

STS 435: Introduction to Mathematical Statistics

Course Description, Spring 2023

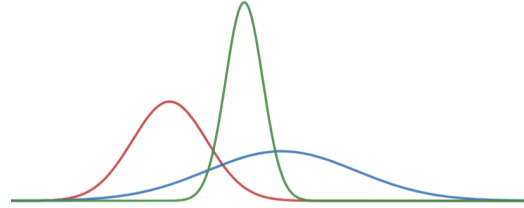
Instructor

Jane Wang

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Class

MWF 1:00 PM - 1:50 PM



Course description

STS 435 picks up where STS 434 leaves off and explores further topics in probability and statistics. The probability portion of the course will cover topics such as multivariate probability distributions, functions of random variables, conditional probability for continuous random variables, and covariance and correlation. We will then apply these probability concepts as we move into further topics in statistics in the latter portion of the course. There, we will cover methods for estimation and hypothesis testing such as regression, analysis of variance, and Bayesian methods of inference. We will aim not only to understand how to apply statistical methods but also to understand the math behind why and how well they work.

Course goals

- To develop a solid foundation in the mathematical theory behind statistical methods.
- To learn how to select and apply an appropriate statistical method to study real world problems, and to understand the benefits and limitations of our choice.

(Optional) Textbook

Mathematical Statistics with Applications by Wackerly, Mendenhall, and Scheaffer

Credits: 3

Prerequisites STS 434 (Introduction to Statistics)