Project

You will do original research, write a paper summarizing the research, and present the research with slides.

Research

You will characterize at least one random variable by sampling. This can take various forms:

- ▶ Estimate a single proportion (with confidence interval)
- ▶ Characterize a distribution (histogram, mean [with confidence interval], standard deviation)
- ▶ Run a controlled experiment (control and treatment: two proportions or two means with experimental interference)
- ▶ Investigate a correlation (two paired variables)

Estimate a single proportion

Determine a proportion you can sample. Below are some simple examples:

- ▶ Estimate your probability of hitting a free throw.
- ▶ Estimate the proportion of BHCC students who prefer cats to dogs.
- ▶ Estimate the proportion of motorists who speed over the Longfellow Bridge.

Paper

You will write a paper with the following sections:

- ▶ Abstract
- ▶ Introduction
- ▶ Method
- ▶ Results
- ▶ Discussion

Abstract

The abstract is a summary of the other sections.

Introduction

What did you measure? Convince the reader your study is interesting. Cite background, other papers on your topic and what they concluded. Discuss why the study is interesting to you.

Method

Describe how you got your data. How did you try getting a random

Presentation

Make a presentation. You need electronic slides. I recommend using Rmarkdown to write the paper and the slides, but you are free to choose your software. You should expect to talk for 5 minutes.