An Introduction to Biomechanics: Solids and Fluids, Analysis and Design

Jay D. Humphrey, Sherry L. O'Rourke
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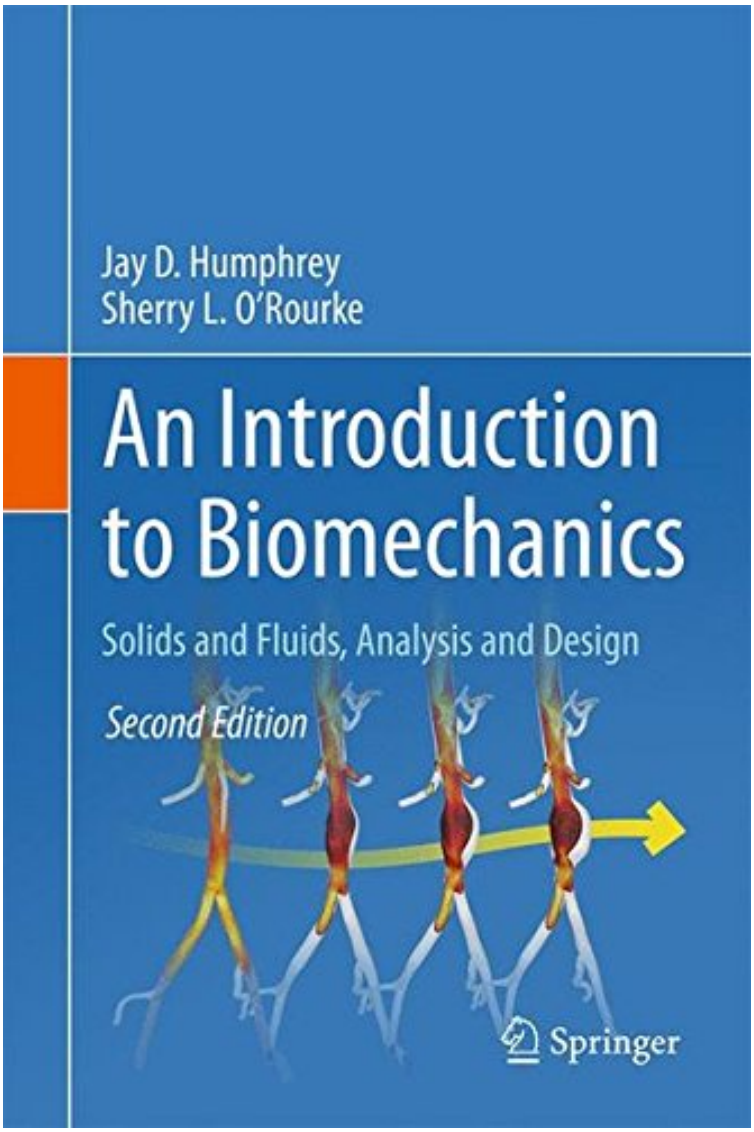

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Jay D. Humphrey, Sherry L. O'Rourke : An Introduction to Biomechanics: Solids and Fluids, Analysis and Design before purchasing it in order to gage whether or not it would be worth my time, and all praised An Introduction to Biomechanics: Solids and Fluids, Analysis and Design:

0 of 1 people found the following review helpful. Five StarsBy Edith ValleEverything was as expected.

This book covers the fundamentals of biomechanics. Topics include bio solids, biofluids, stress, balance and equilibrium. Students are encouraged to contextualize principles and exercises within a big picture of biomechanics. This is an ideal book for undergraduate students with interests in biomedical engineering.

From the Back CoverThis textbook introduces the student to a consistent approach of formulating and solving problems involving the biomechanics of solids and fluids. Brief introductions are also provided for more complex situations that require methods of nonlinear elasticity, viscoelasticity, elastodynamics, or fluid-solid interactions. Concepts are motivated by concise descriptions of important biological, mechanical, and clinical observations and techniques. Over 300 figures are included, as well ascomplete derivations of the fundamental equations, solutions of over 80 example problems, and over 300 exercise problems.Perfect for a one- or two-semester introduction to biomechanics, this Second Edition includes updated content in the form of new motivational observations, examples, appendices, exercises, and references. An Introduction to Biomechanics, Second Edition is an ideal book for undergraduate students with interests in bioengineering, biomedical engineering, or biomechanical engineering, and also servesas a valuable reference for graduate students, practicing engineers, and researchers.This book also: Guides students in developing intuitive understanding via a consistent consideration of a variety of problems including cardiovascular, musculoskeletal, pulmonary, and cell mechanics Encourages students to develop a big-picture approach to problem-solving in biomechanics through new chapter summaries Challenges students to solve problems under common conditions experienced in the laboratory or clinicAbout the AuthorJay D. Humphrey is a John C. Malone Professor of Biomedical Engineering at Yale University. He received the Ph.D. degree in Engineering Science and Mechanics from The Georgia Institute of Technology and completed a post-doctoral fellowship in Cardiovascular Research at The Johns Hopkins University. He has authored a book titled Cardiovascular Solid Mechanics: Cells, Tissues, and Organs, co-authored a book titled Style and Ethics of Communication in Science and Engineering, co-edited a book titled Cardiovascular Soft Tissue Mechanics, and authored or co-authored chapters for over 20 other books or encyclopedias as well as over 200 archival technical papers. He served as founding co-Editor In Chief for the international journal Biomechanics and Modeling in Mechanobiology and has served as Associate Editor for five other technical journals. He is a Fellow of the American Society of Mechanical Engineers (Bioengineering Division) and the American Institute of Medical and Biological Engineers.Sherry L. ORourke is a Technical Field Engineer at Medtronic Inc. in the Cardiac Rhythm Disease Management Division. She received the B.S. and M.S. degrees in Biomedical Engineering from Texas AM University and co-authored an archival paper on the biomechanics of the lens capsule of the eye, which is important in understanding device design for cataract surgery. Since graduation she has spent her professional life dedicated to designing, developing, and teaching programs to help physicians, residents, and nurses ensure that patients receive the maximum benefit from pacemakers and implantable defibrillators that are designed for those suffering from chronic heart disease.