



Sveriges lantbruksuniversitet  
Swedish University of Agricultural Sciences

# SLUkurs

## Syllabus

**PNS0036 Applied Nonparametric Econometrics, 4.0 credits**

## Syllabus approved

2008-05-20

## Subjects

Economy

## Education cycle

Third cycle

## Grading scale

Pass / Failed

The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

## Language

English

## Prior knowledge

M.Sc. or equivalent studies in economics, statistics, agricultural and environmental economics.

## Objective, including learning outcomes

The purpose of this course is to introduce students to nonparametric econometric procedures developed over the last twenty years and apply them to microeconomic

and/or other economic examples. Students will acquire application skills for estimating models using modern nonparametric and semiparametric methods. Emphasis will be put on nonparametric kernel smoothing methods. Demonstration in real time regarding how to implement the various estimation procedures using especially the “np” computer package developed by Professor Jeff Racine and Tristen Hayfield.

## **Content**

Lectures:

Nonparametric (conditional) density and probability (distribution) function estimation. Nonparametric regression. Semiparametric regression: partially linear, single index and varying coefficient models. Nonparametric hypothesis testing.

Computer tutorials:

Applied work where the methods and models from the lectures are used and estimated. This with help of the package “np” in the statistical software R.

## **Requirements for examination**

To successfully complete the course the student has to undertake an empirical project where a method presented during the course is applied. This should be presented in the form of a term paper (5-10 pages)

## **Additional information**

This course is intended to PhD students but it is also possible for MSc students with relevant training in econometrics and statistics to take part.

Lecture halls: HVC AU<sub>20</sub> & HVC EU<sub>31</sub>

Uppsala (Ultuna) Campus, SLU, Sweden, June 9-27

The first Lecture will take place on Monday the 9th of June at 9.00am in lecture hall HVC EU<sub>31</sub>.

Computer lab: HVC DU<sub>27</sub>

## **Responsible department**

Department of Economics