BSTA 621 Statistical Inference I

Spring 2019

Content:

This class will cover the fundamental concepts and results of statistical inference. We will focus on Chapter 6-10 of Casella and Berger. In particular, we will cover the following topics: data reduction, point estimation, hypothesis testing and interval estimation. Students are expected to be able to understand the key concepts, theorems and techniques, and use them to solve some new problems.

Prerequisites: BSTA620

Instructor

Haochang Shou
hshou@pennmedicine.upenn.edu
Office Hours: Tuesday 2:30-3:30pm & by appointment in 219 Blockley Hall

TA

Nicholas Illenberger nillen@pennmedicine.upenn.edu
Office Hours: Wednesday 3-4 pm

Class Schedule:

Mon and Wed 1:30-3:00pm, 418 Blockley Hall

Textbooks:

1. *Statistical Inference ,2nd* edition, by Casella and Berger. (required).

Grading:

Homework: 40%
Midterm: 30% (covers the first half of the semester) (in class)
Final exam: 30% (covers the materials for the whole semester, in class closed book)

Note: you are encouraged to discuss your homework among classmates, but each should write up his/her own assignments. You are not allowed to look at materials from the previous years as some materials might be recycled.

Tentative Schedule

Date	Topics	Chapter
Jan 16	Overview & Sufficiency	6.1 & 6.2
21	Martin Luther King Jr Day, no class	
23	Sufficiency	6.2
28	Sufficiency	6.2
30	Likelihood	6.3
Feb 4	Equivariance	6.4
6	Finding estimators	7.1
11	Finding estimators	7.2
13	Finding estimators	7.2
18	Evaluating estimators	7.3
20	Evaluating estimators	7.3
25	Evaluating estimators	7.3
27	Evaluating estimators & review for midterm	7.3
Mar 4	spring break, no class	
6	spring break, no class	
11	Midterm	
13	Finding tests	8.1 & 8.2
18	Finding tests	8.2
20	Finding tests	8.2
25	no class due to ENAR	
27	no class due to ENAR	
Apr 1	Evaluating tests	8.3
3	Evaluating tests	8.3
8	Finding interval estimators	9.1 & 9.2
10	Finding interval estimators	9.2
15	Evaluating interval estimators	9.3
17	Evaluating interval estimators	9.3
22	Asymptotic evaluations for point estimation	10.1
24	Asymptotic evaluations for point estimation	10.2
29	Asymptotic evaluations for hypothesis testing	10.3
May 1	Asymptotic evaluations for interval estimation	10.4
TBD	Final Exam (the week of May 6-14)	

Important Dates:

- Last day to add/drop course for PhD Students: February 22; for MS Students: February 4
- Reading Days: May 2-3