

## **Final Project Guidelines**

1. Writeup with tables and figures
  - a. Minimum word count: 1000 words
  - b. Maximum word count: 2000 words
2. Data documentation
  - a. R scripts and data sources needed to recreate your analysis

## **Outline of Writeup**

### **1) Introduction and background (MS 1)**

- a. Discuss your motivation for picking your topic.
- b. Include at least at least 1 figure as motivation from a news article or report.  
Explain how it is related to your topic.

### **2) Data Description (MS 1)**

- a. Where did you find the dataset?
- b. Describe the structure and contents of the dataset (unit of observation, time frame)

### **3) Descriptive Statistics (MS 2)**

- a. Explain how you prepared your data for analysis:
  - i. Data reshaping/joins
  - ii. Collapsing levels for categorical variables
  - iii. Converting quantitative variables to numeric
- b. Provide summary statistics to introduce your quantitative and categorical variables used in your analysis (minimum 4 of each variable type) (can be charts or tables). Describe notable patterns.

### **4) Objectives and goals (MS 3)**

- a. What do you want to learn and accomplish?
- b. Note: try to make your objective/hypothesis as specific as possible (“I think republicans earn more money than democrats because they are more business oriented” vs. “I want to examine why some people make more money than others”)
- c. Outline the visualizations you will present and how they are related to your objectives

### **5) Data Visualizations (MS 3)**

- a. The 5 visualizations will demonstrate the use of:
  - a. Bar plots
  - b. Density plots/histograms
  - c. line or scatter plots
  - d. Box plots
  - e. Color mapping
  - f. Faceting
- b. Additional requirements:

- i. Uses a visualization that is appropriate for the variable type
- ii. Uses at least six variables from your dataset
- iii.** Color choices are selected appropriately
- iv. Has at least two variables for each visualization
- v. Variables have been cleaned (levels collapsed)
- vi. Chart is clearly defined and labeled (reader can understand the content and data sources)

**6) Discussion (MS 3)**

- a. Describe your tables and visualizations accurately
- b. Identify interesting patterns or trends
- c. Provide a possible explanation for the observed patterns
- d. Explains how they patterns are related to your overall research question

**7) Summary and Conclusion**

- a. Recap what you did, then tell me if your answer matched your prior beliefs
- b. Why are your findings important?
- c. What is the take-away message (think about how you would summarize your project in a sentence or two)

**8) ChatGPT acknowledgment:** In a few sentences, describe your usage of ChatGPT for your project.