

## 36-726 Statistical Practice

### Homework 01

This first week of classes is an organizational/orientation week. There will be no class on Monday.

On Wednesday we will discuss some guidelines for working with your scientific investigator and set up regular times to meet with me.

Please note the paper listed below. On Friday we will discuss it in class.

To-do list for this week:

#### For Today:

- Look over the syllabus. Note especially (a) which group you are in [syllabus page 2]; and (b) what are the “milestones” for the class [syllabus page 3].
- Read and discuss accompanying handout “*On working with your investigator*”.
- By the end of class today you need to make the following decisions and report them to us:
  - A regular meeting time and place for your group to meet amongst yourselves *every week*.
  - A regular meeting time and place for your group to meet with one me *every week*.

#### For Thursday:

- Please read the following paper. Unless otherwise indicated, all papers for the class are available<sup>1</sup> at [www.jstor.org](http://www.jstor.org).

Kirk, R.E. (1991). Statistical consulting in a university: Dealing with people and other challenges. *American Statistician*, 45, 28–34.
- Be ready to discuss the paper in class on Friday. Remember, class participation counts toward your grade in this class.

#### For Next Week:

- Every group should prepare a short (15 minute) presentation of their project for the class. The presentation should be on a laptop (Powerpoint or similar): use your own or bring it on a memory stick.
- Here is the order in which groups will present:
  - *Monday January 22*: Groups D, E, A
  - *Wednesday January 24*: Groups B, C, F
- The total presentation should take 10-15 minutes. *Every group member should present at least 2 slides.*
- Due Monday January 29: individual (not team) progress reports on your projects. See back for additional details.
- See back of this sheet for some major points to address in your group presentations and individual writeups.

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<sup>1</sup>For best results use a non-wireless computer in the statistics department or on campus. If you are having trouble or you are off campus, first log on to webVPN at <http://www.library.cmu.edu/Services/remote.html>.

- *In-class presentations, week of January 22.*

These presentations should have roughly the following sections:

**The Client:** What is the subject area? Who is the client/collaborator? What is his/her interest in the project?

**The Data:** What are the data like? Summarize the data qualitatively, numerically, graphically. If the data are not yet available, explain why not and when they are likely to be available, and what form you have been led to expect the data set in.

**The Questions:** What are the research questions that your client is posing? How important are these questions to your client? How have you been able to help the client specify these questions? How well adapted to the data are the client's questions? What (if any) statistical methods might be appropriate?

**The Difficulties:** What are you unsure about in this project; where could you stand to get more clarity (from the client about the problem; from your understanding of statistics; or ...)? Are there specific difficulties that you can foresee in completing this project?

- *Individual Reports Due Monday January 29.*

These should provide the same general information as the in-class presentations: the client, the data, the questions, and the difficulties. However, they should be organized differently:

**Introduction.** Information from "The Client" above; also, what are the main research questions?

**Body.** Two sections: First, information from "The Data" above. Second, a section with the information from "The Questions": state each question, comment on the appropriateness of the data for it, and describe any statistical methods your group might try (or have tried) for it.

**Conclusions/Discussion.** If you have any conclusions, state and justify them. Then present the information from "The Difficulties" above.

**Appendix/Appendices.** No more than two figures and tables should appear in the Body of the paper. Any other figures, tables or analyses that you wish to share should go in an appendix or appendices.

Since it is early this report can be fairly short: 3-4 pages should be plenty. We will evaluate these reports for how clearly they present information on your project, and also on such issues as style, grammar and spelling.

A word on *style*:

- A good academic or professional document is organized so that it is easy for the reader to skim/fish through it to find the topics and level of detail of interest to him/her.
- The writing should be as *invisible/unremarkable* as possible, so that the content of the analysis is what the reader remembers, not distracting quirks or tics in the writing. Examples of distractions include:
  - \* Writing that is too formal, too wordy, too casual, or too brief.
  - \* Poor organization, grammatical errors, spelling errors, etc.
  - \* Focusing on process rather than reporting procedures and outcomes.
  - \* Getting bogged down in technical details (except in an appendix).