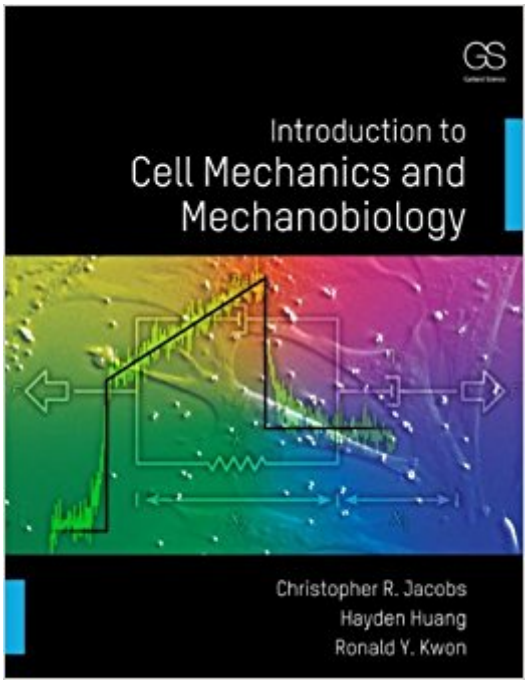
Introduction To Cell Mechanics And Mechanobiology



Synopsis

Introduction to Cell Mechanics and Mechanobiology is designed for a one-semester course in the mechanics of the cell offered to advanced undergraduate and graduate students in biomedical engineering, bioengineering, and mechanical engineering. It teaches a quantitative understanding of the way cells detect, modify, and respond to the physical properties within the cell environment. Coverage includes the mechanics of single molecules, polymers, polymer networks, two-dimensional membranes, whole-cell mechanics, and mechanobiology, as well as primer chapters on solid, fluid, and statistical mechanics, and cell biology. Introduction to Cell Mechanics and Mechanobiology is the first cell mechanics textbook to be geared specifically toward students with diverse backgrounds in engineering and biology.

Book Information

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Customer Reviews

"The new text from Jacobs, Huang, and Kwon is fully worthy of the honor of being the first text reviewed in Cellular and Molecular Bioengineering. After reading through the clear, simple, but rigorous text, I can say that their work does far more than just tie together some important notes in a single binding....this text is potentially transformative for the field, much in the way that the famous texts by Beer and Johnston, in the 1960s were transformative for the undergraduate study of mechanics of materials and machines." - Cellular and Molecular Bioengineering "This excellent book byÂ a group of internationally recognized authors meets a real existing need in contemporary

bioengineering education, and it does it effectively and successfully....The book was exactly what I wanted; it was entirely devoted to cell-scale problems, with numerous examples, each providing the relevant engineering or mathematical formulation, at a level suitable for good undergrad BME students....All chapters are comprehensible, logically-built and concise, and each is supported by high-quality graphics which add very much to the clarity of the contents...this book is a 'must-have'." - Computer Methods in Biomechanics and Biomedical Engineering â œâ ‖[Introduction to Cell Mechanics and Mechanobiology] touches on all the main current techniques used to apply force to cells and to measure the forces exerted by cellsâ ‖.the physics behind them is well explained and derivedâ ‖The book sets up a good context for why one would want to study mechanobiology and gives some good tips for designing an experiment, taking into account the fundamental differences in biology and engineering practices.â •- Yale Journal of Biology and Medicine

Easy to read, good support. Help to understand the mechanical impact on cells

Great text book for undergraduate cell mechanics courses!

A++++ Fast ship Item just as described

Overall pretty horrendous textbook, filled with errors involving important equations and typos. Would highly recommend waiting until the second edition comes out so that all the errors have been fixed. Gives good insight on basic principles but frustrating to use as a reliable reference.

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