Statistics 6802
Statistical Theory II
Spring 2018

CONTACT INFORMATION

Lecturer   Radu Herbei, Ph.D.
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  Office hours: 223 Cockins Hall, M: 1:30pm - 2:30pm, W: 1:30:am - 2:30pm.

CLASS INFORMATION

Location:	Lecture: MWF 8:50m – 10:05pm, Jennings Hall 136.
Website:	http://osu.instructure.com/
Required text	*Statistical Inference*, Second Edition, by G. Casella and R.L. Berger,
	©2002 The Wadsworth Group.

Please read the book as the course progresses, as I will not cover everything in class.

COURSE DESCRIPTION AND OBJECTIVES

Statistics 6802 is the second part of the Statistical Theory sequence, intended primarily for students in the PhD program in Statistics and Biostatistics. In this course, students will learn about estimation, hypothesis testing, confidence intervals and some elements of decision theory.

PREREQUISITES

STAT 6801 or permission of instructor.

EVALUATION

Homework – 20%, Midterm exam I – 25%, Midterm exam II – 25%, Final exam – 30%.

HOMEWORK

Homework will be assigned regularly, however it will not be collected for grading, rather, we will have weekly short quizzes. For each quiz, I will randomly select a few problems from the latest homework assignment.

MIDTERMS AND FINAL EXAM

There will be two **midterms** and one **final exam**. All exams are in-class and closed book/notes. The final exam will be comprehensive.
Midterm I will be on **Friday, February 9, 2018** in class.
Midterm II will be on **Friday, March 9, 2018**, in class.
The **Final exam** will be on **Friday, April 27, 2018, 10:00am − 11:45am**, in class.

ATTENDANCE POLICY

It is strictly required to attend all the classes. It is the student's responsibility to make up for the material covered in class during any absence.

Tentative schedule

Week 1	MOM, MLE
Week 2	Bayesian estimation, MSE
Week 3	Unbiased estimation
Week 4	Probability review
Week 5	Consistency, Midterm
Week 6	Asymptotic Efficiency
Week 7	Decision theory
Week 8	Intro to hypothesis testing
Week 9	Likelihood Ratio Tests
Week 10	Spring Break
Week 11	Power function, p-values
Week 12	Neyman-Pearson, Karlin-Rubin
Week 13	Large Sample Tests
Week 14	Interval Estimation
Week 15	Confidence intervals and sets
Week 16	Review

SPECIAL ACCOMMODATIONS

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: `slds@osu.edu`; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

ACADEMIC MISCONDUCT

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term *academic misconduct* includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/.

DISCLAIMER

This syllabus should be taken as a fairly reliable guide for the course content. However, you cannot claim any rights from it and in particular I reserve the right to change the methods of assessment. Official announcements will ALWAYS be those made in class.