

Math 1342

Elementary Statistical methods

The textbooks for 2009 - 2010 are: (1) Elementary Statistics: A step by Step Approach by Allan G Bluman (Mc Graw Hill 2009, 7th Edition). (2) Excel Manual by R. Goffinet, V. Koehler and R. Merchant (McGraw Hill 2009). The following topics from the main text are to be taught:

Ch. 1 Introduction to Statistics

Ch. 2 Graphs in Descriptive Statistics

2.1 Organizing Data

2.2 Frequency Histograms

2.3 Stem and Leaf Plots

Ch. 3 Numerical Methods in Descriptive Statistics

3.1 Measures of Central Tendency

3.2 Measures of Variation

3.3 Measures of Position

3.4 Box plots

Ch. 4 Probability and Counting Rules

4.1 Sample Spaces and Probability

4.2 The Additive Law

4.3 The Multiplicative Law and Conditional Probability

4.4 Counting Rules

4.5 Probability and Counting

Ch. 5 Discrete Probability Distributions

5.1 Probability Distributions

5.2 Mean, Variance, Expectation

5.3 The Binomial Distribution

Ch. 6 The Normal Distribution

6.1 Normal Distributions

- 6.2 Normal Distribution Applications
- 6.3 The Central Limit Theorem
- 6.4 The Normal Approximation to the Binomial Distribution
- Ch. 7 Confidence Intervals**
- 7.1 Confidence Intervals for the Mean (σ Known or $n \geq 30$)
- 7.2 Confidence Intervals for the Mean (σ Unknown and $n < 30$)
- 7.3 Confidence Intervals for Proportions
- 7.4 Confidence Intervals for Variances and Standard Deviations
- Ch. 8 Hypothesis Testing**
- 8.1 Steps in Hypothesis Testing – Traditional Method
- 8.2 z Test for a Mean
- 8.3 t Test for a Mean
- 8.4 z Test for a Proportion
- 8.5 χ^2 Test for a Variance or Standard Deviation
- Ch. 9 Testing the Difference Between Two Means**
- 9.1 Testing the Difference Between Two Means: Large Samples
- 9.2 Testing the Difference Between Two Means: Small Independent Samples
- 9.4 Testing the Difference Between Two Proportions
- Ch. 10 Correlation and Regression**
- 10.1 Scatter Plots and Correlation
- 10.2 Linear Regression
- 10.3 Coefficient of Determination

Note: Computer instruction and exercises will be assigned to follow the Excel Manual, Chapter 1 – 9.

