HOMEWORK ASSIGNMENTS AND REQUIRED READING

These problems are for your benefit and not to be turned in. No points are given for homework. The assignments listed below are the minimum number of problems to be attempted for achieving understanding of the topics presented. It is suggested to attempt these problems and discuss them on your eLearning class Discussion Board.
Please Note: Check your eLearning website for any changes to these assignments throughout the semester.

Chapter 1: What is Statistics?
1.1. Key Statistical Concepts
1.2. Statistical Applications in Business
1.3. Statistics and the Computer
1.4. World Wide Web and Learning Center
Appendix 1 – Instructions for installation of files
Problems: 1.2 – 1.8 (Even numbered problems); Reading: Pages 1 – 9

Chapter 2: Graphical Descriptive Techniques
2.1. Types of Data and Information
2.2. Describing a Set of Nominal Data
2.3. Describing the Relationship Between Two Nominal Variables and Comparing Two or More Nominal Data Sets
Problems: 2.14 – 2.50 (Even numbered problems); Reading: Pages 11 – 41

Chapter 3: Graphical Descriptive Techniques II
3.1. Graphical Techniques to Describe a Set of Interval Data
3.2. Describing Time-Series Data
3.3. Describing the Relationship between Two Interval Variables
3.4. Art and Science of Graphical Presentations
Problems: 3.6 – 3.20, 3.32, 3.34, 3.48 – 3.58 (Even numbered problems); Reading: Pages 43 – 92

Chapter 4: Numerical Descriptive Techniques
4.1. Measures of Central Location
4.2. Measures of Variability
4.3. Measures of Relative Standing and Box Plots
4.4. Measures of Linear Relationship
4.7. Comparing Graphical and Numerical Techniques
4.8. General Guidelines for Exploring Data
Appendix 4 Review Of Chapters 2 to 4
Problems: 4.2 – 4.16, 4.32 – 4.36, 4.42 – 4.54 (Even numbered problems), 4.65, 4.66, 4.74, 4.80 (All); Reading: Pages 97 – 144, 153, 154

Chapter 5: Data Collection and Sampling
5.1. Methods of Collecting Data
5.2. Sampling
5.3. Sampling Plans
5.4. Sampling and Nonsampling Errors
Problems: 5.2, 5.3, 5.7, 5.15, 5.16, 5.17, 5.18, 5.19 Reading: Pages 161-174

Chapter 6: Probability

6.1. Assigning Probability to Events
6.2. Joint, Marginal, and Conditional Probability
6.3. Probability Rules and Trees
6.5. Identifying the Correct Method

Problems: 6.6, 6.8, 6.11, 6.16, 6.17, 6.20, 6.24, 6.28 – 6.40 (Even numbered problems), 6.48, 6.56, 6.62 – 6.68 (Even numbered problems);
Reading: Pages 175 – 213

Chapter 7: Random Variables and Discrete Probability Distributions

7.1. Random Variables and Probability Distributions
7.4. Binomial Distribution
7.5. Poisson Distribution

Problems: 7.2, 7.10 – 7.20, 7.27, 7.32, 7.84, 7.92 – 7.100 (Even numbered problems), 7.110, 7.112 – 7.119 (All);
Reading: Pages 217 – 229 stop at Bivariate Distributions, 243 – 260

Chapter 8: Continuous Probability Distributions

8.1. Probability Density Functions
8.2. Normal Distribution
8.4. Other Continuous Distributions – T distribution and F distribution

(Note: Although the t and F distributions are introduced in textbook Chapter 8, the T and F distributions will be explained when we begin Chapters 12 & 13. Therefore, the T and F Distributions will be included on Test 3, and not on Test 2)
Problems: 8.16 – 8.56 (Even numbered problems), 8.83 – 8.88, 8.96 -8.100 (All);
Reading: Pages 263 – 286, 291 – 296, 301 – 306

Chapter 9: Sampling Distributions

9.1. Sampling Distribution of the Mean
9.2. Sampling Distribution of a Proportion
9.4. From Here to Inference

Problems: 9.2 – 9.24, 9.30 – 9.42 (Even numbered problems),
Reading: Pages 307 – 327, and Pages 330 - 333

Chapter 10: Introduction to Estimation

10.1. Concepts of Estimation
10.2. Estimating the Population Mean when the Population Standard Deviation is Known
10.3. Selecting the Sample Size

Problems: 10.1, 10.2, 10.12, 10.22 – 10.32 (Even numbered problems), 10.52, 10.54;
Reading: Pages 335 – 358

Chapter 11: Introduction to Hypothesis Testing

11.1. Concepts of Hypothesis Testing
11.2. Testing the Population Mean when the Population Standard Deviation is Known
11.3. Calculating the Probability of a Type II Error
11.4. The Road Ahead

Problems: 11.7 – 11.12 (All), 11.14 – 11.46 (Even numbered problems);
Reading: Pages 360 – 389

Chapter 12: Inference about One Population

12.1. Inference about a population Mean when the Standard Deviation is Unknown

12.3. Inference about a Population Proportion

Problems: 12.4, 12.8, 12.24 – 12.34 (Even numbered problems), 12.70, 12.74, 12.76, 12.96, 12.98;

Reading: Pages 398 – 412, 421 – 434

Chapter 13: Inference about Two Populations

13.1. Inference about the Difference between Two Means: Independent Samples

13.2. Observational and Experimental Data (know the difference between Observational & Experimental Data)

13.3 Inference about the Difference between Two Means: Matched Pairs

13.4. Inference about the Ratio of Two Variances (We have already discussed the F Test for Two Sample Variances in 13.1. This section further explains how to compare two variances and compare consistency of two production processes.)

13.5. Inference about the Difference between Two Population Proportions

Appendix 13 Review of Chapters 12 and 13

Problems: 13.12 – 13.20, 13.32 – 13.36 (Even numbered problems),
13.78,, 13.90, 13.91, 13.97, 13.99

Reading: Pages 448 – 474, 489 – 512

Chapter 14: Analysis of Variance

14.1. One Way Analysis of Variance

14.2. Multiple Comparisons

14.3 Analysis of Variance Experimental Designs

14.5 Two Factor Analysis of Variance

Appendix 14 Review of Chapters 12 to 14

Problems: 14.4 – 14.14 (Even numbered problems), 14.38, 14.41, 14.42 (All), Utilize Tukey's Omega;

Problems: 14.52, 14.56, 14.76

Reading: Pages 525 – 545, 548 – 552

Chapter 15: Chi Squared Tests

(Chapter 15 not covered in this course)

Read Appendix 15 Review of Chapters 12 to 14 only, Pages 626-627

Chapter 16: Simple Linear Regression

16.1. Model

16.2. Estimating the Coefficients

16.3. Error Variable: Required Conditions

16.4. Assessing the Model

16.5. Using the Regression Equation

16.6. Regression Diagnostics − I

Appendix 16 Review of Chapters 12 to 16 (Exclude Ch 15)

Problems: 16.1, 16.2, 16.6 – 16.11, 16.32, 16.34(b, c), 16.38, 16.39, 16.40, 16.56, 16.62, 16.89, 16.90, 16.100, 16.102, Case 16.2;

Reading: Pages 633 – 660, 666 – 679

Chapter 17: Multiple Regression

17.1. Model and Required Conditions

17.2. Estimating the Coefficients and Assessing the Model

17.3. Regression Diagnostics − II

Appendix 17 Review of Chapters 12 to 17 (Exclude Ch 15)

Problems: 17.8, 17.10, 17.18;

Readign: Pages 692 – 715