

SYLLABUS

STA 6327

Spring, 2025

Instructor: Malay Ghosh
Office: 223 Griffin-Floyd Hall
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Objective:

The objective of STA 6327 is to provide students a solid foundation in the theory of statistical inference. We will discuss at some length the theory of point estimation, hypothesis testing and confidence estimation. Also, we will introduce the concepts of sufficiency, completeness and ancillarity.

Policy:

A student's grade for the Fall Semester is determined from scores on the quizzes (20%), two midterm exams (25% each), and a comprehensive final exam (30%).

Course Outline:

0. Introduction
1. Sufficiency, Completeness and Ancillarity.
2. Point Estimation: Maximum Likelihood, Bayes, Unbiased Estimation, Rao-Blackwell, Cramer-Rao.
3. Hypothesis Testing: Neyman-Pearson Theory, Generalized Likelihood Ratio Tests.
4. Confidence Estimation: Duality between Hypothesis Testing and Confidence Estimation.

Textbook: Statistical Inference (2nd Edition). G. Casella and R.L. Berger

Other References:

1. P. Bickel & K. Doksum: Mathematical Statistics: Basic Ideas and Selected Topics.
2. C.R. Rao: Linear Statistical Inference and its Applications.
3. V. Rohatgi and A.K. Md. E. Saleh: Statistical Inference (2nd Edition).
4. J. Shao: Mathematical Statistics.
5. M.T. Wasan: Parametric Estimation.
6. S. Zacks: The Theory of Statistical Inference.

Exam Dates

Exam 1. The week of February 10.

Exam 2. The week of March 24.

Exam 3. The week of April 21.

Lecture Attendance

Classroom lecture attendance is fully expected, even if not strictly enforced. You are responsible for learning all material presented during lecture, and any topic covered is a potential exam topic (unless otherwise stated).

Reasonable Accommodations

To request classroom accommodation, please be certain that you have made all necessary arrangements with the Dean of Students Office, and obtain from them documentation to submit to the instructor at the time of your request. A request must be made to the instructor at least one week in advance of the date for which the accommodation is requested. This course information and policies sheet can be made available in alternative formats to accommodate print-related disabilities. Contact the instructor for more information.

Academic Integrity

Please familiarize yourself with the Student Honor Code and Academic Honesty Guidelines outlined in your University of Florida Student Guide at <http://www.dso.ufl.edu/sccr/honorcode.php>.