AFI Personal Trainer Courseware

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Dynatomy brings to life the wonders of human movement and applied anatomy for your students. The book is written for students of human performance who have completed an introductory human anatomy course and need a strong text in functional anatomy. The entertaining and easy-to-understand text considers fundamental movements—including posture, walking, running, jumping, throwing, kicking, and lifting—together with selected exercise and sport movements.

The emphasis of Dynatomy is on dynamic muscular motions rather than structural anatomy. Students benefit from a discussion of simple and complex human movements combined with an analysis of muscles in motion. The text also introduces the muscle control formula and explains how students can use it to identify the way in which muscles contract during various examples of human movement.

Part I presents an overview of the anatomical foundations of movement and the essential requirements for movement control. Part II examines dynamic movements and basic mechanics, muscular function, fundamental movements, and specialized movements.

The book is packed with features that will deepen students’ appreciation of human movement:
- A wealth of unique illustrations and photos complement the text and improve understanding of difficult concepts.
- Chapter objectives, key terms, review questions, and summaries encourage students to interact with and remember the content.
- Movement analyses give students critical exposure to functional human movements.

Interactive Anatomy CD Included!

Completing the text is a new Primal Pictures CD-ROM titled Essentials of Interactive Functional Anatomy (IFA Essentials). This software will help students thoroughly review components of structural anatomy through the use of computer-graphic models of human anatomy derived from MRI scan data. Fully interactive 3-D animations show muscular and joint function.

IFA Essentials features a complete high-resolution 3-D model of the human musculature. The model can be rotated and allows for 11 layers of anatomy to be visually removed—from muscles down to bones. Specific muscles within the 3-D model can be highlighted, allowing users to view accompanying text about the selected muscle, such as name, primary action, agonists, antagonists, proximal and distal attachments, innervation, and blood supply. Text also accompanies specific ligaments within the model, providing information on function, injury mechanism, and pathology of injury.

The CD also includes 34 animations—each of which can be viewed from four different angles—showing clinical muscular function and providing students with a sense of the movement around joints. Four video clips of gross human motions demonstrate complete body movements, such as sit-ups and push-ups, coupled with live-action video clips showing the electrical stimuli of active muscles. To reinforce the content, IFA Essentials also offers an interactive quiz. Students can select the level of difficulty and number of quiz questions and then use a multiple-choice format to identify or locate various structures on the model.About the Author

William C. Whiting, PhD, is professor and director of the Biomechanics Laboratory in the department of kinesiology at California State University at Northridge, where he has won both the Distinguished Teaching Award and Scholarly Publication Award. Dr. Whiting earned his PhD in kinesiology at UCLA. He has taught courses in biomechanics and human anatomy for more than 15 years and has published more than 35 articles and 25 research abstracts. He is coauthor of Biomechanics of Musculoskeletal Injury.

Dr. Whiting currently serves on the editorial board of ACSM’s Health and Fitness Journal and serves as a reviewer for a number of scholarly journals. Dr. Whiting is a fellow of the American College of Sports Medicine and has served as president of the Southwest Regional Chapter of ACSM. He is also a member of the American Society of Biomechanics; the International Society of Biomechanics; the National Strength and Conditioning Association; and the American Alliance for Health, Physical Education, Recreation and Dance.

In his leisure time, Dr. Whiting enjoys playing basketball and volleyball, reading, camping, and hiking. He lives in Glendale, California, with his wife, Marji, and son, Trevor.

Stuart Rugg, PhD, is an associate professor and chair of the department of kinesiology at Occidental College in Los Angeles. He received his doctoral degree in kinesiology, with an emphasis in biomechanics, from UCLA. For the past 17 years he has taught classes in human anatomy and biomechanics at Occidental College. Dr. Rugg has received Occidental’s Outstanding Professor honor and is a three-time recipient of the college’s Outstanding Teaching Award. His research focuses on the mechanical factors governing human performance and the effectiveness of sport equipment.

Dr. Rugg has taught a class in musculoskeletal anatomy and biomechanics for UCLA Extension’s certified fitness

training program and for the Mount Saint Mary’s department of physical therapy. He is a member of the National Strength and Conditioning Association and has worked as a design consultant for exercise and sport equipment companies. Dr. Rugg is an accomplished nature photographer and enjoys reading, camping, hiking, rafting, cycling, and weightlifting.Audiences

Reference for specialists and instructors in human movement; textbook for undergraduate courses in functional anatomy, kinesiology and biomechanics.