This course provides an introduction to Probability Theory. The focus is on concepts and methods that are of relevance for Statistical Inference – the topic of Stat 415. Both Stat 414 and Stat 415 are intended for upper-level undergraduates with a special interest in quantitative methods, and are cross-listed as Math 414 and Math 415. Lectures and homework assignments will follow the textbook very closely. Announcements, additional material, or assignments not taken from the book, will be posted on the course webpage http://www.stat.psu.edu/~chiaro/Stat414.

Instructor: Francesca Chiaromonte, 411 Thomas Building
Ph 865 7075, email chiaro@stat.psu.edu
Office hours: Mon, Wed 9.30—10.30am

Teaching Assistant: Ofer Harel, 316 Thomas Building
Ph 863 3238, email ofer7@stat.psu.edu
Office hours: Mon 12.30—1.30pm, Tue 1.30—2.30pm

Lectures: Mon, Wed, Fri 8.00—8.50am. 10 Thomas Building

The course will cover material from Chapters 1, 2, 3, 4 and 5 if time allows.

Prerequisites: Familiarity with standard techniques from Calculus and Linear Algebra.

Examinations: There will be three in class examinations – two mid-terms and a final. All will be closed books and closed notes. The use of tables, calculators, and a few pages of summary notes, will be allowed. Tentatively, the first mid-term will take place on Wed, Feb 9, and the second on Wed, Mar 22. The lectures on Mon, Feb 7, and Mon, Mar 20, will be devoted to review and preparation. The final will take place during finals week, according to university scheduling (review and preparation will occupy the last lecture – Fri Apr 28).

Homework: Homework assignments will be handed out each Friday, and be due the following Friday. Tentatively, there will be 11 assignments (this means you will not receive an assignment on 5 Fridays out of 16: first week, mid-term weeks, spring break week, last week). The assignments will contain several problems, only a subset of which will be graded. Write-up’s should be neat an complete, illustrate your reasoning, and the details of your mathematical derivations.

Grading: The two mid-terms and the final will each carry 25% of the weight. The remaining 25% will be based on homework (dropping the lowest score out of 11).

Conduct: For reasons of fairness towards your colleagues, your instructor, and the teaching assistant, you are expected to maintain a good standard of academic conduct. Late hand-in of homework assignments, and anticipated or posticipated exams, will be allowed only in very special and certifiable cases. Discussion and collaboration on homework assignments is encouraged. However, write-up’s should be separate and distinct. Write-up’s that resemble one another to an unreasonable extent will receive a score of 0. So will mid-terms or finals that appear as copies of one another. Also, people found copying from one another during a test might be asked to leave, and assigned a score of 0.