Chemical Engineering Education

THERMODYNAMICS, Second Edition

WILLIAM C. REYNOLDS, Stanford University. 1968, 512 pages, $12.50

The basic macroscopic principles of thermodynamics are developed in this fundamental text with insight obtained by consideration of the microscopic aspects of matter. Throughout, the author uses the basic conceptual ideas of statistical thermodynamics rather than its details. Disorder, randomness, and uncertainty notations are used in conjunction with the Gibb's definition of entropy to provide an intuitive basis for the second law postulate.

ENGINEERING THERMODYNAMICS

WILLIAM C. REYNOLDS, Stanford University and HENRY C. PERKINS, University of Arizona. 1970, 544 pages, $13.50

The first seven chapters of this book are identical to those in *Thermodynamics, Second Edition.* However, the remaining chapters emphasize applications to actual engineering systems. The material on power systems has been expanded, and chapters on compressible flow and heat transfer included. There are no detailed statistical thermodynamic calculations in this version, though the statistical concepts remain in the fundamental development of the first seven chapters and are used later in qualitative ways.

Prices are subject to change without notice.

CHEMICAL ENGINEERING KINETICS, Second Edition

J. M. SMITH, University of California, Davis. 1970, 544 pages, $16.50

With the general purpose of acquainting students with the tools necessary to design new chemical reactors and predict the performance of existing ones, this book develops principles of kinetics and reactor design and then applies them to actual chemical reactors. Emphasis is placed on real reactions using experimental rather than hypothetical data. Kinetics, homogeneous reactions, heterogeneous catalytic and non-catalytic reactors, and residence time distribution effects are treated in detail.

DESIGN OF THERMAL SYSTEMS

W. F. STOECKER, University of Illinois. 1971, 250 pages, $10.95

Entirely contemporary in its approach, this text emphasizes the usage of such new tools as computer-aided design, simulation, and optimization in thermal systems. Beginning with material on workable systems, the economics of engineering design, and mathematical modeling, the author proceeds to examine topics and specific procedures in optimization. In addition to applications in such traditional areas as power generation, heating and refrigeration, the book extends the thermal systems concept into a much broader range of topics, including the entire thermal processing field.

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