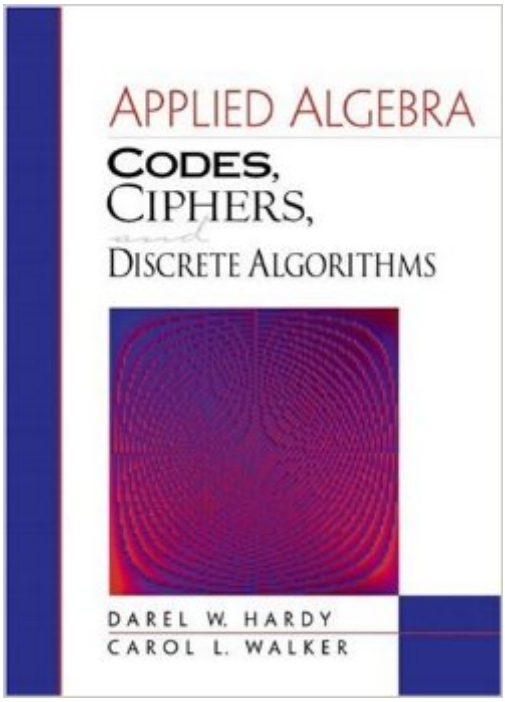
Applied Algebra: Codes, Ciphers, And Discrete Algorithms



Synopsis

For junior/senior-level courses in Abstract Algebra and Cryptography in departments of mathematics, computer science, and engineering. Emphasizing the fact that solid mathematics leads to solid applications, this text builds a mathematical foundation that includes topics in number theory and the theory of infinite fields. - Hints for using Maple, MultiPAD, and Scientific Notebook. - Supplies students with explicit examples of how to use these technology products to perform calculations related to the course, and enables them to better understand the ideas developed in the text. - An entire chapter devoted to the Rijndael Algorithm - Featuresm the interesting mathematics upon which it is based. - Enables students to focus on and understand the recently adopted Advanced Encryption Standard (replacing the Data Encryption Standard) as the default for financial and web transactions. - Solutions to selected exercises. - Shows students how the solution was worked out - not just the correct answer. - A comprehensive presentation. - Provides students with numerous topics in cryptology, number theory, and error correcting codes - not found in other texts.

Book Information

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Customer Reviews

I had to use this book for my applied algebra course, and a lot of the material in the book is interesting (especially the ciphers because I think of these as just being puzzles). But for many of the sections, the book gives very brief explanations/examples before the actual problems (sometime there are no examples). So there will be a page or two pages of definitions, examples, but then 20

problems that do not seem similar to what was explained in the section. If you don't have prior experience with some of the topics in the book, you will be lost since this does very little explaining. However, the book is cheap which was really nice compared to how much math books usually cost me.

This is a great book for a first course in applied algebra for both students and former students. This book very nicely integrates introduction+motivation, enough theory, exercises with solutions and hints for computer aided exploration (via Maple, etc). Was used at Stanford for a 100 level course, and fits well in a quarter.