

Statistics 104, Fall 2004 Group Projects – Guidelines

Statistics is the study of how best to collect, summarize and draw conclusions from data, in the face of the reality of variation. As such, it is an essential tool in today's society. This project is intended to give you first hand experience in using the ideas of statistics to solve a problem or answer a question of your own choosing.

You will work on a project with your lab group over the next few weeks. The write-up for your project is due on **Friday, December 10th at 4:00pm**. Reports may be brought to lab that day or left in the bin outside Vardeman's office in 304-D Snedecor Hall.

Your group will need to:

1. Define an experimental question of interest.
2. Identify one or more response variables for your question.
3. Identify factors that might affect the response variable. How will you deal with those extraneous variables?
4. Develop a data collection plan. Depending on the appropriateness of the following, how will they be used?
 - (a) Randomization
 - (b) Blocking
 - (c) Other
5. Perform your experiment/collect your data.
6. Summarize the data using graphical and numerical techniques discussed in the course that best portray and describe the data you collected.
7. Apply any methods of formal statistical inference from class (confidence intervals or significance testing) that are appropriate and illuminating.
8. Make appropriate real world conclusions based on the analysis you performed.

Project grades will be determined on the basis of the following criteria:

- 1) Originality and appropriateness of the study topic. (Real topics are better than "make-work" topics.)
- 2) Appropriateness of the response variable(s) chosen.
- 3) Quality of the data collection.
- 4) Relevance and completeness of the analysis made of the project data.
- 5) Appropriateness of the real world conclusions made based on the data.
- 6) Clarity and appearance of the final report.
- 7) Adherence to the guidelines provided in this handout and any oral instructions given in class.

Each group will turn in one report and in most cases the reports grade will be given to each member of the group. However, each class member will submit with the group report a sealed envelop containing an assessment of the percentage of the total group effort provided by each of the team members (each group member should be listed and ratings should total to 100%). If there are large inequities in workload indicated by these ratings, individual project grades may differ within a team.