A First Course in Systems Biology

Eberhard Voit
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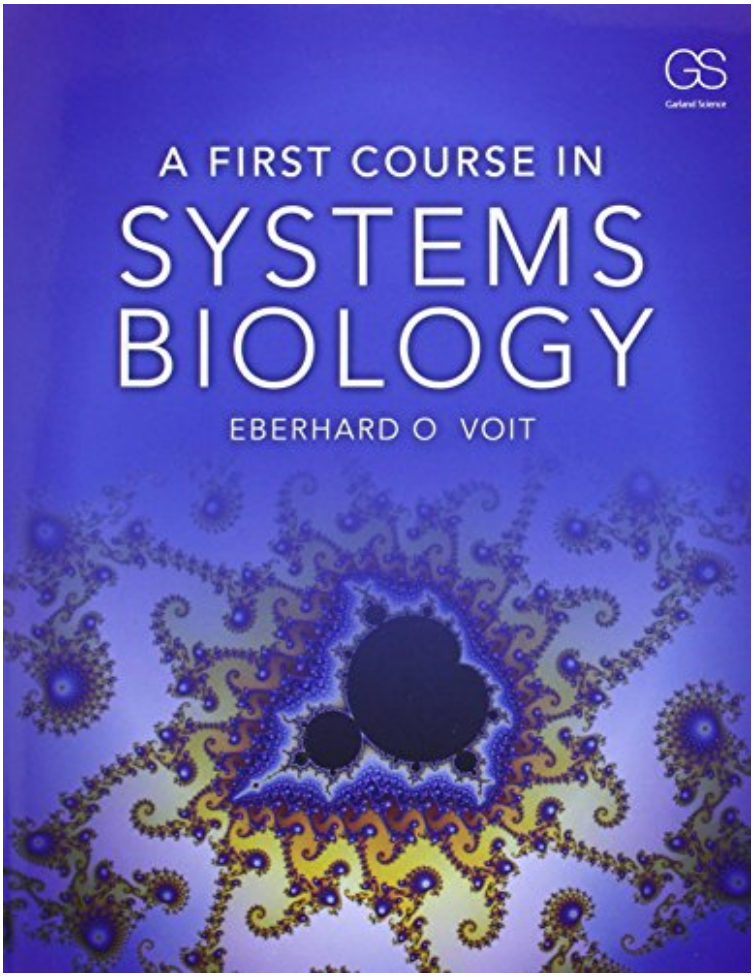

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Eberhard Voit : A First Course in Systems Biology before purchasing it in order to gage whether or not it would be worth my time, and all praised A First Course in Systems Biology:

13 of 13 people found the following review helpful. An Exceptional Book!By systems_biologistThis is a powerful introduction to systems biology from one of its internationally recognized leaders. The book presents the origins, concepts, tools, state of the art, and future directions in systems biology research. One of the book's many outstanding features is its real emphasis on both "systems" and "biology." On one hand, it highlights the principles and general advantages of the systems-oriented approach and mathematical modeling in (molecular) biology. On the other hand, it shows how concrete biological questions and phenomena (from cellular signal transduction to heart physiology) motivate and drive modeling research. The book's other features include its accessibility, balanced and highly relevant selection of material, highlights of the connection between modeling and experimental data, and suitability for audiences with mathematical or biological backgrounds. The reader can also choose between more introductory or

more advanced levels of exposition. For example, Chapter 5 "Parameter Estimation" is a helpful reference even for a seasoned systems biology scientist. Yet, Chapter 6 "Gene Systems" starts with a description of the basic building blocks of life and then proceeds to discuss current experimental methods of gene expression analysis. Several areas addressed in the book have been advanced by the author's own research, which obviously adds to the book's overall value. While the book is mainly focused on deterministic finite-dimensional systems, it conceptually prepares the reader to use other computational frameworks to solve biological problems. I strongly recommend this book to anyone with a serious interest in systems biology.4 of 4 people found the following review helpful. It's worth it.By AndrA good choice for beginers in systems biology. Clear explanations and good examples. A First course in systems biology is a nice choice for those who want to start learning systems biology.1 of 1 people found the following review helpful. Five StarsBy CandiceGreat textbook - I'm taking a class taught by Dr Voit himself!

A First Course in Systems Biology is a textbook designed for advanced undergraduate and graduate students. Its main focus is the development of computational models and their applications to diverse biological systems. Because the biological sciences have become so complex that no individual can acquire complete knowledge in any given area of specialization, the education of future systems biologists must instead develop a student's ability to retrieve, reformat, merge, and interpret complex biological information. This book provides the reader with the background and mastery of methods to execute standard systems biology tasks, understand the modern literature, and launch into specialized courses or projects that address biological questions using theoretical and computational means. The format is a combination of instructional text and references to primary literature, complemented by sets of small-scale exercises that enable hands-on experience, and larger-scale, often open-ended questions for further reflection.