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Nota di contenuto	Forces and Moments -- Equilibrium -- Articulated Assemblages of Rigid Members -- Stress -- Deformation and Strain -- Elasticity -- Torsion -- Elastic Bending of Beams -- Additional Topics in Bending -- Elastic Stability and Buckling -- Inelasticity and Material Failure.
Sommario/riassunto	This textbook presents for the first time in one text the concepts and processes covered in statics and mechanics of materials curricula following a systematic, topically integrated approach. Since the turn of the millennium, it has become common in engineering schools to combine the traditional undergraduate offerings in rigid-body statics (usually called “statics”) and deformable body mechanics (known traditionally as “strength of materials” or, more recently, “mechanics of materials”) into a single, introductory course in solid mechanics. Many textbooks for the new course sequentially meld pieces of existing, discrete books—sometimes, but not always, acknowledging the origin—into two halves covering Statics and Mechanics of Materials. In this volume, Professors Lubliner and Papadopoulos methodically

combine the essentials of statics and mechanics of materials, illustrating the relationship of concepts throughout, into one "integrated" text. This book also: · Offers thorough presentation of fundamentals of the mechanics of deformable solids with concepts developed to their three-dimensional aspect · Features section devoted to “simple stress states,” special cases in which stress can be determined by statics alone, and stress-based design is introduced as a consequence · Discusses stress and strain transformations, including the determination of principal axes, from both the geometric and algebraic perspectives · Discusses inelasticity and material failure, including descriptions of testing methods and comparisons of failure criteria, as well as structural collapse. · Includes exercises and introductory overviews in each chapter · Features over 350 illustrations Introduction to Solid Mechanics: An Integrated Approach offers a holistic treatment of the depth and breadth of solid mechanics, proceeding from first principles to applications.