



1st ed. 2019, XXIV, 654 p. 119 illus., 64 illus. in color.

### Printed book

Hardcover

69,99 € | £59.99 | \$84.99

[1]74,89 € (D) | 76,99 € (A) | CHF 82,50

### eBook

59,49 € | £47.99 | \$64.99

[2]59,49 € (D) | 59,49 € (A) | CHF 66,00

Available from your library or [springer.com/shop](https://www.springer.com/shop)

### MyCopy [3]

Printed eBook for just

€ | \$ 24.99

[springer.com/mycopy](https://www.springer.com/mycopy)

Fred Brauer, Carlos Castillo-Chavez, Zhilan Feng

# Mathematical Models in Epidemiology

Series: Texts in Applied Mathematics

- A modern description of many important areas of mathematical epidemiology
- Provides an introduction to the formation and analysis of disease transmission models
- Exercise sets and some projects included

The book is a comprehensive, self-contained introduction to the mathematical modeling and analysis of disease transmission models. It includes (i) an introduction to the main concepts of compartmental models including models with heterogeneous mixing of individuals and models for vector-transmitted diseases, (ii) a detailed analysis of models for important specific diseases, including tuberculosis, HIV/AIDS, influenza, Ebola virus disease, malaria, dengue fever and the Zika virus, (iii) an introduction to more advanced mathematical topics, including age structure, spatial structure, and mobility, and (iv) some challenges and opportunities for the future. There are exercises of varying degrees of difficulty, and projects leading to new research directions. For the benefit of public health professionals whose contact with mathematics may not be recent, there is an appendix covering the necessary mathematical background. There are indications which sections require a strong mathematical background so that the book can be useful for both mathematical modelers and public health professionals.

Order online at [springer.com](https://www.springer.com) / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com). / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com).

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

