

Assignment

1. Your group is to analyze a dataset using methods learned in this class, particularly multiple regression. ANOVA with covariates is acceptable, but simple linear regression is not.
2. You are responsible for obtaining your own dataset.
3. The final project is worth 10% of your grade and is to be done in groups as assigned.
4. Arrange to meet with your group as soon as possible to discuss your project.

Groups

I will assign every student to a group. Each group will contain 4 or 5 students. If you specifically want to work with certain other members of the class, you may request this by using the “Group Sign-up Sheet” on the WebCT page. You have until Mon. Oct. 17 at 2:00 to request your group; after that I will randomly assign the remaining students to groups. I reserve the right to merge groups, add people to existing groups, or deny group requests.

Format

The project will consist of two components: a written report and an oral presentation.

Written Report

The written report should be **5 pages or less**. It should include the following sections:

1. Background. Give a short description of the problem and its significance.
2. Data. Describe the variables and give the number of cases. Indicate any special characteristics concerning the experimental design.
3. Model. Explain the statistical model that is the basis for your analysis.
4. Results. Describe the results of your analysis. You can include short tables and graphical displays here.
5. Conclusions. State your conclusions in terms of the context of the background information that you provided in the first section. Be concise and avoid technical jargon.

The written report is due at the time of your presentation.

Oral presentation

Oral presentations will be done in class during the last week of classes. The oral presentation should use PowerPoint and should be presented by a single member of the group. You should email the PowerPoint file to the instructor (stat512s@stat.purdue.edu) no later than 3pm the day before your presentation, and also bring a copy of the file on a floppy/CD/zip/memory key for backup. The presentation should be rehearsed and professional as if you were giving a talk at a conference or at work. Each presentation should take no longer than 10-15 minutes.

Data

Ideally, you should use data collected by someone in your group for their own research. If the data is only partly suitable for multiple regression, it is permissible to omit certain aspects of the data, but this omission should be made clear in your report and presentation. If no one in your group has data, you are still responsible for finding a dataset. Possible sources abound: your major professor, other students in your lab group, friends, research journals, the internet ...

Grading

The project grade will be based 50% on the report and 50% on the presentation. My default assumption is that each member of the group contributes equally and will receive the same grade. If a group unanimously agrees that a different grading scheme is appropriate, it can be modified as follows. If there are n people in the group and their project receives a score of x , where $0 \leq x \leq 100$, then the total points to be awarded are nx . These total points may be divided up among the group however they feel suitable, but no one may receive a negative score or a score larger than 100. For example, if a group of size 5 receives a score of 80, and one person did a huge amount of work while one person did very little, they might choose a distribution of 90, 70, 80, 80, 80.

Suggestions for getting started.

- Contact the students in your group and introduce yourself. Arrange a meeting.
- Find out who has data that could be used for the project. Discuss and pick one data set to use.
- Plan your analysis.
- Do a first set of analyses including basic descriptive statistics with plots and charts as appropriate.
- Run the initial models; discuss the results and refine the analysis.
- Check model assumptions; take remedial actions as necessary.
- Interpret the results in the context of the research that generated the data.
- Outline the presentation and report; decide who will give the presentation.
- Prepare the report.
- Prepare the presentation and email it to the instructor.