STAT 269 - Introductory Statistics

Review Sheet for Exam I

Unit 1 Part 1

- Definition of Statistics

- Population and Sample

- Census

- Data

- Parameter and Statistic

- Design of Experiments

    - Observational study vs. Experiment
    - Ethical issues
    - General method:
        1. Form a specific question to be answered
        2. Collect data according to some design
        3. Analyze data and form conclusions

- Thought process behind hypothesis testing.

- Type I and Type II errors in general and in context, with consequences

Unit 1 Parts 2 and 3

- Characteristics of interest: Center, variation, distribution, outliers, and time effects

- Measures of center: Mean, Median, and Mode

- General measure of location: Percentiles (and special cases: Quartiles)

- Measures of variation

    - Range
    - Variance and standard deviation
    - IQR

- Stem-and-leaf plot

- Frequency tables and Histograms

    - 5 step method for finding categories
    - Frequency, relative frequency, cumulative frequency, and cumulative relative frequency

- Boxplot