# SUPPLEMENTS AVAILABLE ON THE TEXT WEBSITE www.mhhe.com/hillier

#### **ADDITIONAL CASES**

- Case 3.2 Cutting Cafeteria Costs
- Case 3.3 Staffing a Call Center
- Case 3.4 Promoting a Breakfast Cereal
- Case 4.2 New Frontiers
- Case 4.3 Assigning Students to Schools
- Case 6.2 Farm Management
- Case 6.3 Assigning Students to Schools, Revisited
- Case 6.4 Writing a Nontechnical Memo
- Case 8.2 Continuation of the Texago Case Study
- Case 8.3 Project Pickings
- Case 9.2 Aiding Allies
- Case 9.3 Steps to Success
- Case 11.2 Assigning Art
- Case 11.3 Stocking Sets
- Case 11.4 Assigning Students to Schools, Revisited Again
- Case 12.2 International Investments
- Case 12.3 Promoting a Breakfast Cereal, Revisited
- Case 15.2 Smart Steering Support
- Case 15.3 Who Wants to be a Millionaire?
- Case 15.4 University Toys and the Engineering Professor Action Figures
- Case 17.2 Queueing Quandary
- Case 18.2 TNT: Tackling Newsboy's Teachings
- Case 18.3 Jettisoning Surplus Stock
- Case 20.3 Planning Planers
- Case 20.4 Pricing under Pressure

## **SUPPLEMENT 1 TO CHAPTER 3 The LINGO Modeling Language**

### SUPPLEMENT 2 TO CHAPTER 3

#### **More about LINGO**

#### **SUPPLEMENT TO CHAPTER 7**

#### **Linear Goal Programming and Its Solution Procedures**

#### **Problems**

Case 7S.1 A Cure for Cuba

Case 7S.2 Airport Security

#### **SUPPLEMENT TO CHAPTER 8**

A Case Study with Many Transportation Problems

#### **SUPPLEMENT 1 TO CHAPTER 18**

Derivation of the Optimal Policy for the Stochastic Single-Period Model for Perishable Products

**Problems** 

## SUPPLEMENT 2 TO CHAPTER 18 Stochastic Periodic-Review Models

**Problems** 

## SUPPLEMENT 1 TO CHAPTER 20 Variance-Reducing Techniques

**Problems** 

## SUPPLEMENT 2 TO CHAPTER 20 Regenerative Method of Statistical Analysis

**Problems** 

## SUPPLEMENT 3 TO CHAPTER 20 Optimizing with OptQuest

**Problems** 

#### **CHAPTER 21**

#### The Art of Modeling with Spreadsheets

- 21.1 A Case Study: The Everglade Golden Years Company Cash Flow Problem
- 21.2 Overview of the Process of Modeling with Spreadsheets
- 21.3 Some Guidelines for Building "Good" Spreadsheet Models
- 21.4 Debugging a Spreadsheet Model
- 21.5 Conclusions

Selected References

Learning Aids for This Chapter on Our Website

**Problems** 

Case 21.1 Prudent Provisions for Pensions

#### **CHAPTER 22**

#### Project Management with PERT/CPM

- 22.1 A Prototype Example—The Reliable Construction Co. Project
- 22.2 Using a Network to Visually Display a Project
- 22.3 Scheduling a Project with PERT/CPM
- 22.4 Dealing with Uncertain Activity Durations
- 22.5 Considering Time-Cost Trade-Offs
- 22.6 Scheduling and Controlling Project Costs
- 22.7 An Evaluation of PERT/CPM
- 22.8 Conclusions

Selected References

Learning Aids for This Chapter on Our Website

**Problems** 

Case 22.1 "School's out forever . . ."

#### **CHAPTER 23**

#### Additional Special Types of Linear Programming Problems

- 23.1 The Transshipment Problem
- 23.2 Multidivisional Problems
- 23.3 The Decomposition Principle for Multidivisional Problems
- 23.4 Multitime Period Problems
- 23.5 Multidivisional Multitime Period Problems
- 23.6 Stochastic Programming
- 23.7 Chance-Constrained Programming
- 23.8 Conclusions

Selected References

**Problems** 

#### **CHAPTER 24**

#### **Probability Theory**

- 24.1 Sample Space
- 24.2 Random Variables
- 24.3 Probability and Probability Distributions
- 24.4 Conditional Probability and Independent Events
- 24.5 Discrete Probability Distributions
- 24.6 Continuous Probability Distributions
- 24.7 Expectation
- 24.8 Moments
- 24.9 Bivariate Probability Distribution
- 24.10 Marginal and Conditional Probability Distributions
- 24.11 Expectations for Bivariate Distributions
- 24.12 Independent Random Variables and Random Samples
- 24.13 Law of Large Numbers
- 24.14 Central Limit Theorem
- 24.15 Functions of Random Variables

Selected References

**Problems** 

#### **CHAPTER 25**

#### Reliability

- 25.1 Structure Function of a System
- 25.2 System Reliability
- 25.3 Calculation of Exact System Reliability
- 25.4 Bounds on System Reliability
- 25.5 Bounds on Reliability Based upon Failure Times
- 25.6 Conclusions

Selected References

**Problems** 

#### **CHAPTER 26**

#### The Application of Queueing Theory

- 26.1 Examples
- 26.2 Decision Making
- 26.3 Formulation of Waiting-Cost Functions
- 26.4 Decision Models
- 26.5 The Evaluation of Travel Time
- 26.6 Conclusions

Selected References

Learning Aids for This Chapter on Our Website

**Problems** 

#### **CHAPTER 27**

#### **Forecasting**

- 27.1 Some Applications of Forecasting
- 27.2 Judgmental Forecasting Methods
- 27.3 Time Series
- 27.4 Forecasting Methods for a Constant-Level Model
- 27.5 Incorporating Seasonal Effects into Forecasting Methods
- 27.6 An Exponential Smoothing Method for a Linear Trend Model
- 27.7 Times Series Forecasting with CB Predictor
- 27.8 Forecasting Errors
- 27.9 Box-Jenkins Method
- 27.10 Causal Forecasting with Linear Regression
- 27.11 Forecasting in Practice
- 27.12 Conclusions

Selected References

Learning Aids for This Chapter on Our Website

**Problems** 

Case 27.1 Finagling the Forecasts

#### **CHAPTER 28**

#### **Examples of Performing Simulations on Spreadsheets with Crystal Ball**

- 28.1 Bidding for a Construction Project
- 28.2 Project Management
- 28.3 Cash Flow Management
- 28.4 Financial Risk Analysis
- 28.5 Revenue Management in the Travel Industry
- 28.6 Choosing the Right Distribution
- 28.7 Decision Making with Decision Tables
- 28.8 Conclusions

Selected References

Learning Aids for This Chapter on Our Website

**Problems** 

#### **APPENDIX 6**

#### **Simultaneous Linear Equations**