STAT 243Z : ELEMENTARY STATISTICS I

Transcript title

Elementary Statistics I

Credits

4

Grading mode

Standard letter grades

Total contact hours

40

Lecture hours

40

Recommended preparation

MTH 111Z (for MTH 241 or MTH 251) or MTH 105Z or minimum placement Math Level 20.

Course Description

A first course in statistics focusing on the interpretation and communication of statistical concepts. Introduces exploratory data analysis, descriptive statistics, sampling methods and distributions, point and interval estimates, hypothesis tests for means and proportions, and elements of probability and correlation. Technology will be used when appropriate.

Course learning outcomes

1. Critically read, interpret, report, and communicate the results of a statistical study along with evaluating assumptions, potential for bias, scope, and limitations of statistical inference. \\na. Classify study designs and variable types and identify methods of summary and analysis.
2. Produce and interpret summaries of numerical and categorical data as well as appropriate graphical and/or tabular representations.\\na. Identify patterns and striking deviations from patterns in data.\\nb. Identify associations between variables for bivariate data.\\nc. Apply technology to calculate statistical summaries and produce graphical representations.
3. Use the distribution of sample statistics to quantify uncertainty and apply the basic concepts of\\nprobability into statistical arguments.\\na. Interpret point and interval estimates.
4. Identify, conduct, and interpret appropriate parametric hypothesis tests.\\na. Identify the appropriate test based on variable type.\\nb. Identify situations where a one or two tailed test would be appropriate.\\nc. Conduct tests of one mean.\\nd. Conduct tests of one proportion.\\ne. Explain the distinction between statistical and practical significance and the potential for error in hypothesis test conclusions.\\nf. Apply technology to perform hypothesis tests calculations.
5. Assess relationships in quantitative bivariate data.\\na. Address questions relating correlation as a linear association between variables.\\nb. Distinguish between correlation and causation within data.\\nc. Apply technology to explore bivariate data.

General education/Related instruction lists

- Science not Lab
- Mathematics