# stat214 Syllabus

## Stat 214: Elementary Statistics

**Text:** *Essential Statistics, 3rd ed.,* William Navidi and Barry Monk, McGraw-Hill, 2022.

**Prerequisites:** A minimum ACT math score of 25 or SAT math score of 590 or credit in MTHS 102 and MTHS 102S, MATH 102, MATH 103 and MATH 104, MTHS 105 and MTHS 105S, MATH 105, MTHS 109 and MTHS 109S, MATH 109, MATH 143, MATH 270 or MATH 272.

**ALEKS and a TI-83 series or TI-84 series graphing calculator are 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.

**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)
- Relationships between two quantitative variables: Scatter-plots, correlation, and regression: association, the correlation coefficient, least squares regression. (Chapter 11)
- 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)
- Optional material: inference for regression. (Sections 11.3 and 11.4)

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