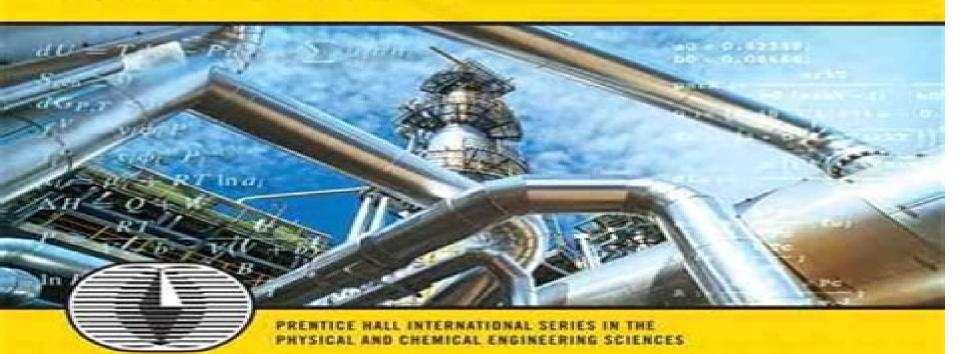


# FUNDAMENTALS OF CHEMICAL ENGINEERING THERMODYNAMICS

THEMIS MATSOUKAS



# Fundamentals Of Chemical Engineering Thermodynamics Matsoukas

Miguel T. Fleischer

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availability concepts and process efficiency receive extensive coverage The clear well organized sequence of the chapters helps students successfully learn and retain information Each of the fifteen chapters includes updated sample problems that underline key principles and problem solving steps. The book has numerous appendixes for quick reference on everything from conversion factors to Francis constants and from properties of pure substances to thermodynamics tables and Diagrams Thermodynamics can be used by chemical petroleum and mechanical engineering departments in introductory and intermediate courses on engineering thermodynamics and thermodynamics fundamentals Born and raised in Chile Miguel T Fleischer earned his M S and Ph D in chemical engineering from the University of Houston where he is an adjunct professor and the undergraduate program director of the Chemical and Biomolecular Engineering Department Dr Fleischer worked at Royal Dutch Shell for more than 26 years in research and development manufacturing finance and management He began teaching when he was an undergraduate student in Chile where he developed a program sponsored by Universidad CatOlica de Chile to prepare high school students for college He was the co owner and CEO of Fleischer International Trading a private enterprise that imported and distributed wines from all over the world for 13 years He continued teaching while he was a graduate student at the University of Houston He has received the Outstanding Lecturer award of the Cullen College of Engineering four times the University's Teaching Excellence Award the Cullen College of Engineering's Career Teaching Award and the Cullen College of Engineering s Distinguished Engineering Alumni Award Thermodynamics for Chemical Engineers Kenneth Richard Hall, Gustavo Arturo Iglesias-Silva, 2022-06-02 Thermodynamics for Chemical Engineers Learn the basics of thermodynamics in this complete and practice oriented introduction for students of chemical engineering Thermodynamics is a vital branch of physics that focuses upon the interaction of heat work and temperature with energy radiation and matter Thermodynamics can apply to a wide range of sciences but is particularly important in chemical engineering where the interconnection of heat and work with chemical reactions or physical changes of state are studied according to the laws of thermodynamics Moreover thermodynamics in chemical engineering focuses upon pure fluid and mixture properties phase equilibrium and chemical reactions within the confines of the laws of thermodynamics Given that thermodynamics is an essential course of study in chemical and petroleum engineering Thermodynamics for Chemical Engineers provides an important introduction to the subject that comprehensively covers the topic in an easily digestible manner Suitable for undergraduate and graduate students the text introduces the basic concepts of thermodynamics thoroughly and concisely while providing practice oriented examples and illustrations Thus the book helps students bridge the gap between theoretical knowledge and basic experiments and measurement characteristics Thermodynamics for Chemical Engineers readers will also find Practice oriented examples to help students connect the learned concepts to actual laboratory instruments and experiments A broad suite of illustrations throughout the text to help illuminate the information presented Authors with decades working in chemical engineering and teaching thermodynamics Thermodynamics for

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correlations and calculations of vapor liquid equilibrium data elementary theories of solutions and the efficiency of multicomponent separation and reaction processes The Second Law of Thermodynamics availability concepts and process efficiency receive extensive coverage The clear well organized sequence of the chapters helps students successfully learn and retain information Each of the fifteen chapters includes updated sample problems that underline key principles and problem solving steps The book has numerous appendixes for quick reference on everything from conversion factors to Francis constants and from properties of pure substances to thermodynamics tables and Diagrams Thermodynamics can be used by chemical petroleum and mechanical engineering departments in introductory and intermediate courses on engineering thermodynamics and thermodynamics fundamentals *Thermodynamics* Miguel T. Fleischer, H. William Prengle, 2012-10-31

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Srinivasan, 2004 This Book Is Intended To Present A Good Treatment Of The Fundamentals Of Chemical Engineering Thermodynamics In This Book Definitions Are Emphasized First To Form The Foundation Of The Subject And Upon This Foundation Arise The First Law Second Law And The Principle Of Reversibility Upon This Framework The Secondary Phases Are Based The Properties Of Real Fluids And Gases The Concept And Properties Of An Ideal Gas An Ideal Solution A Non Ideal Solution And The Applications Of The Basic Concepts To The Understanding Of The Thermodynamic Aspects Of Compression Processes Phase Equilibria And Chemical Reaction Equilibria Sufficient Material Has Been Included To Meet The Requirements Of The Undergraduate Curriculum For A Two Semester Course In Chemical Engineering Thermodynamics From A Chemical Engineering Viewpoint A Significant Emphasis Has To Be Made On The Study And Understanding Of Phase Equilibria And Chemical Reaction Equilibria These Two Topics Are Covered In Detail In This Book Lllustrations Pertaining To All These Areas Topics Are Liberally Included Throughout The Text Chemical Engineering Thermodynamics Thomas E. Daubert.1985 **Chemical Engineering Thermodynamics** RAO, Y. V. C. Rao, 1997 A Textbook of Chemical Engineering Thermodynamics K. V. Narayanan, 2004-08 This book for undergraduate courses in chemical engineering presents the entire coverage of classical thermodynamics with emphasis on the properties of solutions phase equilibria and chemical reaction equilibria **Applied Chemical Engineering Thermodynamics** Dimitrios Tassios, 2014-09-01

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