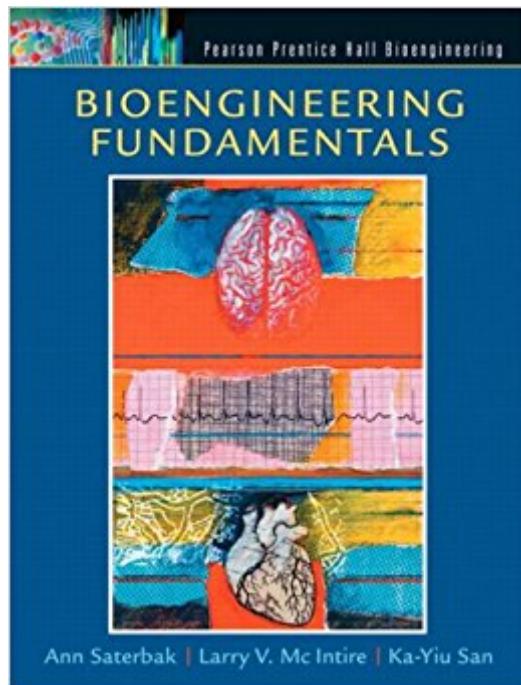


The book was found

# Bioengineering Fundamentals



## Synopsis

Combining engineering principles with technical rigor and a problem-solving focus, this guide takes an interdisciplinary approach to the conservation laws that form the foundation of bioengineering: mass, energy, charge, and momentum. Demonstrates how conservation laws (including conservation of mass and energy, momentum, and charge) apply to biological and medical systems to lay a foundation for beginning bioengineers. Allows readers to build a mental model of how key concepts in engineering, chemistry, and physics are interrelated. Emphasizes how accounting and conservation equations are used to derive familiar laws, such as Kirchhoff's current and voltage laws, Newton's laws of motion, Bernoulli's equation, and others. Extensive examples span the breadth of modern bioengineering, including physiology, biochemistry, tissue engineering, biotechnology, and instrumentation. For anyone interested in learning more about bioengineering.

## Book Information

Hardcover: 552 pages

Publisher: Pearson; 1 edition (January 15, 2007)

Language: English

ISBN-10: 0130938386

ISBN-13: 978-0130938381

Product Dimensions: 8.2 x 1.4 x 10.1 inches

Shipping Weight: 2.4 pounds (View shipping rates and policies)

Average Customer Review: 3.8 out of 5 stars See all reviews (8 customer reviews)

Best Sellers Rank: #128,740 in Books (See Top 100 in Books) #8 in Books > Textbooks > Medicine & Health Sciences > Medicine > Biotechnology #15 in Books > Science & Math > Biological Sciences > Biophysics #18 in Books > Engineering & Transportation > Engineering > Bioengineering > Biomedical Engineering

## Customer Reviews

Dr. Saterbak is pretty much the mother of all Rice undergrad bioe's, and to meet a general lack of decent intro bioe textbooks at the time, she and some members of our department began to write this book. Given her experience at teaching undergrads, this book meets expectations. It is clear and well-written. It contains a lot of equations, but that's because it's an intro engineering textbook. In other words, the book is all about different kinds of balances (mass, momentum, energy, etc.). Despite this, the equations are still presented in a very logical way that was easy to refer to back then, doing all those problem sets. It still continues to be a go-to reference text. The problems,

though, are crazy difficult. They're meant to be extremely challenging, and on average, we used to get assigned only 6 from a chapter a week (it'd take 4 of us 8hrs on average). Interestingly, some other intro bioe classes mistakenly choose to assign a lot more problems a week, thinking that it's like your typical textbook with easy problems. Not the case here. Finally, the case studies at the end are a nice addition, being closely patterned after term design projects that have been tried and tested on our students in the past. They present big biomedical problems in a context that allows you to call in stuff you have learned from the rest of the book. Overall, a lot of the material will seem tedious, but in the end, you'll be surprised at your newfound capacity for analytical thinking. This book doesn't teach as much "knowledge" as it develops a skill. But of course, you've gotta do the problems...

Examples were relatively helpful, but overall important information isn't exactly obvious to find, and some overall concepts are unclear, but for the price of renting if you really need the book for your class this isn't a bad choice.

Required textbook for college, reasonable rental price but it is really worn out and looks almost broke

I found that many problems were badly worded and in some, the objectives were made clear enough. Don't expect to learn much from just reading the chapters alone.

[Download to continue reading...](#)

Bioengineering Fundamentals Fundamentals of Nursing: Human Health and Function (Craven, Fundamentals of Nursing: Human Health and Functionraven, Fundamentals of Nurs) Fundamentals of Office 365: 2016 Edition (Computer Fundamentals) Fundamentals of Hydrology (Routledge Fundamentals of Physical Geography) Tietz Fundamentals of Clinical Chemistry and Molecular Diagnostics, 7e (Fundamentals of Clinical Chemistry (Tietz)) Fundamentals of Biostatistics (Rosner, Fundamentals of Biostatics) Kozier & Erb's Fundamentals of Nursing (10th Edition) (Fundamentals of Nursing (Kozier)) Fundamentals of Geomorphology (Routledge Fundamentals of Physical Geography) Bowling Fundamentals (Sports Fundamentals) Bowling - Step By Step Guide For A Beginner To Learn The Fundamentals Of Bowling (Bowling fundamentals, Bowling Tips, Bowling Basics, Bowling Professional, Bowling Technique) Tennis Fundamentals (Sports Fundamentals) Volleyball Fundamentals (Sports Fundamentals) Racquetball Fundamentals (Sports Fundamentals) TIBCO Architecture Fundamentals (TIBCO Press) Bundle: Illustrated Microsoft Office 365 & Office

2016: Fundamentals, Loose-leaf Version + MindTap Computing, 1 term (6 months) Printed Access Card ... Office 365 & Office 2016: Introductor Database Processing: Fundamentals, Design, and Implementation (13th Edition) Database Processing: Fundamentals, Design, and Implementation, Ninth Edition Big Data, MapReduce, Hadoop, and Spark with Python: Master Big Data Analytics and Data Wrangling with MapReduce Fundamentals using Hadoop, Spark, and Python Big Data Fundamentals: Concepts, Drivers & Techniques (The Prentice Hall Service Technology Series from Thomas Erl) Oracle PL/SQL Programming Fundamentals: A Tutorial by Examples

[Dmca](#)