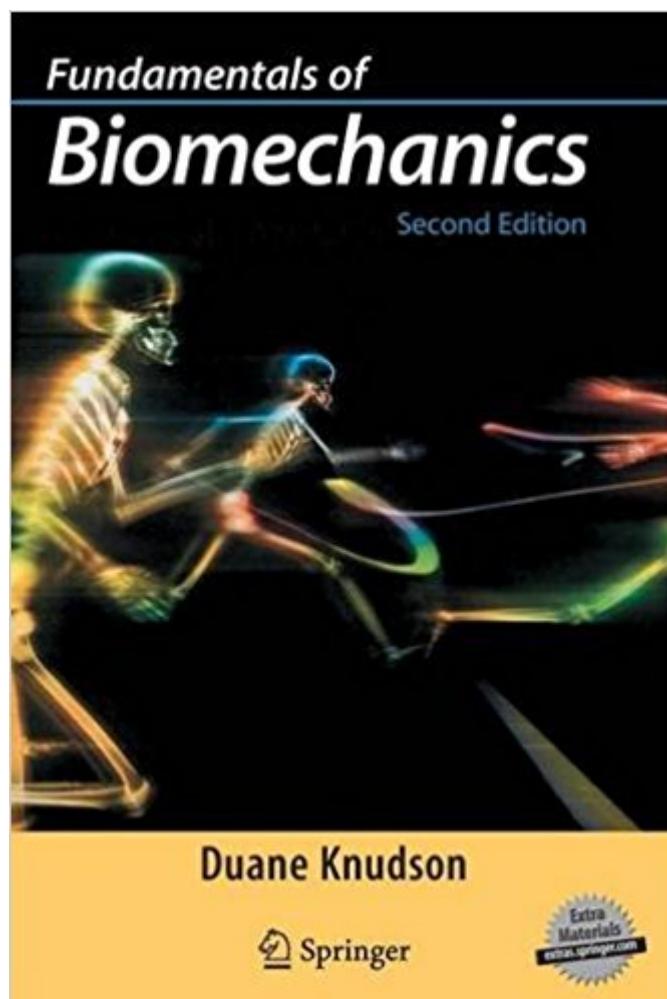


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# Fundamentals Of Biomechanics



## **Synopsis**

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.

## **Book Information**

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## **Customer Reviews**

After reading this book, one feels it is possible to understand very complex concepts in Biomechanics without equations. It bridges the gap between biomechanical theories and everyday practice for undergraduate students and sport coaches. Starting with the "Nine Principles for Application of Biomechanics" the author leads the reader to every area of biomechanics through a logical structure with a lot of practical examples, comments boxes, clear figures and up-to-date references. The inclusion of the end of each chapter of a recommended reading list, review questions and relevant or related Web links plus Laboratory Activities at the end of the book makes even more useful in the day to day work of teaching biomechanics or analysis of sport technique. This book will be an excellent textbook that teachers will recommend to the students with confidence. Raul Arellano Faculty of Physical Activity and Sports Science University of Granada

"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. After mastering the material in the biological/structural and mechanical parts of the textbook, the student is then ready to start combining these two fields into scientific analysis of human movement. In the qualitative analysis part of the textbook, Dr. Knudson leads the students through some examples of the endless possible applications of their new biomechanics knowledge. With the foundations taught in this textbook, the student is prepared to advance into biomechanics and related fields. Glenn S. Fleisig, Ph.D. Smith & Nephew Chair of Research American Sports Medicine Institute

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. Juergen Krug Dean of the Faculty of Sport Sciences Institute of Kinesiology, Biomechanics and Training Theory at the Faculty of Sport Science of the University of Leipzig, Germany

This 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. One of the primary reasons students will understand the material covered is that concepts are presented in an applied manner. The reader is motivated to appreciate why an understanding of biomechanics will enhance their teaching/coaching effectiveness in a wide variety of occupations. The book presents mechanical and anatomical concepts to a level appropriate for an introductory course in biomechanics. When consideration is given to the material covered in the analysis and musculoskeletal sections, then it is apparent that the book has a wider appeal than is evident in many other texts. The application of

biomechanics in sections specific to teaching, coaching, strength and conditioning, and sports medicine and rehabilitation is a particularly innovative aspect of this book. Finally Duane has been able to cover the theory of a very wide spectrum of topics in an applied manner. Many students will be stimulated by the book while all will find it easy to read as he has integrated the topics covered into a coherent unit. Bruce Elliott Professor of Biomechanics The University of Western Australia, Australia.

I'm in the massage field and this book is a great way to build my tools of knowledge, the packing way great. Thank you

For those who want to understand how body move in space...this is the all in one book to use.

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