PS 211: Exam 1 Review Sheet

Exam 1 will include content from Lectures 1 - 5. Please note that this is not a comprehensive list of what may be on the exam, but is intended to help guide your studying. You can print and take notes on this sheet of paper (both sides) to use during the exam or you may bring a single 8.5 x 11" piece of paper with hand-written notes.

Lectures 1 & 2: Intro to Stats and Research Design

Goals of science
Descriptive vs. inferential statistics
Samples vs. populations
Qualitative vs. quantitative variables
Discrete & continuous variables
4 variable types (nominal, ordinal, interval, ratio)
Experiments vs. Non-experimental methods
Independent & dependent variables & their levels
Confounds
Reliability & validity
Operational definitions
Between vs. within-subjects designs

Lecture 3: Frequency Distributions & Visual Displays of Data

Raw data, frequency tables, grouped frequency tables, histograms
Shapes of distributions: Normal, positive skew, negative skew
Ceiling & floor effects
Bar graphs, scatter plots, line graphs, box plots
Principles of effective data visualization

Lecture 4: Central Tendency & Variability

Mean, median, mode: How to compute each, advantages & disadvantages of each
Range, interquartile range, variance, standard deviation: How to compute each, advantages & disadvantages of each
Population variance vs. sample variance

Lecture 5: Sampling, Probability, Hypotheses

Random vs. convenience samples
Crowdsourcing
Random sampling & random assignment
Probability: What it is and why we need to compute it
Trial, outcome, success
Null vs. Research hypothesis