stat214 Syllabus

Stat 214: Elementary Statistics

Text: *Essential Statistics,* William Navidi and Barry Monk, UL Lafayette custom edition, McGraw-Hill, 2014.

Prerequisites: A minimum ACT Math score of 25 or credit for MATH 100 or 105. A TI-83 series or TI-84 series graphing calculator is required.

This course provides an introduction to statistics for students from various disciplines. The core topics are descriptive statistics, hypothesis testing, confidence intervals, correlation, and regression. The precise order of presentation, emphasis, and depth of coverage of specific topics will vary by instructor. The outline given below provides indications of the topics covered, their location in the textbook, and approximate coverage time.

Sections and Topics

- Basic Ideas: Populations, samples, variables, parameters, statistics, random sampling, and experimentation. (Chapter 1)
- Graphical, tabular, and numerical summaries of data. (Chapters 2 and 3)
- Probability, random variables, distributions, sampling distributions, the binomial and normal distributions. (Section 4.1 and Chapters 5 and 6)
- Inference for one parameter: Confidence intervals and hypothesis tests for one mean or one proportion based on a single sample. (Chapters 7 and 8)
- Inference for two parameters: Confidence intervals and hypothesis tests for the difference between two means or proportions based on independent or paired samples. (Chapter 9)
- Relationships between two qualitative variables: Contingency tables and chi-square tests: tests of goodness-of-fit, independence, and homogeneity. (Chapter 10)
- Relationships between two quantitative variables: Scatter-plots, correlation, and regression: association, the correlation coefficient, least squares regression. (Chapter 11)
- Optional material: inference for regression. (Sections 11.3 and 11.4)
- Inference for two or more means: analysis of variance ANOVA.

Last updated 22 August 2013