The University of Iowa
The College of Liberal Arts and Sciences
Fall, 2024

Title of course: STAT:5100 Statistical Inference I

Course meeting time and place: 10:30 - 11:20 AM MWF in 140 SH

Department of Statistics & Actuarial Science

Instructor: Prof. Osnat Stramer, 370 SH, Phone 335-3182, Email osnat-stramer@uiowa.edu

Student drop-in hours: Tuesday 10:45 AM-12:30 PM, Friday 11:30-2:15 in 370 SH. Students are invited to drop by during these hours to discuss questions about the course material or concerns. I am also available by appointment if you are unable to attend my drop-in hours.

Grader: Yiran Zeng, 348 SH, E-mail yiran-zeng@uiowa.edu, Office hours- Th 3:30-4:30 PM.

Attendance: Attendance at lecture is highly recommended and may affect your grade. You are responsible for all we do in class. Lectures are not recorded or broadcast via Zoom.

Departmental Executive Officer: Professor Kung-Sik Chan, 241 SH, Phone 335-0712, E-mail kung-sik-chan@uiowa.edu

Course Prerequisite: MATH:2850 Calculus III and STAT:3101 Introduction to Mathematical Statistics II.

Required Textbook: The required textbook for this course is the second edition of Statistical Inference by George Casella and Roger L. Berger.

Course Website: I will post announcements, homework problems, lecture notes, and other course information on ICON. My lecture notes will be mainly based on Dr. Zhiwei (Josh) Tong lecture notes who kindly gave us the permission to use it for this class. **The notes are for use only by students attending STAT: 5100/4100.**

Course Description and Objectives:
The main objective of this course is to provide students with a strong foundation in probability theory and important techniques that are essential for statistical inference,

in a rigorous yet comprehensible way. The topics covered in this course mainly include probability theory, counting techniques, conditional distributions, distribution functions, transformations, expectations, common distributions, extensions to multiple random variables, dependence models, sampling distributions, order statistics, convergence concepts, and generating random samples. We will cover parts or all of chapters 1-5.

Grading: Your semester grade will consist of the following components:

Homework	15%
Two in class Exams	$10\% + 15\% = 25\%$
One Evening Midterm Exam	25%
Final Exam	35%
Total	100%

A plus-minus grading system will be used. As a **rough** guide:

A	90-100
B	80-89
C	70-79
D	60-69
F	0-54

This scale is not absolute, and the cut-points may vary depending on the performance of the students in **STAT: 5100 only**. Grade cut-points will be no higher than the usual. Also, borderline cases may receive a plus or minus.

Homework: Several homework assignments will be released on Fridays and will be due the following week. Your solutions are to be scanned and submitted via ICON. Discussion with fellow students on the exercises of the homework is allowed, but each student must write their own solutions. Two homework assignments with the lowest score will be dropped from the determination of the final grade.
Due to time constraints the grader will grade only some of the assigned questions, but you are responsible for understanding all questions. Unless prior arrangements are made for reasons judged to be acceptable by me, late homework will receive zero credit as solutions will be posted soon after the homework is due. If there are grading errors those should be reported to your grader no later than a week after the grades are posted.

Exams: There will be Two in class exams, one two hour evening midterm, and a two hour final exam. Exams are cumulative, with greater weight on recently introduced topics/materials. Exams are closed book. Calculators may be used for exams. You can bring one hand-written 8.5"x11" formula sheet (both sides) for the two in class exams and two hand-written 8.5"x11" formula sheets (both sides) for the midterm and final exam. If an exam is missed, a make-up exam will be permitted only if the circumstances of missing the exam satisfy university policies (documentation will be required in such a

case). Grading errors should be reported to me no later than a week after the exams are returned.

Tentative schedule for the exams

Exam	Date	Location	Time
Exam1	Wednesday, September 25	in class	10:30-11:20 AM
Midterm	**Thursday, October 24**	W 151 PBB	6:30PM - 8:30PM
Exam2	Wednesday, November 13	in class	10:30-11:20 AM
Final:	**TBA**	**TBA**	**TBA**

Listed next are collegiate and university policies.

Academic Honesty and Misconduct: All students in CLAS courses are expected to abide by the CLAS Code of Academic Honesty.

Student Complaints: Students with a complaint about a grade or a related matter should first discuss the situation with the instructor, and finally with the Director or Chair of the school, department, or program offering the course.
Undergraduate students should contact CLAS Undergraduate Programs for support when the matter is not resolved at the previous level. Graduate students should contact the CLAS Associate Dean for Graduate Education and Outreach and Engagement when additional support is needed.

Drop Deadline for this Course: You may drop an individual course before the deadline; after this deadline you will need collegiate approval. You can look up the drop deadline for this course here. When you drop a course, a "W" will appear on your transcript. The mark of "W" is a neutral mark that does not affect your GPA. Directions for adding or dropping a course and other registration changes can be found on the Registrar's website. Undergraduate students can find policies on dropping and withdrawing here. Graduate students should adhere to the academic deadlines and policies set by the Graduate College.

University Policies:
Accommodations for Students with Disabilities
Basic Needs and Support for Students
Classroom Expectations
Exam Make-up Owing to Absence
Free Speech and Expression
Mental Health
Military Service Obligations
Non-discrimination
Religious Holy Days

Sexual Harassment/Misconduct and Supportive Measures
Sharing of Class Recordings