Math 541b: Introduction to Mathematical Statistics
Fall 2016

Instructor: Stanislav Minsker, KAP 406E [email: minsker@usc.edu]
Grader: —
Schedule/Classroom: M/W/F, 11-11:50am at TTH 118.
Office hours: Wednesday 4.30-6pm, or by appointment.

General Information

This course is a second part of graduate-level introduction to the Mathematical Statistics (first part is Math 541a). We will focus on hypotheses testing (Neyman-Pearson lemma, UMP tests, invariance in testing problems, likelihood ratio tests, large sample theory, etc), will cover some elements of asymptotic theory of bootstrap and other topics (such as Markov Chain Monte Carlo methods) if time permits.

Course information, assignments, and grades will be posted on Blackboard.

Prerequisites

Math 541a, or Math 408 plus good knowledge of probability theory (at the level of Math 407 or higher).

Assignments

Homework problems will be assigned to help you better understand the course material and prepare for an exam. You are strongly encouraged to work through the problems on your own.

Exams

Two midterm exams will take place during the lectures on Friday, October 7, and Monday, November 14.

Final exam (comprehensive) will take place on Wednesday, December 7 between 11am and 1pm.

Grading Grades will be based on homework (10%), 2 midterm exams (25% each) and the final exam (40%). Please see the registration calendar for additional information, including the last day to drop the course: http://classes.usc.edu/term-20163/.

Textbook and useful references

We will not strictly follow a single textbook. However, majority of the course material can be found in these sources:

- (main reference) *Statistical Inference*, 2nd edition, by G. Casella and R. L. Berger.

- *Asymptotic statistics*, by A.W. van der Vaart, Cambridge University Press, 1998.

- *E.L. Lehmann, J.P. Romano*, Testing Statistical Hypotheses, Springer 2005.

Additional references will be provided whenever necessary.

Students Requiring Special Accommodation

Any student requesting academic accommodations based on special needs is required to register with DSP each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to the instructor as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. till 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect ones own academic work from misuse by others as well as to avoid using anothers work as ones own. All students are expected to understand and abide by these principles. The Student Guidebook contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/.