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Basic Transport Phenomena In Biomedical Engineering,Third Edition (500 Tips)

Basic Transport Phenomena in Biomedical Engineering

Third Edition

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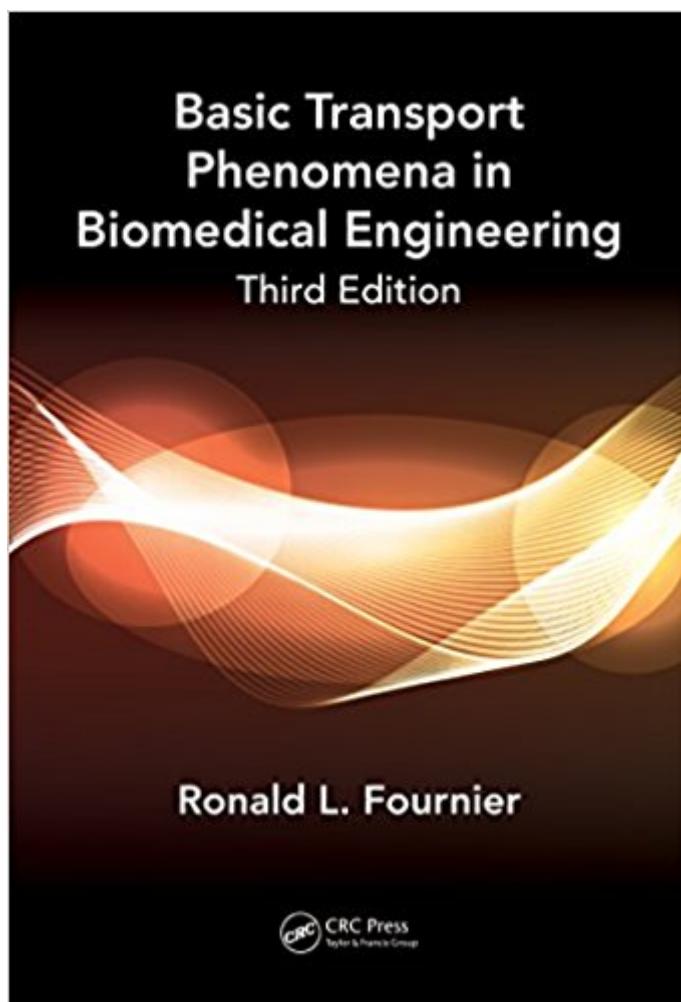
Synopsis

Encompassing a variety of engineering disciplines and life sciences, the very scope and breadth of biomedical engineering presents challenges to creating a concise, entry level text that effectively introduces basic concepts without getting overly specialized in subject matter or rarified in language. Basic Transport Phenomena in Biomedical Engineering, Third Edition meets and overcomes these challenges to provide the beginning student with the foundational tools and the confidence they need to apply these techniques to problems of ever greater complexity.Bringing together fundamental engineering and life science principles, this highly accessible text provides a focused coverage of key momentum and mass transport concepts in biomedical engineering. It offers a basic review of units and dimensions, material balances, and problem-solving tips, and then emphasizes those chemical and physical transport processes that have applications in the development of artificial and bioartificial organs, controlled drug delivery systems, and tissue engineering. The book also includes a discussion of thermodynamic concepts and covers topics such as body fluids, osmosis and membrane filtration, physical and flow properties of blood, solute and oxygen transport, and pharmacokinetic analysis. It concludes with the application of these principles to extracorporeal devices as well as tissue engineering and bioartificial organs.Designed for the beginning student, Basic Transport Phenomena in Biomedical Engineering, Third Edition provides a quantitative understanding of the underlying physical, chemical, and biological phenomena involved. It offers mathematical models using the â ˆshell balance" or compartmental approaches, along with numerous examples and end-of-chapter problems based on these mathematical models and in many cases these models are compared with actual experimental data. Encouraging students to work examples with the mathematical software package of their choice, this text provides them the opportunity to explore various aspects of the solution on their own, or apply these techniques as starting points for the solution to their own problems.

Book Information

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Text-to-Speech: Not enabled

X-Ray: Not Enabled

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Enhanced Typesetting: Not Enabled

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Customer Reviews

Had to have the book for a BME course. Came as described for less than the university book store.

When I rent it, the web page said it can be access with Windows 10 but it isn't.

What can I say, odds are you have to buy this whether you like it or not. In the off chance that you don't this one of the better Engineering text books. One huge thing is that it has a list of variables in the beginning of the book. This is NOT common in engineering text books and is a great help, especially if you are forgetful like me. It included examples that, while helpful, did not always explain their logical leaps or assumptions.

This is a great resource! Definitely recommend!

Let me make one thing clear: I am not reviewing the book's content. I'm just a student, and I have not yet read through the book. But, as an ebook, it could be better designed.The very first problem I noticed is that chapter 3 appeared to be missing. Clicking on chapter 3 in the table of contents did nothing. Going to the end of chapter 2 and clicking to the next page took me to chapter 4. Going to the beginning of chapter 4 and clicking back took me to the end of chapter 2. Or so it seemed. Upon closer inspection, it seems chapter 3 is combined with chapter 2: the link is broken.The other thing that would be useful would be to have section headings in the table of contents as well, and be able to navigate using those. An expandable menu for each chapter would do the job here.Finally there

seems to be a problem with the "sync to furthest location read" button. No matter how far I've gone in the book (and I scrolled through it all to check for any missing pages when I thought chapter 3 was missing), clicking this button tells me "Already at furthest read location".Oh, one more thing. Bookmarking, then using the bookmark to get to the bookmarked page, takes me to the bottom of the page rather than the top. This is quite annoying as I want to start reading from the top of the page, not the bottom.

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Fast delivery....was exactly as advertised.

It was very readable, a major plus since my professor spoke little English. Overall, it was worth the cost of the book.

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