



## Mathematical Methods in Biology (Paperback)

By J. David Logan, William Wolesensky

John Wiley & Sons Inc, United States, 2009. Paperback. Condition: New. 1. Auflage. Language: English. Brand new Book. A one-of-a-kind guide to using deterministic and probabilistic methods for solving problems in the biological sciences Highlighting the growing relevance of quantitative techniques in scientific research, *Mathematical Methods in Biology* provides an accessible presentation of the broad range of important mathematical methods for solving problems in the biological sciences. The book reveals the growing connections between mathematics and biology through clear explanations and specific, interesting problems from areas such as population dynamics, foraging theory, and life history theory. The authors begin with an introduction and review of mathematical tools that are employed in subsequent chapters, including biological modeling, calculus, differential equations, dimensionless variables, and descriptive statistics. The following chapters examine standard discrete and continuous models using matrix algebra as well as difference and differential equations. Finally, the book outlines probability, statistics, and stochastic methods as well as material on bootstrapping and stochastic differential equations, which is a unique approach that is not offered in other literature on the topic. In order to demonstrate the application of mathematical methods to the biological sciences, the authors provide focused examples from the field of theoretical ecology,...



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