

Instructor's Manual

Contemporary Engineering Economics

Fourth Edition

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Preface

This Instructor's Manual to *Contemporary Engineering Economics* contains detailed solutions to all the end-of-chapter problems. The problem solutions follow topical headings to indicate the generic content of each problem. The headings are provided to aid you in selecting your preferred mix of problem types for homework assignments.

- *Contemporary Engineering Economics* contains nearly 570 problems. Many of them come with multiple-part questions, bringing the total number of questions to nearly 900.
- The Park's online OneKey Course Management Site provides another 280 self-test questions. This OneKey site is designed primarily to help students develop a working knowledge of the concepts and principles of engineering economics. Most questions in this guide are structured in multiple-choice format as these types of exam questions are tested on the Fundamentals of Engineering (FE) exam and, increasingly, in introductory engineering economics courses.
- The problems listed under "Short Case Studies" require more involved assumptions, solution steps, and calculations.
- Please note that your independent solutions to the text problems may yield answers slightly different from mine due to rounding differences. In some cases, the interpretations and assumptions students bring to the problems may differ from my own in creating them, again resulting in different answers.
- A comprehensive set of lecture notes in PowerPoint format is also available to instructors who adopt the text.

Having made these disclaimers, I wish to emphasize that it is my and the publisher's intention to provide the most accurate solutions possible. Thus, if you discover typo errors, or disagree strongly with the interpretation and assumptions required of a particular solution, please do not hesitate to report your concerns to me at the e-mail address below so they may be corrected in subsequent printings. I will also plan on posting any errors on the book's web site under "Instructor Resources." Finally, I want to thank Major Hyun Jin Han for his assistance in preparing this manual.

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Part One

Basics of Financial Decisions

Chapter 1 Engineering Economic Decisions

There are no end-of-chapter questions in this introductory chapter. However, the following questions could be added as a part of instruction:

1. Ask students to review the contents of The Wall Street Journal for the past 3 months. Then, identify and categorize the types of investment decisions appeared in the journal according to the types of strategic economics decisions discussed in Section 1.5.
2. Work in small groups and brainstorm ideas about how a common appliance, device or tool could be redesigned to improve it in some way. Identify the steps involved and the economic factors, which you would need to consider prior to making a decision to manufacture the redesigned product. A detailed design and actual cost estimates are not required. Some items, which could be considered for this redesign exercise, are: a shopping cart, telephone, can opener, screwdriver, etc.
3. Many oil price forecasts in the early 2000 indicated that the price of oil in the year 2005 would be in excess of \$50 per barrel. What is the price today? Why are these prices so difficult to predict? Imagine what the consequences would be if you used these pessimistic estimates in your economic analysis. What would be some practical ways to handle project uncertainty?