An Introductory Text to Bioengineering (Advanced Series in Biomechanics)

Shu Chien

An Introductory Text to Bioengineering (Advanced Series in Biomechanics)

Shu Chien

An Introductory Text to Bioengineering (Advanced Series in Biomechanics) Shu Chien
This bestselling textbook will introduce undergraduate bioengineering students to the fundamental concepts and techniques, with the basic theme of integrative bioengineering. It covers bioengineering of several body systems, organs, tissues, and cells, integrating physiology at these levels with engineering concepts and approaches; novel developments in tissue engineering, regenerative medicine, nanoscience and nanotechnology; state-of-the-art knowledge in systems biology and bioinformatics; and socio-economic aspects of bioengineering.

One of the distinctive features of the book is that it is integrative in nature (integration of biology, medicine and engineering, across different levels of the biological hierarchy, and basic knowledge with applications). It is unique in that it covers fundamental aspects of bioengineering, cutting-edge frontiers, and practical applications, as well as perspectives of bioengineering development. Furthermore, it covers important socio-economical aspects of bioengineering such as ethics and entrepreneurism.

Contents: Perspectives of Biomechanics (Y-C B Fung & W Huang); Cardiac Electromechanics in the Healthy Heart (R C P Kerckhoffs & A D McCulloch); Cardiac Biomechanics and Disease (J H Omens); Bioengineering Solution for the Treatment of Heart Failure (J T Watson & S Chien); Molecular Basis of Modulation of Vascular Functions by Mechanical Forces (S Chien); Autoregulation of Blood Flow: Examining the Process of Scientific Discovery (P C Johnson); Molecular Basis of Cell and Membrane Mechanics (L A Sung); Cell Activation in the Circulation: The Auto-Digestion Hypothesis (G W Schmid-Schönbein); Blood Substitutes and the Design of Oxygen Non-Carrying and Carrying Fluids (M Intaglietta); Analysis of Human Pulmonary Circulation: A Bioengineering Approach (W Huang et al.); Pulmonary Gas Exchange (P D Wagner); Engineering Approaches to Understanding the Kidney (S C Thomson); Skeletal Muscle Tissue Bioengineering (R L Lieber & S R Ward); Multi-Scale Biomechanics of Articular Cartilage (W C Bae & R L Sah); Design and Development of an In Vivo Force-Sensing Knee Prosthesis (D D D Lima & P C Y Chen); The Implantable Glucose Sensor in Diabetes: A Bioengineering Case Study (D A Gough); Stem Cells in Regenerative Medicine (S Chien & L S B Goldstein); Engineering Compounds Targeted to Vascular Zip Codes (E Ruoslahti); The Structure of the Central Nervous System and Nanoengineering Approaches for Studying and Repairing It (G A Silva); Cellular Biophotonics: Laser Scissors (Ablation) (M W Berns); Microelectronic Arrays: Applications from DNA Hybridization Diagnostics to Directed Self-Assembly Nanofabrication (M J Heller & D Dehlinger); Systems Biology: A Four-Step Process (J L Reed & B O Palsson); Bioinformatics and Systems Biology: Obtaining the Design Principles of Living Systems (S Subramaniam); Synthetic Biology: Bioengineering at the Genomic Level (N Ostroff et al.); Network Genomics (T Ideker); Genomes, Genomic Technologies and Medicine (X Huang); Ethics for Bioengineers (M Kalichman); Opportunities and Challenges in Bioengineering Entrepreneurship (J-S Lee); How to Move Medical Devices from Bench to Bedside (P Citron).

Download and Read Free Online An Introductory Text to Bioengineering (Advanced Series in Biomechanics) Shu Chien

---

From reader reviews:

Clare Lucas:

What do you think about book? It is just for students because they are still students or the item for all people in the world, the particular best subject for that? Simply you can be answered for that question above. Every person has different personality and hobby per other. Don't to be pressured someone or something that they don't want do that. You must know how great and important the book An Introductory Text to Bioengineering (Advanced Series in Biomechanics). All type of book could you see on many sources. You can look for the internet options or other social media.

Sonya Ewing:

This An Introductory Text to Bioengineering (Advanced Series in Biomechanics) is great book for you because the content and that is full of information for you who also always deal with world and possess to make decision every minute. This book reveal it details accurately using great coordinate word or we can state no rambling sentences within it. So if you are read the idea hurriedly you can have whole info in it. Doesn't mean it only provides straight forward sentences but difficult core information with lovely delivering sentences. Having An Introductory Text to Bioengineering (Advanced Series in Biomechanics) in your hand like keeping the world in your arm, data in it is not ridiculous a single. We can say that no publication that offer you world in ten or fifteen minute right but this reserve already do that. So , it is good reading book. Hello Mr. and Mrs. busy do you still doubt that?

Susan Crowell:

Don't be worry if you are afraid that this book can filled the space in your house, you can have it in e-book means, more simple and reachable. This kind of An Introductory Text to Bioengineering (Advanced Series in Biomechanics) can give you a lot of pals because by you looking at this one book you have thing that they don't and make an individual more like an interesting person. This book can be one of one step for you to get success. This guide offer you information that might be your friend doesn't know, by knowing more than various other make you to be great folks. So , why hesitate? We should have An Introductory Text to Bioengineering (Advanced Series in Biomechanics).

Joe Dix:

What is your hobby? Have you heard this question when you got students? We believe that that question was given by teacher to their students. Many kinds of hobby, Every person has different hobby. Therefore you know that little person similar to reading or as examining become their hobby. You need to know that reading is very important as well as book as to be the matter. Book is important thing to provide you knowledge, except your current teacher or lecturer. You discover good news or update with regards to something by book. A substantial number of sorts of books that can you decide to try be your object. One of them is this An Introductory Text to Bioengineering (Advanced Series in Biomechanics).

Read An Introductory Text to Bioengineering (Advanced Series in Biomechanics) by Shu Chien for online ebook

An Introductory Text to Bioengineering (Advanced Series in Biomechanics) by Shu Chien Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read An Introductory Text to Bioengineering (Advanced Series in Biomechanics) by Shu Chien books to read online.

Online An Introductory Text to Bioengineering (Advanced Series in Biomechanics) by Shu Chien ebook PDF download

An Introductory Text to Bioengineering (Advanced Series in Biomechanics) by Shu Chien Doc

An Introductory Text to Bioengineering (Advanced Series in Biomechanics) by Shu Chien Mobipocket

An Introductory Text to Bioengineering (Advanced Series in Biomechanics) by Shu Chien EPub