Université de Neuchâtel unine

COURSE DESCRIPTION 2007-2008

- Faculté des sciences économiques
- www.unine.ch/seco

Non-parametric statistics and robust methods

Characteristics

- 3 ECTS credits
- Compulsory course for master in statistics
- Spring Semester
- Course : 2 hours
- Evaluation : 1 final project, 1 final exam
- Prerequisite : --

Teaching Team

- *Prof. Yanyuan Ma*
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Objectives

Master classical and modern nonparametric modeling, estimation and inference methods.

Content

Introduction and overview

Rank statistics

Nonparametric smoothing using series

Kernel nonparametric smoothing

Spline and penalty

Wavelets bases

Asymptotic Properties of Nonparametric Smoothing

Boundary effect

Exercises

Use what you learned in class to solve practice problems and get familiar with the theoretical derivation.

Textbooks (These are reference books. No text book is required)

Nonparametric Regression and Generalized Linear Models: A Roughness Penalty Approach, P.J. Green and B. W. Silverman (1993)

Nonparametric Smoothing and Lack-of-Fit Tests by J. Hart (1997)