Bioprocess Engineering: Basic Concepts (3rd Edition) (Prentice Hall International Series in the Physical and Chemical Engineering Sciences)

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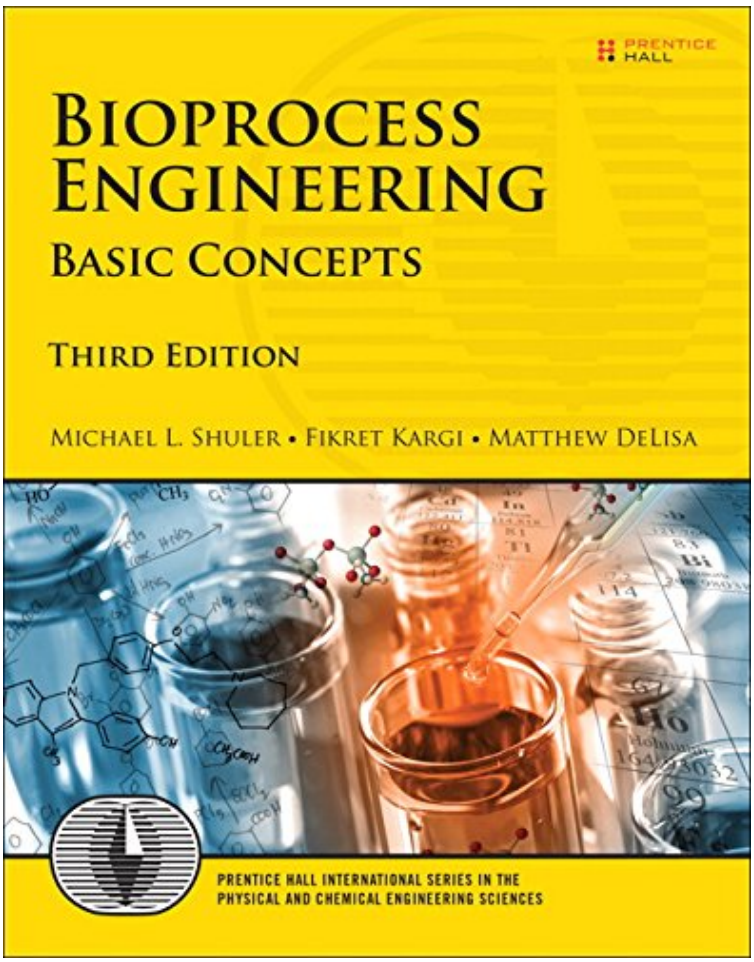

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Michael L. Shuler, Fikret Kargi, Matthew DeLisa : Bioprocess Engineering: Basic Concepts (3rd Edition) (Prentice Hall International Series in the Physical and Chemical Engineering Sciences) before purchasing it in order to gage whether or not it would be worth my time, and all praised Bioprocess Engineering: Basic Concepts (3rd Edition) (Prentice Hall International Series in the Physical and Chemical Engineering Sciences):

The Leading Introduction to Biochemical and Bioprocess Engineering, Updated with Key Advances in Productivity,

Innovation, and Safety Bioprocess Engineering, Third Edition, is an extensive update of the worlds leading introductory textbook on biochemical and bioprocess engineering and reflects key advances in productivity, innovation, and safety. The authors review relevant fundamentals of biochemistry, microbiology, and molecular biology, including enzymes, cell functions and growth, major metabolic pathways, alteration of cellular information, and other key topics. They then introduce evolving biological tools for manipulating cell biology more effectively and to reduce costs of bioprocesses. This edition presents major advances in the production of biologicals; highly productive techniques for making heterologous proteins; new commercial applications for both animal and plant cell cultures; key improvements in recombinant DNA microbe engineering; techniques for more consistent authentic post-translational processing of proteins; and other advanced topics. It includes new, improved, or expanded coverage of The role of small RNAs as regulators Transcription, translation, regulation, and differences between prokaryotes and eukaryotes Cell-free processes, metabolic engineering, and protein engineering Biofuels and energy, including coordinated enzyme systems, mixed-inhibition and enzyme-activation kinetics, and two-phase enzymatic reactions Synthetic biology The growing role of genomics and epigenomics Population balances and the Gompetz equation for batch growth and product formation Microreactors for scale-up/scale-down, including rapid scale-up of vaccine production The development of single-use technology in bioprocesses Stem cell technology and utilization Use of microfabrication, nanobiotechnology, and 3D printing techniques Advances in animal and plant cell biotechnology The text makes extensive use of illustrations, examples, and problems, and contains references for further reading as well as a detailed appendix describing traditional bioprocesses.

About the Author Dr. Michael L. Shuler is Samuel B. Eckert Professor of Engineering at Cornell University. He directed the School of Chemical Engineering (1998-2002) and was founding James and Marsha McCormick Chair for Biomedical Engineering (2004-2014). He also directs the Center on the Microenvironment and Metastasis (CMM), funded by the National Cancer Institute as a Physical Sciences - Oncology Center. He has received numerous teaching, advising, and research related awards, and has been elected to the National Academy of Engineering and the American Academy of Arts and Sciences. Fikret Kargiis Professor in the Department of Environmental Engineering at Dokuz Eylul University. His interests include bioprocess engineering, environmental biotechnology, wastewater treatment, biotechnology-bioengineering, and waste bioprocessing. He holds a Ph.D. in Chemical/Biochemical Engineering from Cornell. Matthew DeLisa is William L. Lewis Professor of Engineering in Cornell's Department of Chemical and Biomolecular Engineering. His research focuses on understanding and controlling the molecular mechanisms underlying protein biogenesis in the complex environment of a living cell. He has invented numerous commercially important technologies for facilitating the discovery, design and manufacturing of human drugs, and has made seminal discoveries about cellular protein folding and protein translocation. DeLisa has received several awards including an NSF CAREER award, and was named one of the top 35 young innovators by MIT's Technology . He was elected as a fellow of the American Institute for Medical and Biological Engineering in 2014.