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Nota di contenuto	1 Introduction.-2 Stress, Strain, and Constitutive Relations -- 3 Equilibrium, Universal Solutions, and Inflation -- 4 Extension and Torsion -- 5 Beam Bending and Column Buckling -- 6 Some Nonlinear Problems -- 7 Stress, Motion, and Constitutive Relations.-8 Fundamental Balance Relations.-9 Some Exact Solutions.-10 Control Volume and Semi-empirical Method.-11 Coupled Solid–fluid Problems. -12 Epilogue.
Sommario/riassunto	This 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 as complete 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 serves as 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 · Enco urages 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 clinic.