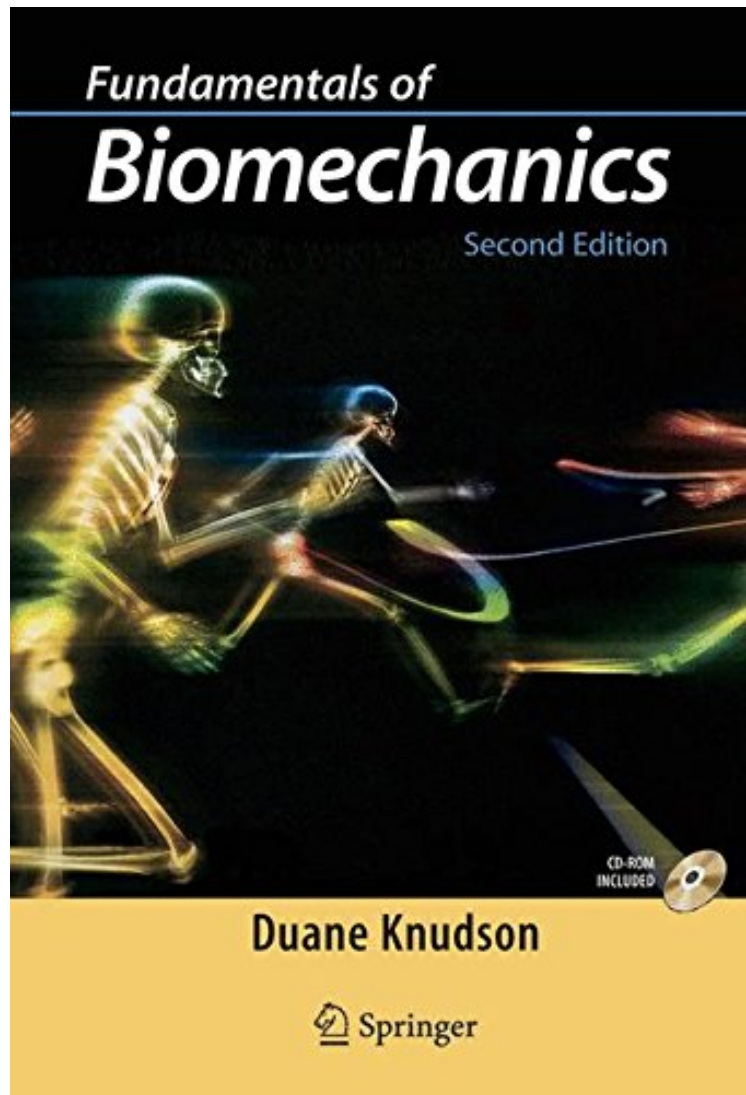


(Free pdf) Fundamentals of Biomechanics

Fundamentals of Biomechanics

Duane Knudson

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Duane Knudson : Fundamentals of Biomechanics before purchasing it in order to gauge whether or not it would be worth my time, and all praised Fundamentals of Biomechanics:

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Blending up-to-date biomechanical knowledge with professional application knowledge, this second edition presents a clear, conceptual approach to understanding biomechanics within the context of the qualitative analysis of human movement. It develops nine principles of biomechanics, which provide an applied structure for biomechanical concepts, and the application of each principle is fully explored in several chapters. The book also offers real-world examples of the application of biomechanics, which emphasize how biomechanics is integrated with the other subdisciplines of kinesiology to contribute to qualitative analysis of human movement.

"Fundamentals of Biomechanics is an exceptionally well written and structured introductory text on the biomechanics of movement. It integrates mechanical and biological concepts in a way that enhances understanding of what students often find is a difficult area of study!!! Many students will be stimulated by the book while all will find it easy to read as [Dr. Knudson] has integrated the topics covered into a coherent unit." (Bruce Elliott, Professor of Biomechanics, The University of Western Australia, Australia) "Fundamentals of Biomechanics delivers everything it promises, and more. The challenge of teaching and learning biomechanics is understanding the two distinct fields that it comprises - biology and mechanics. In my experience, some students enter biomechanics with aptitude and interest in one of these fields and reluctance to the other. As a leader in biomechanics, Dr. Knudson seems to realize this and does an expert job of teaching these two fields in separate parts of the textbook. The text is clearly written, and includes many helpful illustrations and examples." (Glenn S. Fleisig, Ph.D., Smith Nephew Chair of Research, American Sports Medicine Institute, Birmingham, AL) "Fundamentals of Biomechanics is a wonderful and comprehensive treatment which meets the needs and interest of both students and educators! The text addresses the subject cohesively and solidly in a technical, yet very readable and effective manner... I'll use this text in my own summer course and recommend it to colleagues." Jani Macari Pallis, Ph.D., International Sports Engineering Association, San Francisco, CA "Duane Knudson's book, Fundamentals of Biomechanics, is an attempt to bridge the gap between quantitative and qualitative biomechanics. The book is remarkably well written, the structure is well designed and all the examples are carefully selected in order to enhance the understanding of the students. Additionally, the mechanical and biological concepts are exceptionally well integrated. This increases the spectrum of fields of application. The book should be read by students and professionals from all over the world. The reason is that Duane Knudson explains biomechanics for students, coaches, physiotherapists and medical doctors in comprehensive aspects of human movements clearly and simply with a biological and predominantly qualitative approach." (Dr. Jergen Krug, Professor of Biomechanics and Training Theory, Institute of Kinesiology, University of Leipzig, Germany) From the Back Cover Fundamentals of Biomechanics 2nd edition introduces the exciting world of how human movement is created and how it can be enhanced. The book presents a comprehensive review of the major concepts of biomechanics and summarizes them in nine principles of biomechanics. Throughout the text are numerous examples of applying these principles to the work of kinesiology professionals. Specific case studies are presented in four application chapters: physical education, coaching, strength and conditioning, and sports medicine. This text presents a clear, conceptual understanding of biomechanics and is designed to help students link their personal experience to biomechanical concepts. Biomechanics instructors, researchers, and other professionals helping people to improve movement and decrease the risk of injury, as well as advanced students learning biomechanical principles in biomedical engineering, ergonomics, kinesiology, physics, and sports physiology will find Fundamentals in Biomechanics 2nd edition invaluable. Key Features: Detailed examples of biomechanical principles and their application in the qualitative analysis of human movement in a variety of professions Over 160 figures illustrating real human movement Case studies of actual movement technique examined by professionals in human movement Extensive use of graphs, photographs, illustrations, and citations to important biomechanics literature Glossary of key terms and biomechanics research terminology Appendix of instructional lab activities Endorsements: "Fundamentals in Biomechanics delivers everything it promises, and more. The challenge of teaching and learning biomechanics is understanding the two distinct fields that it comprises - biology and mechanics. In my experience, some students enter biomechanics with aptitude and interest in one of these fields and reluctance to the others. 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He earned his Ph.D. in biomechanics from the University of Wisconsin-Madison and has published extensively on the biomechanics of tennis and exercise. Dr. Knudson co-authored the first scholarly book on the qualitative analysis of human movement, and his research has earned him fellow status in the American College of Sports Medicine and the Research Consortium of AAHPERD. About the Author Dr. Duane Knudson is Associate Chair and Associate Professor of biomechanics in the Department of Physical Education and Exercise Science at California

State University, Chico. He earned his Ph.D. in biomechanics from the University of Wisconsin-Madison and has published extensively on the biomechanics of tennis and exercise. Dr. Knudson co-authored the first scholarly book on the qualitative analysis of human movement, and his research and writing have earned him fellow status in the American College of Sports Medicine and the Research Consortium of AAHPERD.