

## Project Report Guidelines – Math 336 – Spring 2009

### Here are some reasons for doing a project:

- To learn fundamentals of data analysis.
- To work on a problem that interests you.
- To deal with the messiness and complexity of a real problem.
- To work cooperatively in a group.
- To write a technical report.
- To present findings orally.

I hope that you will all see most of those aspects at work in what you are doing.

### Requirements and deadlines.

Find or produce a data set that answers some interesting questions. Analyze the data and report the results. So, you could design an original study to produce your own data. Or, you could find an existing data set. Or, you could build a data set by getting variables from more than one source of information.

**Before February 27:** Consult with me in my office about possible project ideas.

**February 27:** Hand in a one to two page typed project proposal. Describe the source of your data. Give a codebook of the variables in the data set and make sure I know what defines a case in the data set, and what the units and range of values are for each of the variables. If your project involves an original study, I will need the details of the design and we can discuss this in my office before March 9. Studies involving human or animal subjects will require prior approval of the college's Institutional Review Board, so **do not collect any data** until your study design has been approved.

**Progress reports:** At least twice after break, I would like for you to consult with me in my office to report on progress for your project. I'll let you choose precise timing of these meetings, but one should be by April 13, and the other should be by May 1.

**May 8, Friday, 5 pm:** Final written project reports.

**May 12, 9 am:** Oral reports, in class, during our exam period. These will be 10-15 minutes presentations. I give some guidelines for oral reports below.

**Guidelines for written reports.** The final report should adhere to the principles in the course handout "Writing about statistics." Here is a possible structure for the report.

- (a) Introduction: Describe the research question, give a rationale for the question, briefly describe methods you use to answer the question, and give a summary of your findings.
- (b) Methods and results section: Describe in detail the data collection and data analysis. Give the results of your study.
- (c) Discussion section: Summarize main findings, indicate what questions remain open, and give any suggestions as to how one might attack these open questions.

- (d) A bibliography, and
- (e) A *codebook* that gives: (i) a publicly saved file that I can access for the data, (ii) the source of the data, (iii) and a description of all the variables in the data set; their name in the data file, a description of what they measure (including units), and the meanings of any codes used in the variable.

**Guidelines for oral presentations.** Oral presentations should last about 10 to 15 minutes, including Q and A. You should prepare and practice your presentation. I encourage you to give your presentation using Powerpoint or overhead transparencies.

**Guidelines for project grade.** Roughly I envision the following breakdown into 100 total points:

- (1) Oral presentation – 5 points.
- (2) Interim reports and deadlines – 5 points
- (2) Written report:
  - (a) Statistical correctness – 25 points.
  - (b) Organization – 20
  - (c) Statistical graphs and tables – 20
  - (d) Quality of written report – 25

**Note:** Sample projects will be placed in the course notebook and in a stack inside my office door.