- 1 The Study and Analysis of Human Movement
- Concept Module A: The Skeletal System and its Articulations
- Concept Module B: The Body's Link System and its Movements
- 2 Neuromuscular Aspects of Movement
- Concept Module C: Visualizing Forces
- Concept Module D: Forces and Movement
- Concept Module E: Torque and Rotation
- 3 Body Balance and Stability Control
- 4 Biomechanics of the Musculoskeletal System
- 5 Biomechanical Relationships in the Upper Extremity
- 6 Biomechanical Relationships in the Lower Extremity
- 7 Biomechanical Relationships in the Trunk
- 8 Application of Biomechanics to Fitness Activities
- Concept Module F: Force and Motion Relationships
- Concept Module G: Linear Momentum and Kinetic Energy
- 9 Observing and Analyzing Performance
- Concept Module H: Torque and Motion Relationships
- Concept Module I: Angular Momentum
- Concept Module J: Throwlike and Pushlike Movement Patterns
- 10 Performance Analysis of Pushlike Movements
- 11 Performance Analysis of Throwlike Movements
- 12 Analysis of Projectile-Related Activities
- Concept Module K: Fluid Forces
- 13 Application of Aerodynamics in Sport
- 14 Application of Hydrodynamics in Swimming
- 15 Analysis of Activities in which the Body Rotates Free of Support
- 16 Analysis of Activities in which the Body Rotates While Supported
- 17 Introduction to Biomechanics Instrumentation
- Glossary
- Appendix I Metric and British Units and Conversions
- Appendix II Lists of Symbols and Equations
- Appendix III Anthropometric Parameters
- Appendix IV Methods of Calculating the Center of Gravity
- Appendix V Mathematics Review and Trigonometry
- Appendix VI Muscles and Movement
- Index