# STAT 4214/STAT 5214G
# Methods of Regression Analysis
# Project Report

**Project Proposals Due: Friday, March 24th by 11:59pm**
The project proposal is a paragraph describing the regression project the group plans to complete. Be sure to put the group member's names on the project proposal and give a short description of the study. This should include the response and predictors you plan on analyzing also with the number of observations you plan to have.

**Project Due: Friday, May 5th by 11:59pm**

Project Comments:

- Students have been assigned to groups for the project.
- Groups may choose any topic on which to conduct the study as long as the data is suitable for applying a regression method. I will not accept designed experiments for the regression analysis.
- The regression analysis must have at least 4 predictors and one predictor must be a categorical variable. Exception can be made but this must be discussed prior to submission of the project.
- Student should have 50 observations
- The project must involve statistical applications using real data. Students may collect their own data or use existing data. You may not use data from our textbook.
- The project report should be around 5 pages in length.
- The report should consist of the following sections:

Executive Summary (no more than one page)
Problem Context (Source of data, research questions, etc.)
Data Analysis (not just computer output)
Conclusions
Appendices (supporting materials if necessary)

The executive summary is more than an abstract. It is about a one page summary of the entire report. It must outline the problem context, questions of interest, the source or sources of the data, the highlights of the analysis, and a brief summary of the final conclusions. **It cannot be longer than one page!**

The problem context section must go into detail about the problem context and why it is of interest. It must describe thoroughly the basic research questions and how they relate to the basic problem context. It then must discuss the source or sources of data. This discussion needs to outline all issues associated with the data sources including the data collection method, any missing data, how the data relate to the problem context and the research questions, as well as any other problems that present in the data and their ability to address the research questions.

The data analysis section summarizes how the student has applied the methodologies taught in this course to the data in order to address the basic questions of interest. The student needs to postulate and to justify the full model. He/she then needs to provide a thorough analysis of this model, including a discussion on the need for transformations. They then need to perform a thorough analysis of the subset model suggested by techniques discussed in class. **The student should present computer output and/or appropriate plots as tables and/or figures if the narrative justifies such inclusions. Points will be deducted if all necessary plots are at the end of the report not within the narrative.**

The conclusions section takes the results of the data analysis section and applies them to the basic questions of interest (the research questions). Typically, this section is less than a page, but there are occasions that warrant a more thorough discussion.

The appendix contains the data (if the data set is small enough) and any other supporting material. The appendix section is not always necessary.