

# *STATISTICS 98/198: Actuarial Exam 1/P Prep Course*

## *Fall 2006*

### **Course Information:**

<i>Instructors</i>	Michael Chang, michaelc@berkeley.edu Harmony Chi, harmony@berkeley.edu
<i>Sponsoring Prof.</i>	David R. Brillinger, brill@stat.berkeley.edu
<i>Time</i>	M 4-6 pm
<i>Location</i>	330 Evans
<i>Prerequisites</i>	Math 1A, 1B and 53. Preferably Stat 134
<i>Units</i>	2

**Overview:** This course is intended to prepare students for Actuarial Exam P, administered by the Society of Actuaries and the Casualty Actuarial Society. In this class, materials from Statistics 134 and the past examinations will be reviewed. Each session will consist of an hour of lecture on specific topics and an hour of discussion and independent/group study.

**Assignment:** Approximately 5-10 problems will be assigned every week in class. Homework grades will be based on effort. If students miss more than two assignments, they will receive NP.

**Attendance:** Only one absence will be acceptable. Anyone who misses more than one lecture will receive NP. Students who are late for 30 minutes will be marked as absent.

**Grade (P/NP):** Grades will be based on attendance, class participation, and performance on homework, which will be assigned every week.

### **Tentative Course Outline:**

- 9/11** Introduction  
Q/A about the actuarial profession and exams
- 9/18** Counting techniques  
Compound events, Venn diagram, trees, permutation  
Conditional probability, Multiplication rule, Baye's rule
- 9/25** Discrete & continuous random variable (Single R.V.)  
Properties of expected values and variance, Chebyshev's Theorem
- 10/2** Insurance terminologies  
Commonly used discrete distributions: Geometric, Binomial, Poisson
- 10/9** Commonly used continuous distribution: Uniform, Exponential...
- 10/16** Normal distribution & Central Limit Theorem
- 10/23** Multivariable – joint discrete and continuous distributions  
Marginal, Conditional
- 10/30** Covariance & Correlation
- 11/6** Sum of random variables, Transformations
- 11/13** Maximum and minimum of independent r.v.  
Order statistics, Moment generating functions
- 11/20** Mock Exam -- MUST ATTEND (approx. 3 hrs)
- 11/27** Go over mock exam