

Topic Course on Nonparametric Statistics

Instructor: Ning Hao

Coverage: This course focuses on nonparametric and/or distribution free statistical methods. It will cover classical rank based nonparametric tests, U-statistics, bootstrap methods and empirical likelihood methods. (It will **not** cover kernel methods, curve estimation, spline methods, local polynomial regression, density regression, quantile regression, smoothing methods.)

Prerequisites: A basic introductory course of probability and statistics (Math/Stat 564-566) covering testing (type I and type II error, significance level, p-value, power), confidence intervals, estimation, the central limit theorem and knowledge or exposure to the statistical analysis platform R.

Reference:

Applied Nonparametric Statistical Methods

by P. Sprent

Nonparametrics: Statistical Methods Based on Ranks

by Erich L. Lehmann, Springer Verlag

Introduction to Nonparametric Statistics for the Biological Sciences Using R

by Jan M. Yates and Thomas W. MacFarland

Grade: Based on homework and class participation.