

## Chapter 1 Historical Perspective: Origin to Recognition

### Section 1 Exercise and Responses of Biologic Systems

- Chapter 2 The Nervous System and Movement
- Chapter 3 The Skeletal-Articular System
- Chapter 4 The Muscular System: Structural and Functional Plasticity
- Chapter 5 The Muscular System: The Control of Muscle Mass
- Chapter 6 The Muscular System: Fatigue Process
- Chapter 7 The Autonomic Nervous System
- Chapter 8 The Respiratory System
- Chapter 9 The Cardiovascular System: Design and Control
- Chapter 10 The Cardiovascular System: Cardiac Function
- Chapter 11 Organization and Control of Circulation to Skeletal Muscle
- Chapter 12 The Gastrointestinal System
- Chapter 13 The Metabolic Systems: Control of ATP Synthesis in Skeletal Muscle
- Chapter 14 The Metabolic Systems: Carbohydrate Metabolism
- Chapter 15 The Metabolic Systems: Lipid Metabolism
- Chapter 16 Interaction of Lipid and Carbohydrate Metabolism
- Chapter 17 The Metabolic Systems: Protein and Amino Acid Metabolism in Muscle
- Chapter 18 Mitochondrial Biogenesis Induced by Endurance Training
- Chapter 19 The Endocrine System: Integrated Influences on Metabolism, Growth, and Reproduction
- Chapter 20 Exercise and the Immune System
- Chapter 21 The Body Fluid and Hemopoietic Systems
- Chapter 22 The Renal System

### Section 2 The Effects of Exercise in Altered Environments

- Chapter 23 Physiological Systems and Their Responses to Conditions of Heat and Cold
- Chapter 24 Physiological Systems and Their Responses to Conditions of Hypoxia
- Chapter 25 Physiological Systems and Their Responses to Conditions of Hyperbaria
- Chapter 26 Physiological Systems and Their Responses to Condition of Microgravity and Bed Rest

### Section 3 Genomics in the Future of Exercise Physiology

- Chapter 27 Exercise Genomics and Proteomics

*Index*