Students are able to

From First Half of the Quarter

- differentiate categorical and numerical variables and calculate corresponding statistics such as proportion and mean.

- understand the statistics mean, proportion, standard deviation and variance

- can identify the sample and population in a given news article, research study excerpt etc.

- can make meaningful conclusions considering sampling design and study design.

- can identify response, explanatory, and (potential) confounding variables.

Weeks 6 - 8 Statistical Inference

- can write hypotheses using words (e.g. pink cows)

- can write hypotheses using notation for single proportion, difference of two proportions, single mean, difference of two means

- can state the sampling distribution for H_0.

- can decide whether data are paired, i.e. can differentiate single mean vs. difference of two means.

- can test hypotheses using notation for single proportion, difference of two proportions, single mean, difference of two means

- can construct confidence intervals for single proportion, difference of two proportions, single mean, difference of two means

- can understand different components of confidence interval construction stage (e.g. margin of error or standard error) and how each of these components contribute to confidence interval construction

- can state the meaning of confidence intervals

- can check conditions for using Central Limit Theorem for single proportion, difference of two proportions, single mean, difference of two means

- can compare z (standard normal) and t distributions.

Week 9 Linear Regression

- can write the equation of the line using notation.

- can match the R output of `lm` results with the corresponding notation (e.g. b_0)

- can interpret the slope and interpret coefficients' estimates.

- can write hypotheses for the slope and intercept coefficients and can test these hypotheses based on R output of `lm` results utilizing p values.

- can interpret confidence intervals for slope and intercept coefficients.

- when given appropriate information (e.g. plots) can check for conditions of linear regression.

Go over problems

We solved the following exercises from OpenIntro. It might be worth going over them.

6.8
6.22
6.24
7.7
7.18
7.20
7.24
7.26