

Biomechanics of Sport and Exercise

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Bibliographic Data: ISBN: 0-7360-7966-1 (ISBN13: 978-0-7360-7966-2); 2013 by Human Kinetics, Champaign, IL 61825-5076, USA, 456 pages, hardcover, \$94.00.

Subjects: Biomechanics, Human Movement.

Description: *Biomechanics of Sport and Exercise, Third edition* introduces exercise and sport biomechanics in simple and concise terms. By providing mechanics before functional anatomy, the book helps understanding forces and their effects before studying how body structures deal with forces.

Purpose: The goal of the book and its ancillary materials, as stated in the preface, is to present an introduction to the biomechanics of human movement in a clear, concise, user-friendly manner.

Audience: The book is primarily intended for undergraduate students majoring in kinesiology, exercise science, or physical education, but it is suitable for students in other human movement fields as well.

Features: The book is composed of an introductory chapter and 3 parts including 16 chapters. There are additional 2 appendixes and an index at the end of the book. The book contains 233 figures including line drawings and 26 tables. Part I is “External Biomechanics” including the

following chapter headings; 1-“Forces”, 2-“Linear Kinematics”, 3-“Linear Kinetics”, 4-“Work, Power, and Energy”, 5-“Torques and Moments of Force”, 6-“Angular Kinematics”, 7-“Angular Kinetics”, and 8-“Fluid Mechanics”. Part II is “Internal Biomechanics” consisting of the chapters; 9-“Mechanics of Biological Materials”, 10-“The Skeletal System”, 11-“The Muscular System”, and 12-“The Nervous System”. Finally, Part III is “Applying Biomechanical Principles” and includes the following chapters; 13- “Qualitative Biomechanical Analysis to Improve Technique”, 14-“ Qualitative Biomechanical Analysis to Improve Training”, 15-“ Qualitative Biomechanical Analysis to Understand Injury Development”, and 16-“Technology in Biomechanics”.

Assessment: The updated third edition maintains the organization and features that made previous editions user friendly, such as a quick reference guide of frequently used equations printed on the inside cover. Each chapter of the book starts with objectives, has self experiment sections that give the reader the opportunity to make experiments, some of them directs the reader sample problems and gives their solution, and has a section including review questions, problem sets, and MaxTRAQ exercises at the end to test the readers understanding of important concepts.

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