Stats 116: Theory of Probability  
Summer 2014

Place & Time: Gates B3, Mon-Fri 10:00am-10:50am

Instructor: Dominique Guillot, dguillot@stanford.edu, Sequoia Hall Room 234
Office hours details - Venue: Sequoia 234, Time: TBA.

Teaching Assistants TBA
The TAs office hours will be held in Sequoia 105 (unless otherwise stated).

Course website: http://coursework.stanford.edu

Course description Probability spaces as models for phenomena with statistical regularity. Axioms, properties, conditional probability. Discrete spaces (binomial, geometric, hypergeometric, Poisson, etc.) and continuous (uniform, gaussian, beta, gamma, etc.). Random variables, expectation, independence, distributions, densities, moment generating functions. Laws of large numbers, central limit theorems, and modes of convergence.

Prerequisites
Math 52 or equivalent, including integral multivariable calculus and infinite series.

Required Text
Read each section of the text prior to the corresponding lecture.

Grading & Exam Schedule
Homework 25%  
Midterm 25% TBA  
Final 50% TBA

Rough Course Outline by Week:
Week 1. Probability spaces, events, axioms of probability, experiments with equally likely outcomes, permutations and combinations. Chapters 1 and 2.  
Week 2. Conditional probability, Bayes rule, independence. Chapter 3.  

Problem Set 1: Tentatively due on July 4.

Miscellaneous
1. Please write STAT116 in the subject heading of all email correspondence with instructor/TAs’. This is in general effective in weeding out spam email.

2. **Homework:** The TAs are responsible for the homework component of the class. We are unable to accept late homework. Homework extensions only delay grading and posting of solutions. HWs will not be accepted once the solutions have been posted online. Homework cannot be submitted by email/electronically as they need to be graded on a paper copy (the TAs do not have access to unlimited printing - so please print your homework before submission). Please submit HW on time, either at the beginning of class (when applicable), or to the TAs’ office (if by prior arrangement), and **not** to the mailbox (marked “STAT116”) on the second floor of Sequoia Hall. Please do not place your homework under the office doors of the TAs/instructor. In the past homework placed under office doors have sometimes been lost or misplaced by the cleaning staff.

3. Collaboration is allowed in solving the homework problems, but each student should hand in his or her own independently written solutions.

4. Please note that it is difficult to discuss mathematics/statistics questions by email due to the lack of an appropriate interface. In the past this has led to miscommunication or incorrect information relayed by email - hence you are encouraged to ask your technical questions during office hours.

5. The teaching team holds office hours on most day of the working week so please let the instructor know if there are time conflicts with these. As the TAs have responsibilities other than Stat116 please go to them only during office hours (unless prior arrangements have been made).