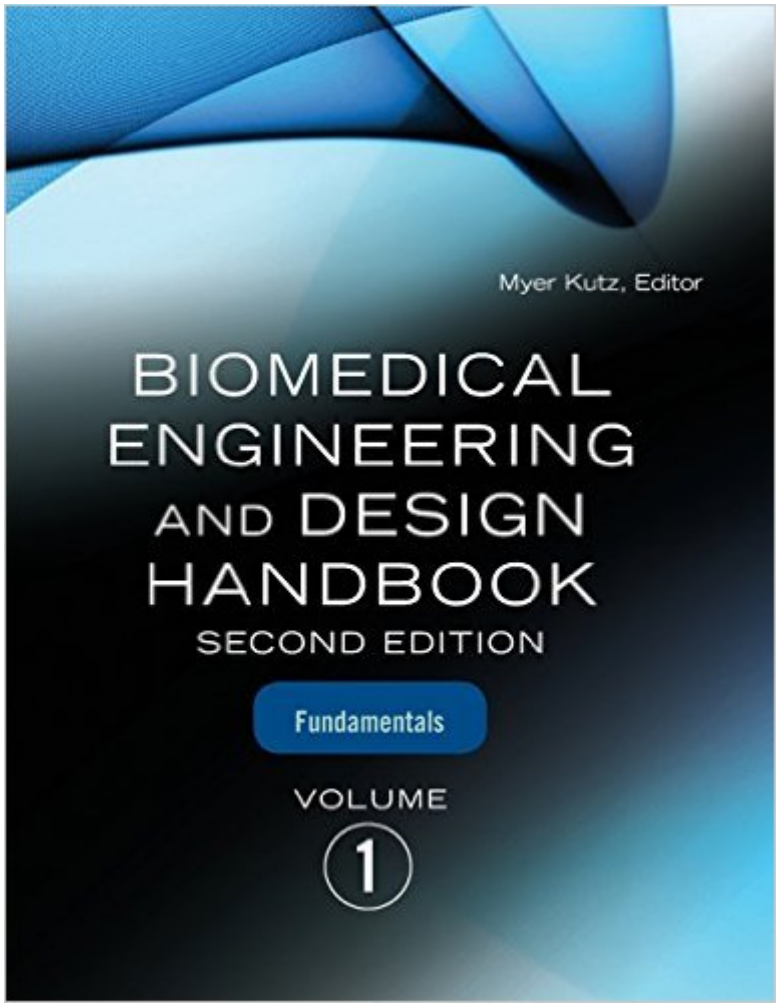
Biomedical Engineering And Design Handbook, Volume 1: Volume I: Biomedical Engineering Fundamentals



Synopsis

A State-of-the-Art Guide to Biomedical Engineering and Design Fundamentals and ApplicationsThe two-volume Biomedical Engineering and Design Handbook, Second Edition offers unsurpassed coverage of the entire biomedical engineering field, including fundamental concepts, design and development processes, and applications. This landmark work contains contributions on a wide range of topics from nearly 80 leading experts at universities, medical centers, and commercial and law firms. Volume 1 focuses on the basics of biomedical engineering, including biomedical systems analysis, biomechanics of the human body, biomaterials, and bioelectronics. Filled with more than 500 detailed illustrations, this superb volume provides the foundational knowledge required to understand the design and development of innovative devices, techniques, and treatments.Volume 1 covers:Modeling and Simulation of Biomedical SystemsBioheat TransferPhysical and Flow Properties of BloodRespiratory Mechanics and Gas ExchangeBiomechanics of the Respiratory MusclesBiomechanics of Human MovementBiomechanics of the Musculoskeletal SystemBiodynamicsBone MechanicsFinite Element AnalysisVibration, Mechanical Shock, and ImpactElectromyographyBiopolymersBiomedical Composites BioceramicsCardiovascular BiomaterialsDental MaterialsOrthopaedic BiomaterialsBiomaterials to Promote Tissue RegenerationBioelectricityBiomedical Signal AnalysisBiomedical Signal ProcessingIntelligent Systems and BioengineeringBioMEMS

Book Information

Hardcover: 688 pages

Publisher: McGraw-Hill Education; 2 edition (July 13, 2009)

Language: English

ISBN-10: 0071498389

ISBN-13: 978-0071498388

Product Dimensions: 7.6 x 1.3 x 9.5 inches

Shipping Weight: 2 pounds (View shipping rates and policies)

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