STAT 7110: Foundations of Statistics  
Spring 2015

**Instructor:** Chao DU  
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**Class Schedule:** 3:30pm-4:45pm MW  
**Location:** New Cabell Hall 058  
**Office Hour:** 11:00pm-1:00pm W  
**Grader:** Taylor Brown

**Course Description:**

This is an introductory course on statistics theory, primarily for graduate students who are planning to take advanced courses in statistics. Topics covered in this course include: likelihood, sufficiency, Frequentist and Bayesian inference, elementary decision theory, point estimation, hypothesis testing, interval estimation, large-sample analysis, empirical Bayes approach and non-parametric statistics. More topics may be included if schedule permits.

**Textbook:**


**Useful References:**

**College level textbooks on statistics theory:**


**Advanced textbooks on statistics theory:**

- Provide great insights into the philosophical ideas, general concepts and the universal themes in statistics  
- Provide a thorough and mathematical rigorous treatment of the theory of statistics

Course Requirements:

1. Class participation. Students are expected to attend all lectures and participate actively in class discussion.

2. Homework. There will be around 6-8 written assignments. Each assignment will be weighted equally towards the final grades. Homework is designed to help students master and extend the knowledge obtained from lecture. It is strongly advised that the students should independently work on the problems before discussing with others. In order to be graded and counted towards the final grade, each assignment must be submitted on time. Extensions on assignment deadline will be granted only in the most exceptional circumstances. Any extension request must be made to the course instructor at least 24 hours before the due date.

3. Exams. Both mid-term and final exams are closed-book exams. However, students will be allowed to bring in two/three double-sided A4 sheets with written (NO PHOTOCOPY & NO PRINTING) notes in mid-term/final exams. The date of mid-term exam is Mar 4th 3:30pm-4:45pm. And the final exam will be taken place on May 2nd, from 2:00pm to 5:00pm.

Grading Methods:

Attendance and Participation: 10%
Homework Assignments: 25%
Mid-term Exam: 25%
Final Exam: 40%

Honor Policy:

As the only true way to acquire knowledge is through your own hard work, it is of the uttermost importance that all the submitted works, such as homework assignments and exam papers, must reflect your independent efforts made during the learning process. Hence, the following honor policy will be enforced throughout the semester. Any breach to the policy will be reported directly to the UVa Honor Committee.

Although students may discuss homework assignments in small groups, each student must finish his or her assignments independently based on his or her own understanding. Copying others’ works will not be tolerated. Students must not consult any external resource other than the allowed sheets of written notes during both mid-term and final-term exam.