

Using Aspen Plus in Thermodynamics Instruction: A Step-by-Step Guide

By Stanley I. Sandler



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A step-by-step guide for students (and faculty) on the use of Aspen in teaching thermodynamics

• Easily-accessible modern computational techniques opening up new vistas in teaching thermodynamics

A range of applications of Aspen Plus in the prediction and calculation of thermodynamic properties and phase behavior using the state-of-the art methods

- Encourages students to develop engineering insight by doing repetitive calculations with changes in parameters and/or models
- Calculations and application examples in a step-by-step manner designed for out-of-classroom self study
- Makes it possible to easily integrate Aspen Plus into thermodynamics courses without using in-class time
- Stresses the application of thermodynamics to real problems

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Editorial Review

From the Back Cover

A step-by-step guide for students (and faculty) on the use of Aspen in teaching thermodynamics

Used for a wide variety of important engineering tasks, Aspen Plus software is a modeling tool used for conceptual design, optimization, and performance monitoring of chemical processes. After more than twenty years, it remains one of the most popular and powerful chemical engineering simulation programs used both industrially and academically.

Using Aspen Plus in Thermodynamics Instruction: A Step by Step Guide introduces the reader to the use of Aspen Plus in courses in thermodynamics. It provides the reader with a self-study, step-by-step guide to doing thermodynamic calculations in Aspen Plus (Version 8.x). This is done by providing actual screen shots of the Aspen Plus interface to solve example problems of specific types, including vapor-liquid, liquid-liquid and chemical reaction equilibria, and simple applications to liquefaction, distillation and liquid-liquid extraction. *Using Aspen Plus in Thermodynamics Instruction* features:

Easily-accessible modern computational techniques opening up new vistas in teaching thermodynamics

A range of applications of Aspen Plus in the prediction and calculation of thermodynamic properties and phase behavior using the state-of-the art methods

Calculations and application examples in a step-by-step manner designed for out-of-classroom self study

This book serves as a prelude to instruction in the more complex process simulation and provides a coherent approach to introducing the Aspen Plus simulator in undergraduate thermodynamics courses. Because it has been designed for self-study use, it is meant to be assigned to students to use out of class, and not as an inclass textbook. It does not attempt to teach the basics of thermodynamics; it stresses the application of thermodynamics to realistic problems.

About the Author

Stanley I. Sandler is the H. B. du Pont Professor of Chemical Engineering, Department of Chemical and Biomolecular Engineering University of Delaware. He is also the founding director of its Center for Molecular and Engineering Thermodynamics. He is the author of approximately 400 refereed papers, mostly on thermodynamics and several on education. He is the sole author of the popular textbook "Chemical and Engineering Thermodynamics" (first three editions) and now "Chemical, Biochemical and Engineering Thermodynamics" (4th edition), as well as the author or editor of 7 other books. He is the former editor of the AIChE Journal, a member of the U.S. National Academy of Engineering, and a fellow of the AIChE and the IChemE. In addition, he has received the Professional Progress, Warren K. Lewis, and Founders Awards from the AIChE and a number of international awards.

Users Review

From reader reviews:

Phyllis Richards:

Do you have favorite book? When you have, what is your favorite's book? Publication is very important thing for us to understand everything in the world. Each book has different aim as well as goal; it means that publication has different type. Some people truly feel enjoy to spend their time and energy to read a book. They may be reading whatever they take because their hobby is actually reading a book. How about the person who don't like studying a book? Sometime, particular person feel need book if they found difficult problem or maybe exercise. Well, probably you will require this Using Aspen Plus in Thermodynamics Instruction: A Step-by-Step Guide.

Kelly McDowell:

The book untitled Using Aspen Plus in Thermodynamics Instruction: A Step-by-Step Guide contain a lot of information on the item. The writer explains the girl idea with easy technique. The language is very clear and understandable all the people, so do not really worry, you can easy to read it. The book was compiled by famous author. The author will take you in the new age of literary works. You can easily read this book because you can read more your smart phone, or program, so you can read the book within anywhere and anytime. In a situation you wish to purchase the e-book, you can start their official web-site along with order it. Have a nice learn.

Rosalie Lloyd:

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Francis Lopez:

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