

**Topics for Elementary Statistics
Math 2200
Georgia Highlands College
Updated August 2008**

TOPICS

- Probability Theory
- Descriptive Statistics
- Correlation
- Regression
- Hypothesis Testing
- Chi-square
- ANOVA
- This course does **not** require a knowledge of Calculus.

TEXTBOOK

Elementary Statistics, Fourth Edition
Allan G. Bluman

Minitab, Release 12 is available on the GHC Network

PowerPoint presentation lectures:

Contact Dr. Johnny Duke, jduke@highlands.edu, or Laura Ralston, lrалston@highlands.edu for instructions about how to access the PowerPoint lectures. A password is required.

SUGGESTED COURSE CONTENT

Chapter 1	The Nature of Probability and Statistics
1.1	Introduction
1.2	Descriptive and Inferential Statistics
1.3	Variables and Types of Data
1.4	Data Collection and Sampling Techniques
1.5	Observational and Experimental Studies
1.6	Uses and Misuses of Statistics
1.7	Computers and Calculators
1.8	Summary

Chapter 2	Frequency Distributions and Graphs
2.1	Introduction
2.2	Organizing Data
2.3	Histograms, Frequency Polygons, and Ogives
2.4	Other Types of Graphs
2.6	Summary

Chapter 3	Data Description
3.1	Introduction
3.2	Measures of Central Tendency
3.3	Measures of Variation
3.4	Measures of Position
3.6	Summary

Chapter 4	Probability and Counting Rules
4.1	Introduction
4.2	Sample Spaces and Probability
4.3	The Addition Rule for Probability
4.4	The Multiplication Rules and Conditional Probability
4.5	Counting Rules
4.6	Probability and Counting Rules
4.7	Summary

Chapter 5	Discrete Probability Distributions
5.1	Introduction
5.2	Probability Distributions
5.3	Mean, Variance, Standard Deviation, and Expectation
5.4	The Binomial Distribution
5.5	Summary

Chapter 6	The Normal Distribution
6.1	Introduction
6.2	Properties of a Normal Distribution
6.3	The Standard Normal Distribution
6.4	Applications of the Normal Distribution
6.5	The Central Limit Theorem
6.7	Summary

Chapter 8	Hypothesis Testing
8.1	Introduction
8.2	Steps in Hypothesis Testing-Traditional Method
8.3	z Test for a Mean
8.4	t Test for a Mean
8.5	z Test for a Proportion
8.6	Chi Square Test for a Variance or Standard Deviation
8.8	Summary

Chapter 10	Correlation & Regression
10.1	Introduction
2.5	Paired Data and Scatterplots
10.2	Correlation
10.3	Regression
10.5	Summary

Chapter 11	Chi Square and Analysis of Variance (ANOVA)
11.1	Introduction
11.2	Test for Goodness of Fit
11.4	Analysis of Variance
11.5	Summary

This is a total of 52 sections. However, the first section of each chapter is an introduction, and the last section of each chapter is a summary. Both can be combined with other sections. That leaves a total of 34 sections. If it becomes necessary to trim material from the course, at a minimum be sure to introduce students to basic hypothesis testing.