
Birkhäuser

 1st
edition

 1st ed. 2019, XV, 264 p. 27
illus., 2 illus. in color.

Printed book

Softcover

Printed book

Softcover

ISBN 978-3-030-14767-9

 £ 29,99 | CHF 41,50 | 34,99 € |
38,49 € (A) | 37,44 € (D)

Available

Discount group

Standard (0)

Product category

Undergraduate textbook

Series

Compact Textbooks in Mathematics

Mathematics : Mathematics in the Humanities and Social Sciences

El-Helaly, Sherif

The Mathematics of Voting and Apportionment

An Introduction

- Provides students with an accessible overview of the mathematical concepts central to voting systems
- Allows readers to engage with the material in a variety of ways, with chapters that can be approached in any order
- Includes a chapter on the mathematics of apportionment, a topic not always covered in adequate detail

This textbook contains a rigorous exposition of the mathematical foundations of two of the most important topics in politics and economics: voting and apportionment, at the level of upper undergraduate and beginning graduate students. It stands out among comparable books by providing, in one volume, an extensive and mathematically rigorous treatment of these two topics. The text's three chapters cover social choice, yes-no voting, and apportionment, respectively, and can be covered in any order, allowing teachers ample flexibility. Each chapter begins with an elementary introduction and several examples to motivate the concepts and to gradually lead to more advanced material. Landmark theorems are presented with detailed and streamlined proofs; those requiring more complex proofs, such as Arrow's theorems on dictatorship, Gibbard's theorem on oligarchy, and Gärdenfors' theorem on manipulation, are broken down into propositions and lemmas in order to make them easier to grasp. Simple and intuitive notations are emphasized over non-standard, overly complicated symbols. Additionally, each chapter ends with exercises that vary from computational to "prove or disprove" types. The Mathematics of Voting and Apportionment will be particularly well-suited for a course in the mathematics of voting and apportionment for upper-level undergraduate and beginning graduate students in economics, political science, or philosophy, or for an elective course for math majors. In addition, this book will be a suitable read for to any curious mathematician looking for an exposition to these unpublicized mathematical applications. No political science prerequisites are needed.

 Order online at [springer.com/booksellers](https://www.springer.com/booksellers)
Springer Nature Customer Service Center GmbH

Customer Service

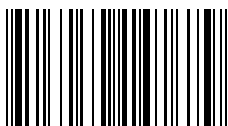
Tiergartenstrasse 15-17

69121 Heidelberg

Germany

T: +49 (0)6221 345-4301

row-booksellers@springernature.com



ISBN 978-3-030-14767-9 / BIC: PDE / SPRINGER NATURE: SCM32000

Prices and other details are subject to change without notice. All errors and omissions excepted. Americas: Tax will be added where applicable. Canadian residents please add PST, QST or GST. Please add \$5.00 for shipping one book and \$ 1.00 for each additional book. Outside the US and Canada add \$ 10.00 for first book, \$5.00 for each additional book. If an order cannot be fulfilled within 90 days, payment will be refunded upon request. Prices are payable in US currency or its equivalent.

 Part of **SPRINGER NATURE**