

1. (Due March 28) Learn to use R (at least a little bit).

- a) Download and install R (and an IDE if you want): <http://www.r-project.org/>.
- b) Familiarize yourself with basic R operations.
- c) Find an interesting data set (R distributions have a number of built-in data sets) and do a basic analysis of the data. Turn in a description of the data (what it is, sample size, basic sample statistics) and an analysis of the data: either a hypothesis test or a confidence interval.

Resources:

- <http://www.rochester.edu/College/gradstudents/bkenkel/data/rcourse.pdf>
- <http://www.math.csi.cuny.edu/Statistics/R/simpleR/>
- <http://cbb.sjtu.edu.cn/~mywu/bi217/usingR.pdf>
- http://www.computerworld.com/s/article/9239625/Beginner_s_guide_to_R_Introduction

2. (Due April 9) Find a news report (or other public statement) that cites a statistic (this can be as imprecise as “Quitting smoking reduces your risk of heart attack right away”). Investigate the statistic: where does it come from, is there a reliable source, what does it mean, was it used in a reasonable way in the report? If possible, find the original data, hypothesis test, and/or confidence interval. If that’s not possible, any relevant survey or study will do. Turn in a short description of the original news report and a longer description of what you found in your research.

3. Find some data of your own and do something interesting with it. This can be data you generate (by a survey or some other means) or data that you find (government surveys, stock prices, avalanche fatalities over the last 20 years in Washington, et cetera). Find something you’re interested in (librarians or Professor Axon can help) and use the data to answer questions that you really want have answered. Use appropriate statistical techniques and R, then translate your findings into English. A short description (either written or verbal) of what you plan to do is due by April 16. A final written report describing your questions and their context, the data, how it was generated, the statistics you used to try to answer those questions, the answers you found, and ideas for further research is **due May 7**.