**Grading Criteria -- Edits and Commentary:**

1. Use statistical terminology throughout the document, particularly in the Project Name and Topic.

2. Project Name: Is a name. using four or five words, e.g., “Chi-Square Analysis of Chicago Markets” and contains the type of statistical method that will be used.

4. Project Topic. Brevity is key, use four-to-six words. Remove the factors that you are studying and stress statistical methodology. The study factors belong in the Context section. Stress that you are proposing a statistics-based study with a topic such as: “Multivariate Statistical Analysis of Recorded Sales.”

5. Research Question. Do not list the factors you are studying. That is for the Context. Instead, summarize. For instance: Do Certain Measures Statistically Improve Sales? There must be only one research question.

6. Hypotheses: Must be statistical terminology. Use H0 and Ha for null and alternative hypothesis. For example: Current business license data indicate significant consumer demand for new business. Current business license data does not significantly indicate consumer demand. There must be a NULL and an ALTERNATIVE hypothesis.

7. Hypotheses. Again, do not state your factors. That is for the Context. Null: There is no significant difference in Sales regarding Certain Factors. Alternative: There is a significant difference in Sales regarding Certain Factors.

8. Context: Do not express your opinion. Do express expert opinion. Provide intext citations. Support your statements with at least one intext citation from a statistical study, preferably with the same type of statistical method you propose to use. Why are you studying certain factors and what are they? Who says that these factors are contributory and provide a significant difference. How are these measures utilized currently? Cite a study on this or similar data subject. What were the attributes that the researchers found instrumental? What statistical methods did they use?

**9. Context: What will this study do? This study will …**

**10. Context: How will this study contribute to the field of Data Analytics and the MSDA program?**

11. Data. Depersonalize. Eliminate the use of personal pronouns such as “I, we”.

12. Data. Statistical Identity. What is the volume of the data?

13. Data. Provide a table of your variables, name, type (IV, DV), continuous or categorical, dependent or independent. Statistical identity.

14. Data. Provide the link to the data. Data. Provide the link to the data. Intext Citation recommending that the data you have chosen is reliable, usable, and durable.

15. Data. What are the limitations and delimitations of your study? Provide an intext citation on why this data is important to study. Limitations are constraints placed upon you, the researcher. Delimitations are constraints that you, the researcher, place upon the study.

16. Data Gathering. “This section is your Treatment of the Data.”

Depersonalize and use an intext citation to support your use of R and SAS for your study.

17. Data Gathering. How are you cleaning the data? Are you aggregating the data? Are you required to convert the data? How are you handling missing fields? What is the data quality or sparsity (percentage)? Provide an Intext Citation.

18. Data Analytics Tools and Techniques. The Design of the Study. In this section, you will explain and describe the Design of your Study. Which statistical methods are you using? Which normality test will you run? Must use one of the eight statistical methods such as t-test, z-test, ANOVA, Chi-Square, Fishers, regression, Wilcoxon, Kruskal-Wallis. If you are using logistic regression, explain why you are using logistic regression. Are you doing so on all fields? Which tool are you using? How are you using R, only for logistic regression? Are you using PCAs and MCAs for dimensionality reduction? What is the goal for model accuracy? Are you going to use Random Forest to improve your measurability and accuracy? If not, why not? Talk about the data treatment: training set, test set, etc. Intext citation.

19. Justification. Why did you choose the tool as opposed to the other tools: (SAS, R, Python comparison)? Intext citation(s) supporting your tool of choice versus the other tools. Usually, this is two citations such as R vs. Python and R vs. SAS. You can find these in any browser search.

20. Sources. You must provide your sources referred to by your citations. Follow the APA Style guide for your citation and sources. You can find it [here.](https://owl.purdue.edu/)

21. Use statistical terminology throughout the document.

22. Spell-check and Grammar-check your document.

23. Use statistical terminology and methodology in your proposal and in your research paper. Provide intext citations in each section.

24. Project Outcome. Should be a reusable statistical model.

25. Project Outcome. Intext Citation supporting the anticipated project outcome (alternative hypothesis). Write: “Support for the alternative hypothesis is found in (Jones, 2020).” 🡨 Where you replace Jones with your citation that supports the statistical method you are planning to use on your subject or a similar subject.

26. Signature block for the Course Instructor (including macros).