

Modern Experimental Design

STA 514

HOMEWORK 1

Spring, 2025

- Due 11:59pm on Monday, February 3rd.
- Turn in a document such as Word to the Assignment dropbox on D2L.

Exercises:

1. Download and read the article, "Medicine Residents Understanding of Biostatistics." Answer the following questions:
 - (a) What are the elements of this study? What is the sampling frame? What are the sampling units?
 - (b) How is the variable in the study measured? Do you feel that it is being measured in a valid way? Explain either way that you respond.
 - (c) What is the population of this study? What is the sample? How broad of a population do you think the results of this study are applicable to? Justify your answer.
 - (d) Do you have any criticisms of the study design or its presentation? Do you feel there is any important information that is missing?
2. I provide three links in slide 20 of the lecture notes. The second and third talk about many "misuses" of statistics. In one or two sentences (each), comment on THREE examples that you found surprising, interesting, or useful.
3. Go through the PowerPoint called *Presentation Advice*. In one or two sentences (each), comment on TWO things that you found surprising, interesting, or useful in this presentation. Also, pick ONE of the references at the end of the presentation. Repeat (pick TWO things, etc.) from that reference that you found surprising, interesting, or useful.
4. Look at the list of topics for Project 1. Write down your top three preferences (in order). No presentations will begin before Spring Break (week of March 10th). I will try to order the presentations to match, as closely as possible, what we are discussing (or have previously discussed) in class.