Physics 129b
Winter 2011
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Revised 101226

Notes about course:

- Physics 129b is devoted to "probability and statistics".
- I will provide course notes on the topics we will cover. These will be available on the web page for the course, and are the "required" text. There are also many relevant books, unfortunately none that are both quite suitable and modern enough. Matthews and Walker has a nice introductory chapter; other books for physicists include those by Roger Barlow, Glen Cowan, Fred James, Louis Lyons, or Byron Roe. A classic text on statistics is "The Advanced Theory of Statistics" by Kendall and Stuart (and others, I think, for more recent editions then my dated second edition). A nice treatment for the mathematically-inclined is Jun Shao's "Mathematical Statistics". We probably won't have time to cover "Machine Learning" techniques, but a popular reference for this is "The Elements of Statistical Learning", by Hastie, Tibshirani, and Friedman, Springer, 2nd Ed. This is available on the web at: http://www-stat.stanford.edu/∼tibs/ElemStatLearn/
- Grades will be entirely on homework, that is, there will be homework sets as usual instead of a midterm or final.
- Homework will be handed out Wednesday, due the following Wednesday at 5PM. Please turn the homework in to the appropriate TA (see below) mail slot.
- Collaboration policy: OK to work together in small groups, and to help with each other's understanding. Best to first give problems a good try by yourself. Don't just copy someone else's work – whatever you turn in should be what you think you understand.
- There is a web page for this course, which should be referred to for the most up-to-date information. The URL: http://www.hep.caltech.edu/∼fcp/ph129/

- TA:
  - Even-numbered problem sets: Hee-Joong Chung hjchung@caltech.edu
  - Odd-numbered problem sets: Shu-Ping Lee iamsteelball@gmail.com

  Both TAs will have office hours on Tuesdays, 4:00PM to 6:00 PM.

- I may have solutions to some of the problems somewhere on my web site. Do not look at these until after you have turned in the problem set!

- You will find a fairly detailed outline for the course on the web page. It is somewhat ambitious, so we will not get to all of the topics.

- There will be some numerical work in this course. You are free to choose your tools, but I recommend the "R" statistical toolkit, since this is what I will use for my examples, see:
  http://www.r-project.org/
  I will provide further information about this.