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Altri autori (Persone)	AllenJeffrey S KroosKenneth A
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Sommario/riassunto	Thermodynamics involves storage, transfer, and transformation of energy, and is the first course in thermal sciences for engineering students. It provides the foundation for the basic concepts and problem-solving skills that are later used in fluid mechanics, heat transfer, and the design of thermo-fluid systems. This book is designed to provide a solid understanding of the principles, terminology, and methodology needed to thoroughly understand this subject. With detailed explanations along with practical examples, this book will allow the students to quickly understand the concepts and the analytical techniques presented here. Additional homework

problems included in this book will further help develop these skills. The book is divided into three parts. Part I includes the thermodynamic properties of materials and how they are used in the solution of engineering problems. Topics covered include properties of substances, the first law of thermodynamics, work integrals, engineering devices, the second law of thermodynamics, and nonideal gas effects. Part II applies thermodynamic principles to numerous engineering devices and cycles. If desired, selected topics in this part can be included in the first course. In this part, we also analyze internal and external combustion engines, refrigeration systems, psychrometrics, and the combustion process, which are foundational for subsequent courses in energy conversion, engines, and HVAC. In Part III, alternative energy is reviewed. This book serves to develop the essential skills in thermodynamics, primarily in a one-semester course, but it also has sufficient content for a second semester.