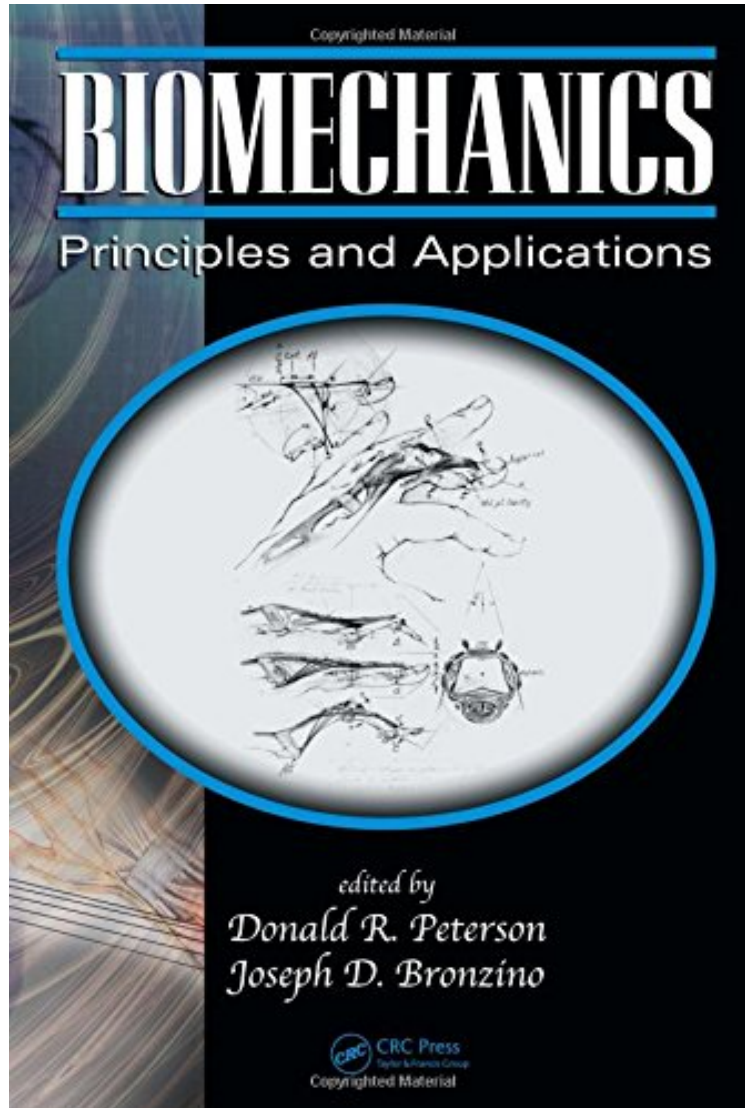


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1 of 1 people found the following review helpful. A volume of truly impressive scholarship By Midwest Book Review Compiled and co-edited by Donald R. Peterson (University of Connecticut Health Center, Biodynamics Laboratory, Farmington, Connecticut) and Joseph D. Bronzino (recipient of the Millennium Award from IEEE/EMBS in 2000 and the Gaddard Award from Worcester Polytechnic Institute for Professional Achievement in June 2004),

"Biomechanics: Principles And Applications" is a collection of twenty informed and informative articles on various aspects of, and researches into, the science of biomechanics. The contributors address everything from applications on system-level aspects of the human body (the musculoskeletal system, auditory system, lymphatic system, the cardiovascular system), to biological sub-systems (tissues, cells, molecules). Drawn from the third edition of the "Biomedical Engineering Handbook", these seminal articles introduce current methods and strategies for modeling cellular mechanics, present topics in biofluid mechanics, feature more than 140 illustrations and 60 tables, and provide a number of useful equations to assist in modeling biomechanical behaviors. A volume of truly impressive scholarship, "Biomechanics: Principles And Applications" should be a core acquisition selection for every academic library reference collection on the subject, as well as on the supplemental reading lists for students of Biomechanical Engineering.

Traditionally, applications of biomechanics will model system-level aspects of the human body. As a result, the majority of technological progress to date appears in system-level device development. More recently, biomechanical initiatives are investigating biological sub-systems such as tissues, cells, and molecules. Fueled by advances in experimental methods and instrumentation, these initiatives, in turn, directly drive the development of biological nano- and microtechnologies. A complete, concise reference, Biomechanics integrates coverage of system and sub-system models, to enhance overall understanding of human function and performance and open the way for new discoveries. Drawn from the third edition of the widely acclaimed and bestselling The Biomedical Engineering Handbook, this is a comprehensive, state-of-the-science resource concerning the principles and applications of biomechanics at every level. The book presents substantial updates and revisions from the Handbooks previous editions, as well as an entirely new chapter introducing current methods and strategies for modeling cellular mechanics. Organized in a systematic manner, the book begins with coverage of musculoskeletal mechanics including hard- and soft tissue and joint mechanics and their applications to human function. Contributions explore several aspects of biofluid mechanics and cover a wide range of circulatory dynamics such as blood vessel and blood cell mechanics and transport. Other topics include the mechanical functions and significance of the human ear and the performance characteristics of the human body during exercise and exertion. The book contains more than 140 illustrations, 60 tables, and a variety of useful equations to assist in modeling biomechanical behaviors. Incorporating material across the breadth of the field, Biomechanics is a complete, concise reference for the skilled professional as well as an introduction to the novice or student of biomedical engineering.