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office hours: Mon 1-3:30pm, Wed 9:30-11:30am, or by appointment

Text: *Practicing Statistics, Guided Investigations for the Second Course*  
by Kuiper & Sklar

Exams: We will have one in-class exam and a final take-home project/exam. The  
in-class exam will be on Thursday 11/8/12, and it will also contain a take-home  
portion. The final exam is due on Wednesday 12/19/12 at 2pm.

Homework: Homework will be assigned from the text at most classes. These are  
designed to help you keep up with the material. One homework grade  
will be dropped. Most homework will be done using the statistical  
software package R.

Non-homework activities (from the text) will be collected and added to your  
participation grade.

Towards the end of the semester, you will do a project designed around  
an article that you find in the medical literature (you will critically  
evaluate the article; instructions to follow). In lieu of a final exam, you  
will have a final data analysis project where you will be given data to  
analyze appropriately.

Projects:

Along with learning statistical tools needed as a medical doctor, a  
substantial goal of this course is for you to become educated  
consumers of medical literature. We will start most class periods with  
a discussion on an article (typically from the newspaper) describing a  
medical study or a statistical issue related to the medical community.  
You are expected to have read the article, and you should be prepared  
to discuss what you read. You should also be prepared to participate  
in classroom discussions about the course material.

Participation:

We will be using R for many of the homework assignments. R is freely  
available at [http://www.r-project.org/](http://www.r-project.org/) and is already installed on  
the machines in Andrew. Additionally, installing R Studio is also  
highly recommended [http://rstudio.org/](http://rstudio.org/). Please make sure to  
complete the R tutorial available on the course website.

Computing:
Grading:

- 25% Homework
- 20% Midterm Exam
- 20% Literature Project
- 25% Final Take-home Project
- 10% Class Participation

Course Goals:

- to be able to critically evaluate the medical literature with respect to design, analysis, and interpretation of results.
- to understand the role of inherent variability and keep it in perspective when inferring results to a population.
- to critically evaluate medical results given in the mainstream media.
- to read published studies with skepticism. Some people (in all fields!) wrongly believe that all studies published in a peer review publication must be 100% accurate and/or well designed studies. In this course, you will learn the tools to recognize, interpret, and critique statistical results in medical literature.

Academic Honesty: Pomona College is an academic community, all of whose members are expected to abide by ethical standards both in their conduct and in their exercise of responsibilities toward other members of the community. The college expects students to understand and adhere to basic standards of honesty and academic integrity. These standards include, but are not limited to, the following:

1. In projects and assignments prepared independently, students never represent the ideas or the language of others as their own.
2. Students do not destroy or alter either the work of other students or the educational resources and materials of the College.
3. Students neither give nor receive assistance in examinations.
4. Students do not take unfair advantage of fellow students by representing work completed for one course as original work for another or by deliberately disregarding course rules and regulations.
5. In laboratory or research projects involving the collection of data, students accurately report data observed and do not alter these data for any reason.

Please feel free to stop by, email, or call if you have any questions about or difficulty with the material, the computing, the projects, or the course. Come see me as soon as possible if you find yourself struggling. This material will build on itself, so it will be much easier to catch up if the concepts get clarified earlier rather than later. If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible.