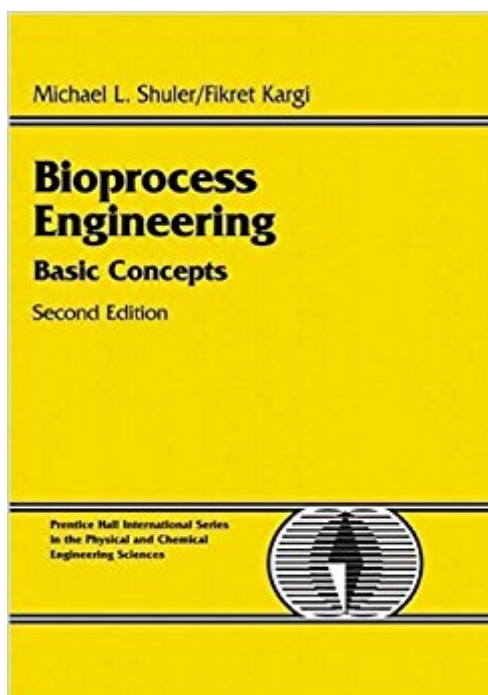


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# Bioprocess Engineering: Basic Concepts (2nd Edition)



## Synopsis

Bioprocess Engineering, Second Edition thoroughly updates the leading introductory textbook on biochemical and bioprocess engineering to reflect advances that are transforming the field -- from genomics to cellular engineering, modeling to nonconventional biological systems. It introduces techniques with wide applicability in pharmaceuticals, biologics, medicine, environmental engineering, and beyond.

## Book Information

Hardcover: 576 pages

Publisher: Prentice Hall; 2 edition (November 10, 2001)

Language: English

ISBN-10: 0130819085

ISBN-13: 978-0130819086

Product Dimensions: 7 x 1.3 x 9.1 inches

Shipping Weight: 2.1 pounds (View shipping rates and policies)

Average Customer Review: 3.7 out of 5 stars 25 customer reviews

Best Sellers Rank: #60,704 in Books (See Top 100 in Books) #29 in [Books > Engineering & Transportation > Engineering > Bioengineering > Biotechnology](#) #40 in [Books > Textbooks > Engineering > Chemical Engineering](#) #64 in [Books > Engineering & Transportation > Engineering > Chemical](#)

## Customer Reviews

An introduction to the fundamentals of cellular structure and physiology, protein structure and function, genetics, and molecular biology -- for those with an understanding of the principles of process engineering, but with a limited background in biology. --This text refers to an alternate Hardcover edition.

The complete, fully updated introduction to biochemical and bioprocess engineering. Bioprocess Engineering, Second Edition is a comprehensive update of the world's leading introductory textbook on biochemical and bioprocess engineering. Drs. Michael L. Shuler and Fikret Kargi review the relevant fundamentals of biochemistry, microbiology, and molecular biology, introducing key principles that enable bioprocess engineers to achieve consistent control over biological activity. This edition reflects powerful advances that are transforming the field, ranging from genetic sequencing to new techniques for producing proteins from recombinant DNA. It introduces

techniques with broad application to the production of pharmaceuticals, biologics, and commodities; to medical applications such as tissue engineering and gene therapy; and for solving critical environmental problems. This new edition includes: Essential biological basics: microorganism structure and functions, major metabolic pathways, enzymes, microbial genetics, kinetics, and stoichiometry of growth New coverage of posttranslational processing of proteins-an essential technique for manufacturing therapeutic proteins In-depth coverage of animal cell culture processes New coverage of noncarbohydrate metabolism Functional genomics and cellular engineering: concepts, techniques, and applications Applying bioprocess engineering approaches to biomedical applications Nonconventional biological systems applications, including host-vector systems for producing proteins from recombinant DNA Extensive coverage of mixed cultures, including advanced wastewater treatment processes Expanded coverage of modeling, including models in continuous cultures and cybernetic modeling How the rapidly evolving governmental regulatory environment constrains bioprocess design and modification Bioprocess Engineering, Second Edition makes extensive use of illustrations, examples, and problems, and contains extensive references for further reading as well as a detailed appendix describing traditional bioprocesses.

As an introduction to bioprocess engineering I do not care for this book at all. It isn't student friendly, though it may do better as a shelf reference for those who already know the subject. Concepts are not given enough explicit explanation. For example variables are often introduced in equations and are never explicitly defined or named elsewhere in the text. To compound the problem there isn't master list of variables in the appendices and the reader is supposed to intuit what the author meant. The initial coverage of microbiology is fairly light. As a student who has more experience in biology than most of my classmates I'm studying out of my old microbio book since the explanations and diagrams are so much clearer. Admittedly, microbiology alone is not the main purpose of this text, but that does not help students of engineering rather than biology. The overall feeling I get from this text is that the author knows his subject, but has forgotten what it was like to learn it in the first place.

Had to use this textbook for class; so to preface this review, I had a bad teacher which frustrated me along with the book. The book is weird. On some topics it goes way too in depth (enzymes) meanwhile on other things (organisms) it barely touches. To be honest this is a difficult topic to cover as this book attempts to teach all of Biotech Processing, but nonetheless they went about it awkwardly. Doesn't serve as a fantastic reference book, nor does it serve as a great high level

overview. Not overly thrilled.Go Yellow Jackets!

There is a huge industry emerging in bioprocess engineering and Shuler knows this. He crammed a ton of dense lessons into a relatively small text. If you enjoy reading this stuff it'll be nice, like a magazine. If you're a young student trying to learn, this book doesn't help very much. You will need to confirm things with your own research because the explanations aren't helpful.

Very good dealThanks @ all

A very in depth textbook on key processes like fermentation, with some basic biology to refresh your memory too.

About a book: Excellent book to getting started in bioprocess engineering, specially if your background is not in biological sciences.About the seller: The book was in great shape, as promised. I would definitely buy a book at this place again.

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