Doctoral course: Nonparametric Econometrics, 4 credit points

Course code:
Reviewed by: RFB
Approved by: RFB
Valid as of:
Version: 1
Reference number: 15ᵗʰ November 2023

Education Cycle: Third cycle, doctoral program course
Doctoral program subject: Statistics/Economics

Purpose:

The goal of this course is to enhance students' understanding and skills in applied nonparametric econometrics. Initially, the course aims to provide a comprehensive foundation in nonparametric statistical methods. This is important for addressing the disconnect between economics and statistics in this field. Empirical economics research often overlooks the advantages of nonparametric methods, while developments in nonparametric theory frequently neglect the challenges encountered in practical econometric applications. This course seeks to bridge this gap, equipping students with the knowledge and skills necessary to effectively integrate nonparametric methods into empirical economic research.

Intended learning outcomes:

On completion of the course, the students will be able to:

Knowledge and understanding

1. Demonstrate an understanding of the use of nonparametric statistical methods in applied econometrics.
2. Explain the potentials and limitations of nonparametric statistical methods in applied econometrics.

Skills and abilities

3. Conduct nonparametric statistical analyses with appropriate statistical software.
4. Evaluate quantitative research hypotheses using nonparametric statistical methods.

Judgement and approach

5. Assess the general usefulness/weaknesses of the econometrical analyses treated in the course.

Content:

This course bridges this gap between applied economists and theoretical nonparametric econometricians. The course covers kernel regression, estimation with discrete data, and advanced methods such as nonparametric estimation with panel data. The course pays close attention to the issues that arise with programming, computing speed, and application.

Type of Instruction/Teaching format:

The course is designed as a series of lectures and labs. Grading is based on individual assignments.

Prerequisites:

Admitted to a doctoral program in statistics or economics or a related subject of a recognized business school or university.

Examination and grades:

Course assessment consists of.

- Individual assignments deal with ILOs 1-5

The grades given are pass or fail.

Course evaluation:

A course evaluation will be conducted at the end of the course.

Literature:

Henderson, D. J., & Parmeter, C. F. (2015). *Applied nonparametric econometrics.* Cambridge University Press. Additional reading material: see separate list of journal articles.