Overview

The course provides the tools needed to analyze real-world data and to justify their use through theory. Together, we will study basic concepts related to statistical inference and examine commonly used methods, with an emphasis on understanding when and how to apply them. You will also learn how use these methods on the statistical software such as R.

Textbooks and Teaching Materials


Requirements

The official prerequisite of the course is STAT 430. The effective prerequisite is fluency with basic probabilistic reasoning and analysis (e.g., probability distributions and densities; joint distributions; conditional probability, independence, correlation, and covariance; moment generating functions; law of large numbers; central limit theorem; etc.). For a refresher/overview of these topics, please refer to the first 2 Chapters of the required textbooks and the first 5 Chapters of the recommended one.

It would be helpful to have previous exposure to linear algebra, but it is not required. Previous exposure to the statistical computing software (R, Matlab, etc.) is not required but recommended.

Evaluation

Assignments (32%), In-class Exams/Quizzes (68%), Attendance and Participation (10%).