

1. Record Nr.	UNISA996418179503316
Autore	Gedde Ulf W
Titolo	Essential Classical Thermodynamics [[electronic resource] /] / by Ulf W. Gedde
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-38285-0
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (VII, 105 p. 16 illus., 5 illus. in color.)
Collana	SpringerBriefs in Physics, , 2191-5423
Disciplina	536.7
Soggetti	Thermodynamics Heat engineering Heat transfer Mass transfer Physical chemistry Statistical physics Amorphous substances Complex fluids Polymers Engineering Thermodynamics, Heat and Mass Transfer Physical Chemistry Statistical Physics and Dynamical Systems Soft and Granular Matter, Complex Fluids and Microfluidics Polymer Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter1: An introduction to thermodynamics and the first law -- Chapter2: The second and third laws -- Chapter3: Gibbs and Helmholtz free energies -- Chapter4: A comprehensive view of the state functions including Maxwell's relations -- Chapter5: Chemical potential and partial molar properties -- Chapter6: One component systems: transitions and phase diagrams -- Chapter7: Solutions, phase-separated systems colligative properties and phase diagrams -- Chapter8: Chemical equilibrium -- Chapter9: Thermodynamics

problems -- Chapter10: Solutions to problems -- Chapter11:
Mathematics useful for the thermodynamics.

Sommario/riassunto

This book is a concise, readable, yet authoritative primer of basic classic thermodynamics. Many students have difficulty with thermodynamics, and find at some stage of their careers in academia or industry that they have forgotten what they learned, or never really understood these fundamental physical laws. As the title of the book suggests, the author has distilled the subject down to its essentials, using many simple and clear illustrations, instructive examples, and key equations and simple derivations to elucidate concepts. Based on many years of teaching experience at the undergraduate and graduate levels, "Essential Classical Thermodynamics" is intended to provide a positive learning experience, and to empower the reader to explore the many possibilities for applying thermodynamics in other fields of science, engineering, and even economics where energy plays a central role. Thermodynamics is fun when you understand it!
