**Stat 571 project information, Spring 2023**

The Graduate College requires something different for students in the graduate section (e.g. 571) of a dual listed (e.g. 471/571) course. My goal is that the “something different” be useful for you and not too much effort.

Students enrolled in 471 can ignore the rest of this note. It doesn’t apply to you.

Students enrolled in 571 will:

Find a data set they are interested in

Analyze those data

Write up their analysis and results in three parts, like what would appear in a scientific paper:

A short overview of the data set and question(s) to be answered

A “statistical methods” paragraph describing the analysis.

A results section that includes appropriate tables and figures

I anticipate the entire write up will be 2-3 pages long.

Details:

You can use data you have collected (easiest to analyze because you’re familiar with how and why they were collected). If you haven’t yet collected data, ask your grad student colleagues or your major professor for data you can use. If you’re really stuck, talk with me about options.

Most data sets have many questions or one question asked about many responses. I suggest you pick one, or at most two, for this project. The project will be most useful if you pick the most important / interesting question or response.

The short overview section is a condensed introduction and study design section. It should briefly present the context for the study (Everyone loves to expand on this, which is why the Introduction in a journal article can be multiple pages long. I only want a few sentences so I get a sense of the context). Then it should describe the design of the study. If the design process included a formal evaluation of sample size, please include that.

The statistical methods paragraph is what you would (should) write in a journal article. Describe how you analyzed the data. The gold standard for these paragraphs is that they are concise but sufficiently detailed that someone else could take your data set and repeat your analysis. Writing this is often harder than it appears. If you evaluated assumptions, say what you did and found.

The results section is also what you would (should) write for a journal article. It will be much shorter than what usually appears in a journal article because you are to look at only one (perhaps two) questions or responses. For this project, the written component will probably be one, perhaps two, paragraphs. Include appropriate tables and or figures, because they are a crucial part of scientific communication.

What I don’t want:

a lengthy introduction describing previous work on this question

non-statistical methods, e.g. what equipment was used to measure or manipulate something

any discussion section material, i.e. description of the implications or limitations of the studyw