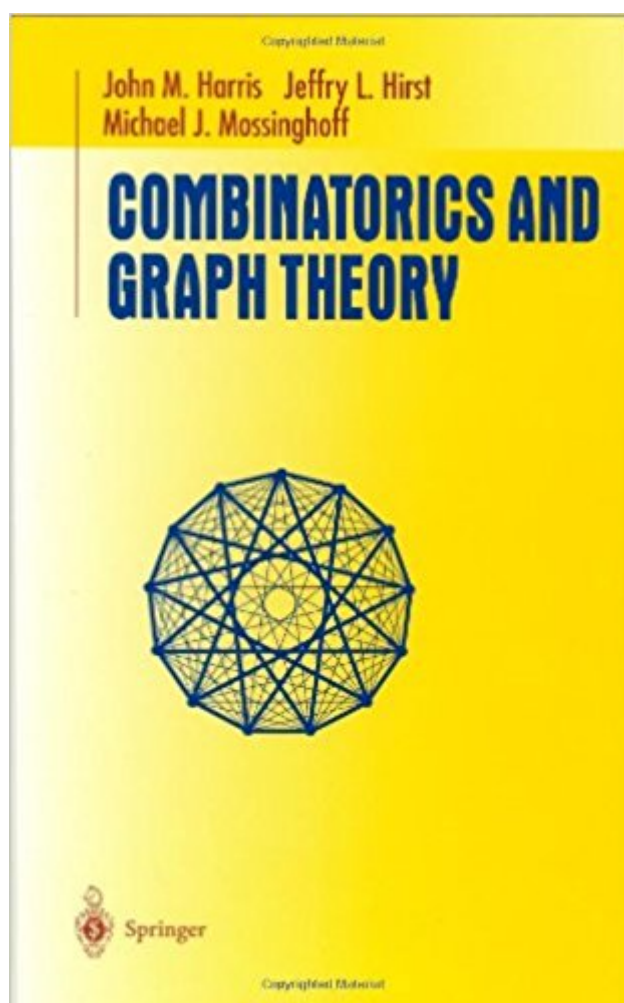


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# Combinatorics And Graph Theory (Springer Undergraduate Texts In Mathematics And Technology)



## Synopsis

This book evolved from several courses in combinatorics and graph theory given at Appalachian State University and UCLA. Chapter 1 focuses on finite graph theory, including trees, planarity, coloring, matchings, and Ramsey theory. Chapter 2 studies combinatorics, including the principle of inclusion and exclusion, generating functions, recurrence relations, Pólya theory, the stable marriage problem, and several important classes of numbers. Chapter 3 presents infinite pigeonhole principles, König's lemma, and Ramsey's theorem, and discusses their connections to axiomatic set theory. The text is written in an enthusiastic and lively style. It includes results and problems that cross subdisciplines, emphasizing relationships between different areas of mathematics. In addition, recent results appear in the text, illustrating the fact that mathematics is a living discipline. The text is primarily directed toward upper-division undergraduate students, but lower-division undergraduates with a penchant for proof and graduate students seeking an introduction to these subjects will also find much of interest.

## Book Information

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## Customer Reviews

From the reviews: SIAM REVIEW "The narrative and proofs are well written, and the authors are given to frequent uses of humor. Students should find this book as easy to read as any other good-quality text written with them in mind. Each of the three chapters concludes with several paragraphs describing an excellent selection of more advanced texts or papers to consider for

further study"

It's pretty annoying when you're looking for the second edition of a textbook and clicking a link to the kindle version gives you the kindle version of the first edition of the book. How does that make any sense. Most, if not all of the section numbers are different for the two editions of the book. People will just accidentally buy this ebook version not knowing they're actually buying the first edition. Pretty ridiculous.

I purchased this book for a class, having just received a new Kindle, I figured I'd try to go the ebook route. Unfortunately, the book I wanted was the second edition (Combinatorics and Graph Theory (Undergraduate Texts in Mathematics)), this was the 'Kindle version' linked to the page of that book. This ebook based on the first edition! Although, when looking closely at the webpage, the product details of this ebook do state 'first edition'. It could be improperly inferred that it is the first edition of the Kindle version. I do not think that the Kindle version of an old edition should be linked to the page of a newer edition, because then people are tempted to purchase it thinking that the books will be exactly the same. Sections have changed, so theorem numbers have shifted, hence I will probably have to buy the second edition as well.

Unlike its competitors, this book states simple concepts simply. It gives an excellent selection of the most important techniques and examples, without endlessly repeated "real-world" applications. In 80 pages, it covers the most interesting topics in graph theory, including: Cayley's tree-counting theorem, vertex coloring (with proof of the 5-Color Theorem), Hall matching theorem, Ramsey numbers, and stable marriage. Another 80 pages contains the main concepts of enumeration: elementary combinations (poker hands), inclusion-exclusion, generating functions for Fibonacci and Catalan numbers, Polya counting of symmetry classes, Stirling numbers. There is final section on infinite sets and graphs. The book covers quite as much as similar ones of twice the length. Finally, a textbook which is not afraid to be brief!

The authors of this book have managed to teach, in a complete and thorough manner, enough material to fill a book more than twice the size of this one. Do not mistake its brevity for a Rudin-esque lack of explanation, or for a lack of substance. Explanations are provided, a good deal of material is covered, and the book remains so concise and to the point that I have no complaints whatsoever. Very few math books lend themselves well to being read cover-to-cover, but the

unassuming nature of this book makes it perfect for a leisurely and fun read, or for a classroom. Fans of the writing style of Joseph Gallian's "Contemporary Abstract Algebra" will enjoy this book's ability to present material in a friendly way without oversimplifying. Buy this book.

I am a math student with Indiana University working out of this book for independent study credit. When my adviser and I sat down to discuss books, we sifted through 10 to 12 books, and it was clear from the start that this book was the best. And I haven't changed my mind since. The book is clear, concise, and easy to read. Excellent for anyone who is teaching themselves, which of course means it's great for a full course with actual instructors.

I haven't gone through the whole book yet but the portion on graph theory that I have read is brilliantly written. The authors inject humor and beauty in the subject. If you are a self learner then this book is ideal for you. The only negative point is the total lack of answers/hints to the problems in the exercises.

Little did I expect of a book that has seemingly not garnered that much attention among professors and students (at least the lack of reviews in .com might serve as a confirming instance of that speculation), but come exam time, the book proved that such prejudice is outright foolish. The authors must really love both the field and writing about it, for their overflowing exuberance readily transfers to the pages. Pictures and humor are never a scarcity here: the authors took no shame providing both; a curious but pleurably fresh anomaly in the often dry and coldly serious world that is mathematics writing.

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