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	Nota di contenuto	Theory of Linear Elasticity -- Introduction to the Calculus of Variations -- Variational Principles of Elasticity -- Beams, Frames and Rings -- Torsion -- Classical Theory of Plates -- Dynamics of Beams and Plates -- Nonlinear Elasticity -- Elastic Stability -- Finite Element Analysis: Preliminaries and Overview -- Finite Element Applications: Trusses and Beams. .
	Sommario/riassunto	Solid Mechanics: A Variational Approach, Augmented Edition presents a lucid and thoroughly developed approach to solid mechanics for students engaged in the study of elastic structures not seen in other texts currently on the market. This work offers a clear and carefully prepared exposition of variational techniques as they are applied to solid mechanics. Unlike other books in this field, Dym and Shames treat all the necessary theory needed for the study of solid mechanics and include extensive applications. Of particular note is the variational approach used in developing consistent structural theories and in obtaining exact and approximate solutions for many problems. Based on both semester and year-long courses taught to undergraduate seniors and graduate students, this text is geared for programs in

aeronautical, civil, and mechanical engineering, and in engineering science. The authors' objective is two-fold: first, to introduce the student to the theory of structures (one- and two-dimensional) as developed from the three-dimensional theory of elasticity; and second, to introduce the student to the strength and utility of variational principles and methods, including briefly making the connection to finite element methods. A complete set of homework problems is included. In summary, this book: Emphasizes and articulates the variational calculus approach to both formulating and solving mechanics problems Briefly introduces finite element method in the context of variational approaches to modeling and solving mechanics and structures problems Accessible to engineering students while maintaining mathematical correctness Presents extensive worked-out examples in the text and homework problems Includes instructors' solutions manual and over 200 illustrations.