Final Project Guidelines

Overview
You may choose to do a project on any topic that interests you that involves chance or statistical analysis. The important dates to consider are below.

- A project proposal is due on Friday, February 19, 2016.
- A project update is due on Wednesday, April 13, 2016.
- Between April 22 and April 29, you will present to the class your findings.

You may answer questions you may have by analyzing some of the results of the online survey taken by the class during the semester.

Initial proposal
You will submit a one-page initial project proposal. This proposal will address the following questions:

- What is the topic of your project?
- What specific questions will your project address?
- What questions will you provide for the online survey?

Note: Your questions will be used later for hypothesis testing and linear regressions. The variables you use for regressions must both be quantitative – use numbers.

Project update
You will submit a 2–4 page project update. You should briefly describe what you plan to do with your project. After looking at the data you gathered from the class survey, you will need to determine if you can continue with your original proposal. You should describe the statistical tests you plan to use to analyze your data.

If you have decided that your initial proposal was not feasible, you may at this point submit an initial proposal for a different project. You may make use of the data that is on the class survey, and you may also describe any statistical tests you plan to use to analyze this data.

You should state your regression variables, which should both be quantitative. Also, you should explicitly state your null and alternative hypotheses.

In preparation of your final presentation, you may want to prepare two or three additional hypothesis tests or more regression analyses. This will help you stretch out your final presentation time to an appropriate length of 6 to 8 minutes. You may not need to use all of these tests in your presentation.

Note: You should have a hypothesis test other than a regression hypothesis test; that is, your hypothesis tests should not consist of only regression tests. You need to have a test that deals with population averages or population percentages.

Final project presentations
You should try to make your presentation 6 to 8 minutes long. A presentation less than 5 minutes is too short. A presentation more than 9 minutes is too long. (Practice and time yourself.) Your presentation should cover both hypothesis testing and regression analysis. Make your slides easy to read. An example presentation will be given in class at some point during the semester.

Some suggestions and thoughts for your presentation

- You may be nervous, but try not to talk super fast. Take you time to talk.
- You may know the materiel very well, but the rest of us are seeing it for the first time. We need some time to absorb it.
- If you present too fast, a 6 minute presentation becomes a 3 or 4 minute presentation.
• Things that can help you slow down your presentation if you think you are going too fast:
  – You can pause at the end of each slide to give people time to read the slide. Don’t just skip to
    the next slide when you get done reading the current one.
  – You can physically point at things on the slide to help guide the audience. (Point at the overhead
    screen, not the computer monitor. Yes, I have seen people do that.) This is especially useful if
    there are a lot of numbers on the slide.
• You can use a table to present your numbers:

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>Average</th>
<th>SD⁺</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>90</td>
<td>22</td>
<td>2.3</td>
</tr>
<tr>
<td>Female</td>
<td>86</td>
<td>21</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Or you can simply write sentences:
  – There were 90 males with an average of 22 and $SD^+$ of 2.3
  – There were 86 females with an average of 21 and $SD^+$ of 2.6

(Of course, the choice of how to present the information is up to you.)