

- Part 1 Biomedical Systems Analysis
- Chapter 1 Modeling and Simulation of Biomedical Systems
- Part 2 Mechanics of the Human Body
- Chapter 2 Bioheat Transfer
- Chapter 3 Physical and Flow Properties of Blood
- Chapter 4 Respiratory Mechanics and Gas Exchange
- Chapter 5 Biomechanics of Human Movement
- Chapter 6 Biomechanics of the Musculoskeletal System
- Chapter 7 Biodynamics: A Lagrangian Approach
- Chapter 8 Bone Mechanics
- Chapter 9 Finite-Element Analysis
- Chapter 10 Vibration, Mechanical Shock, and Impact
- Part 3 Biomaterials
- Chapter 11 Biopolymers
- Chapter 12 Biomedical Composites
- Chapter 13 Bioceramics
- Chapter 14 Cardiovascular Biomaterials
- Chapter 15 Orthopedic Biomaterials
- Chapter 16 Biomaterials to Promote Tissue Regeneration
- Part 4 Bioelectricity
- Chapter 17 Bioelectricity and Its Measurement
- Chapter 18 Biomedical Signal Analysis
- Part 5 Design of Medical Devices and Diagnostic Instrumentation
- Chapter 19 Medical Product Design
- Chapter 20 Cardiovascular Devices
- Chapter 21 Design of Respiratory Devices
- Chapter 22 Design of Controlled-Release Drug Delivery Systems
- Chapter 23 Sterile Medical Device Package Development
- Chapter 24 Design of Magnetic Resonance Systems
- Chapter 25 Instrumentation Design for Ultrasonic Imaging
- Chapter 26 The Principles of X-Ray Computed Tomography
- Chapter 27 Nuclear Medicine Imaging Instrumentation
- Chapter 28 Breast Imaging Systems: Design Challenges for Engineers
- Part 6 Engineering Aspects of Surgery
- Chapter 29 Computer-Integrated Surgery and Medical Robotics
- Part 7 Rehabilitation Engineering
- Chapter 30 Technology and Disabilities
- Chapter 31 Applied Universal Design
- Chapter 32 Design of Artificial Arms and Hands for Prosthetic Applications
- Chapter 33 Design of Artificial Limbs for Lower Extremity Amputees
- Chapter 34 Home Modification Design
- Chapter 35 Rehabilitators
- Part 8 Clinical Engineering
- Chapter 36 Clinical Engineering Overview
- Chapter 37 Technology Planning for Health Care Institutions
- Chapter 38 An Overview of Health Care Facilities Planning

- Chapter 39 Department/Program Management
- Index