Term Project

<u>General description</u>: The purpose of the term project is for you to gain familiarity with the methods presented in class as you apply the methods to a specific dataset. Additionally, the project should help to solidify your understanding of such methods, will enable you to compare/contrast key course concepts, and provide an important experience of writing a technical manuscript.

For your project, you are required to do a case study on a dataset selected by the instructor. Your project can take one of three forms:
1. A comparative study where you compare the performance of at least three methods presented in this course on your dataset.
2. A complete and thorough analysis of your data, which includes application of at least three methods presented in this course to your dataset.
3. A novel method you develop to analyze the provided dataset.

The content of your paper should include the following:
1. A simple and clear exposition of the dataset you will be using and the research question you are addressing. This should be written in the form of an Introduction section.
2. A methods section to include a clear exposition of the methods that will be applied to your dataset.
3. A results section to include
   a. Descriptive statistics for each variable in your dataset. Descriptive statistics may be provided in table format and referenced within the text, but the table must be properly formatted (include caption) and should NOT be cut and pasted computer output.
   b. Application of the selected course methods to your dataset with clear presentation of the results. You may include tables showing results and comparisons, graphs, and/or theoretical results.
4. Discussion and conclusion section.
5. APPENDIX: Computational component: Source and sink files of your R code must be e-mailed to the instructor so that it can be tested. Make sure your code is readable and documented, so I can do a little trouble shooting if necessary.

Note: Again, computer output should be incorporated into your report in the usual way, i.e., put tables in the text and use graphics, but do not paste piles of unedited computer output into your report. Tables and figures should be numbered and captioned. The quality of presentation will be taken into consideration for your final grade.