

Schedule: PhD course in Econometrics, 15 ECTS credits, spring 2026, Linnaeus university, Växjö.

The course will be given at the Växjö campus, Linnaeus University (Rooms are yet t.b.a.), but some lectures will be streamed live online, through Zoom. There will also be computer classes to ensure a strong connection to empirical econometric modelling and these will be streamed live online, through Zoom.

We will be following the book *Econometric analysis: 8th Edition*. W. H. Greene closely throughout the course. The exam will consist of a number of home assignment involving theoretical matters as well as empirical analysis. Students who have not yet applied to the course should do this asap, directly to the course coordinator (see contact info below).

First Part

29/1, 10.00-12.00 & 13.00-15.00. Lecture 1(XXXXXX). Introduction. Linear algebra. Stochastic limit theory. **Lecturer: Peter Karlsson**

30/1, 09.00-12.00. Lecture 2 in classroom (XXXXXX). Econometrics. The linear regression model. The least square estimator. **Lecturer: Peter Karlsson**

30/1, 13.00-16.00. Lecture 3 in classroom (XXXXXX). The least square estimator. Estimating the Regression Model by Least Squares. **Lecturer: Peter Karlsson**

12/2, 12.00-16.00. Lecture 4 in classroom (XXXXX). Hypothesis tests and model selection. **Lecturer: Peter Karlsson**

13/2, 9.00-12.00. Lecture 5 in classroom (Kristofer Månsson). Functional form and structural change. **Lecturer: Kristofer Månsson**

13/2, 13.00-16.00. Lecture 6 in classroom (XXXXXX). Nonlinear, semiparametric and nonparametric regression models. **Lecturer: Peter Karlsson**

5/3, 13.00-16.00. Lecture 8 in classroom (XXXXX) . Models for panel data. **Lecturer: Hans Grönkvist**

6/3, 9.00-12.00. Lecture 7 in classroom (XXXXX) . Endogeneity and instrumental variable estimation. **Lecturer: Kristofer Månsson.**

6/3, 13.00-16.00. Lecture 9 **via ZOOM**. The generalized regression model, heteroscedasticity and systems of equations. **Lecturer: Deliang Dai**

7/3, 09.00-12.00. *Computer class 1. STATA exercises involving selected contents from lecture 2-8.* **Instructor: Stanislas Muhinyuza via ZOOM**

Second Part

25/3, 13.00-16.00. Lecture 10 in classroom (xxxx) by **Peter Karlsson** about estimation frameworks in econometrics. Minimum distance estimation and GMM.

26/3, 09.00-12.00. Lecture 11 in classroom (xxxx) by **Peter Karlsson** about maximum likelihood estimation.

26/3, 13.00-16.00. Lecture 12 **via ZOOM** by **Deliang Dai** about simulation-based estimation and inference and random parameter models. Bayesian estimation and inference.

16/4, 13.00-16.00. Lecture 13 in classroom (xxxx) by **Kristofer Månsson** about regularized estimators and machine learning.

17/4, 09.00-12.00. Lecture 14 in classroom (xxxxxx) by **Erik Prawitz** about discrete choices and event counts.

17/4, 13.00-16.00. Lecture 15 in classroom (xxxxxx) by **Erik Prawitz** about limited dependent variables, truncation, censoring, and sample selection.

7/5, 13.00-16.00. Lecture 16 in classroom (xxxxxxx) by **Stanislas Muhinyuza** about serial correlation.

8/5, 09.00-12.00. Lecture 17 in classroom (xxxxxxxx) by **Stanislas Muhinyuza** about nonstationary data.

9/5, 09.00-12.00. *Computer class 2. STATA exercises involving lecture 10-17. Instructor: Stanislas Muhinyuza via ZOOM.*

Literature: Econometric analysis: 8th Edition. W. H. Greene. Pearson Int. ed.

Lecturers

Kristofer Månsson (kristofer.mansson@lnu.se) Course responsible and Examiner.

Peter Karlsson (peter.s.karlsson@lnu.se) Course coordinator.

Stanislas Muhinyuza (stanislas.muhinyusa@lnu.se)

Deliang Dai (deliang.dai@lnu.se)

Hans Grönqvist (hans.gronqvist@lnu.se)

Erik Prawitz (erik.prawitz@lnu.se)

Computer classes

Stanislas Muhinyuza (stanislas.muhinyusa@lnu.se)