
“Where is the knowledge that is lost in information? Where is the wisdom that is lost in knowledge?”

T.S.Eliot

Stat 467/667: Statistical Theory

TR 1:00 - 2:15 PM; FA 109

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In the broadest sense, statistics is the science of collecting, organizing, and analyzing information, and making mathematical conjectures/predictions/decisions based on this information. It is used wherever data is present, which makes it an essential mathematical tool both in academia and in industry.

This course will be an introduction to mathematical statistics, which provides a theoretical basis and a deeper understanding of several statistical techniques applied in various real-life settings.

A subset of the following topics will be covered: Basic probability and statistics review; point and interval estimation; sufficiency; unbiasedness; information inequality; Bayesian estimation; testing hypotheses; power calculations; linear models.

Text: R. J. Larsen and M. L. Marx, *An Intro. to Mathematical Statistics and Its Applications*, Pearson Prentice Hall. (In addition to the text, we will use supplementary material available on the web, and instructor's notes.)

Prerequisites: MATH 283 R with a "C-" or better; MATH 330; and either STAT/MATH 352 or MATH 461.