

Instructor's Manual with Full Solutions

Table of Contents

PART I: Management Sciences

Chapter 1	Urban Services	
	Chapter Outline and Summary.....	1
	Skill Objectives.....	2
	Teaching Tips.....	2
	Research Paper.....	3
	Collaborative Learning.....	4
	Solutions.....	6
Chapter 2	Business Efficiency	
	Chapter Outline and Summary.....	15
	Skill Objectives.....	16
	Teaching Tips.....	17
	Research Paper.....	17
	Collaborative Learning.....	18
	Solutions.....	20
Chapter 3	Planning and Scheduling	
	Chapter Outline and Summary.....	33
	Skill Objectives.....	34
	Teaching Tips.....	35
	Research Paper.....	35
	Collaborative Learning.....	36
	Solutions.....	37
Chapter 4	Linear Programming	
	Chapter Outline and Summary.....	55
	Skill Objectives.....	56
	Teaching Tips.....	57
	Research Paper.....	57
	Collaborative Learning.....	58
	Solutions.....	59

PART II: Statistics: The Science of Data

Chapter 5	Exploring Data: Distributions	
	Chapter Outline and Summary.....	121
	Skill Objectives.....	122
	Teaching Tips.....	122
	Research Paper.....	123
	Collaborative Learning.....	124
	Solutions.....	125

Chapter 6 Exploring Data: Relationships	
Chapter Outline and Summary.....	143
Skill Objectives.....	143
Teaching Tips.....	144
Research Paper.....	144
Spreadsheet Project.....	144
Collaborative Learning.....	145
Solutions.....	147
Chapter 7 Data for Decisions	
Chapter Outline and Summary.....	165
Skill Objectives.....	166
Teaching Tips.....	167
Research Paper.....	168
Collaborative Learning.....	168
Solutions.....	169
Chapter 8 Probability: The Mathematics of Chance	
Chapter Outline and Summary.....	179
Skill Objectives.....	180
Teaching Tips.....	181
Research Paper.....	182
Collaborative Learning.....	182
Solutions.....	184
<u>Part III: Voting and Social Choice</u>	
Chapter 9 Social Choice: The Impossible Dream	
Chapter Outline and Summary.....	197
Skill Objectives.....	198
Teaching Tips.....	199
Research Paper.....	200
Spreadsheet Project.....	200
Collaborative Learning.....	201
Solutions.....	202
Chapter 10 The Manipulability of Voting Systems	
Chapter Outline and Summary.....	227
Skill Objectives.....	228
Teaching Tips.....	229
Research Paper.....	231
Collaborative Learning.....	232
Solutions.....	236
Chapter 11 Weighted Voting Systems	
Chapter Outline and Summary.....	251
Skill Objectives.....	252
Teaching Tips.....	253
Research Paper.....	253
Spreadsheet Project.....	253
Collaborative Learning.....	254
Solutions.....	255

Chapter 12 Electing the President	
Chapter Outline and Summary.....	275
Skill Objectives.....	276
Teaching Tips.....	277
Research Paper.....	277
Spreadsheet Project.....	277
Collaborative Learning.....	277
Solutions.....	278

PART IV: Fairness and Game Theory

Chapter 13 Fair Division	
Chapter Outline and Summary.....	285
Skill Objectives.....	286
Teaching Tips.....	286
Research Paper.....	286
Collaborative Learning.....	287
Solutions.....	289

Chapter 14 Apportionment	
Chapter Outline and Summary.....	299
Skill Objectives.....	300
Teaching Tips.....	301
Research Paper.....	301
Collaborative Learning.....	301
Solutions.....	302

Chapter 15 Game Theory	
Chapter Outline and Summary.....	325
Skill Objectives.....	326
Teaching Tips.....	327
Research Paper.....	327
Spreadsheet Project.....	327
Collaborative Learning.....	328
Solutions.....	329

Part V: The Digital Revolution

Chapter 16 Identification Numbers	
Chapter Outline and Summary.....	341
Skill Objectives.....	342
Teaching Tips.....	342
Research Paper.....	342
Collaborative Learning.....	342
Solutions.....	343

Chapter 17 Information Science	
Chapter Outline and Summary.....	351
Skill Objectives.....	352
Teaching Tips.....	353
Research Paper.....	353
Collaborative Learning.....	353
Solutions.....	354

Part VI: On Size and Growth

Chapter 18 Growth and Form	
Chapter Outline and Summary.....	371
Skill Objectives.....	372
Teaching Tips.....	372
Research Paper.....	373
Spreadsheet Project.....	373
Collaborative Learning.....	373
Solutions.....	374
 Chapter 19 Symmetry and Patterns	
Chapter Outline and Summary.....	385
Skill Objectives.....	386
Teaching Tips.....	386
Research Paper.....	387
Spreadsheet Project.....	387
Collaborative Learning.....	387
Solutions.....	388
 Chapter 20 Tilings	
Chapter Outline and Summary.....	397
Skill Objectives.....	398
Teaching Tips.....	399
Research Paper.....	399
Collaborative Learning.....	399
Solutions.....	400

Part VII: Your Money and Resources

Chapter 21 Savings Models	
Chapter Outline and Summary.....	405
Skill Objectives.....	406
Teaching Tips.....	406
Research Paper.....	406
Spreadsheet Project.....	406
Collaborative Learning.....	407
Solutions.....	408
 Chapter 22 Borrowing Models	
Chapter Outline and Summary.....	419
Skill Objectives.....	420
Teaching Tips.....	420
Research Paper.....	420
Spreadsheet Project.....	420
Collaborative Learning.....	420
Solutions.....	421
 Chapter 23 The Economics of Resources	
Chapter Outline and Summary.....	431
Skill Objectives.....	432
Teaching Tips.....	432
Research Paper.....	432
Spreadsheet Project.....	432
Collaborative Learning.....	433
Solutions.....	434