



An Introduction to Biomechanics of Sport and Exercise, 1e

By James Watkins PhD FPEA FBASES

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The purpose of this book is to develop knowledge and understanding of fundamental biomechanical principles and their application in qualitative and quantitative analysis of movement. The key to understanding biomechanics is a thorough understanding of the concepts of force, Newton's laws of motion, work and energy. All of the fundamental biomechanical concepts and principles will be explained from first principles and illustrated with reference to a large number of examples. No previous knowledge of mechanics will be assumed. An appreciation of both the impulse-momentum approach and the work-energy approach to movement analysis is necessary in order to fully understand biomechanical analysis of movement and this book covers both approaches.

The organisation and presentation of the book is based on the open-learning model:

- Chapter overviews to summarise the content of each chapter
- All biomechanical concepts and principles are explained from first principles
- Key terms defined in a Glossary
- Applied examples to illustrate all concepts and principles
- Extensive use of figures and conceptual models
- Review questions with detailed solutions to all numerical questions
- Practical worksheets with example results
- References to guide further learning
- Extensive index
- Extensive glossary

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Editorial Review

Review

"This book is a well presented and easily read introductory text suitable for use by sport and exercise science students. Further, *An Introduction to Biomechanics in Sport and Exercise* could be a useful reference for anyone interested in understanding more about basic biomechanics such as physical education teachers, sports coaches, fitness trainers and those in other health-related areas."

Peter J. Clothier, PhD

School of Biomedical and Health Sciences,

University of Western Sydney, Australia. *Physical Therapy in Sport* 9(2008)209–210

About the Author

Previous books and chapters written by the author:

Books:

WATKINS, J. *Structure and Function of the Musculoskeletal System* Champaign, Ill: Human Kinetics, 1999, 376 pp. ISBN 0-88011-686-2

WATKINS, J. *Estrutura e Funcao do Sistema Musculoesqueletico* Sao Paulo: Artmed Editora , 2001, 383 pp. ISBN 0-88011-686-2

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