Course Name: Math 4261–Mathematical Statistics I

Lecture: M/W/F 10:05-10:55am (Sustainable E 110)

Instructor: Pr. Karim Lounici–Skiles 214A
Email: klounici AT math.gatech.edu

Course Web Material: All material and announcements will be distributed through t-square.

Office Hours: M/W 12:30 to 1:30pm and by appointment.

Contacting me: You can contact me by email.

Prerequisites: MATH 3215 or MATH 3225 or MATH 3770; A strong background in Calculus is also highly recommended


Course Outline: Conditional probability distribution and expectation; Remarkable distributions; Convergence in probability, in distribution; Delta Method; Central Limit Theorem; Order Statistics; Maximum Likelihood Estimation; Bayesian Statistics; Hypothesis testing; Neyman-Pearson fundamental lemma and UMP tests.

Homework: Exercises and homework from the textbook or other sources will be assigned regularly through t-square. Exercises will serve as material for regular tutorial sessions in class. Homework will be collected on the due date and some of it will be graded. NO LATE WORK WILL BE ACCEPTED.

Attendance: Students are expected to attend ALL classes to get the lecture material. Any absence ONLY for institutionally approved activities and illness should be notified. Official document will be required as proof.

Grading Policies: There will be between three and four midterm tests, an arbitrary number of pop quiz, homework and a comprehensive final exam. Midterm tests will account for 30%, pop quiz for 10%, homework for 30% and the final exam for 30% of the course grade. Tests and final will be inspired mainly from the homework but also from some other sources. There will be make up tests ONLY for institutionally approved activities and illness. Official document is required as proof. Letter grades will be based on the accumulated points according to the standard cutoffs: A:90-100, B:80-89, C:70-79, D:60-69, F:0-59.

Important dates:
- Test 1: around second week of September
- Test 2: around first or second week of October
- Test 3: TBA
- Test 4 (if it occurs): TBA
- Last day to drop out from class with grade W: October, 25th
- Final Exam: December, 7th (Monday) 11:30am-2:20pm

Honor Code: All students are expected to comply with the Georgia Tech Honor Code. Any violations of the Georgia Tech Honor Code will be submitted directly to the Dean of Students. The Georgia Tech Honor Code is available at [http://www.honor.gatech.edu/](http://www.honor.gatech.edu/)