Exchange programme Vrije Universiteit Amsterdam

Vrije Universiteit Amsterdam - Exchange programme Vrije Universiteit Amsterdam - 2024-2025

Exchange

Vrije Universiteit Amsterdam offers many English-taught courses in a variety of subjects, ranging from arts & culture and social sciences, neurosciences and computer science, to economics and business administration.

The International Office is responsible for course approval and course registration for exchange students. For details about course registration, requirements, credits, semesters and so on, please [visit the exchange programmes webpages](#).

Bayesian Econometrics for Business and Economics

Course Code	E_MFAE_BEBE
Credits	6
Period	P2
Course Level	300
Language Of Tuition	English
Faculty	School of Business and Economics
Course Coordinator	dr. L.F. Hoogerheide
Examiner	dr. L.F. Hoogerheide
Teaching Staff	dr. L.F. Hoogerheide
Teaching method(s)	Computer lab, Lecture, Study Group

Course Objective

This course in the minor Applied Econometrics is targeted at Bachelor Econometrics students and Bachelor students with different backgrounds who have already had an introduction to programming and econometrics/statistics. The objective is to acquaint the student with Bayesian statistics and applications thereof to econometric problems, using advanced computational methods.

Course Content

This course will cover Bayesian statistics where the topics include the prior and posterior density, Bayesian hypothesis testing, Bayesian prediction, and Bayesian Model Averaging for forecast combination. Several models will be considered, including the Bernoulli/binomial distribution, the Poisson distribution and the normal distribution. Obviously, attention will be paid to the Bayesian analysis of linear regression models. Also simple time series models will be considered. An important part of the course is the treatment of simulation-based methods such as Markov chain Monte Carlo (Gibbs sampling, data augmentation, Metropolis-Hastings method) and Importance Sampling, that are often needed to compute Bayesian estimates and predictions and to perform Bayesian tests.

Additional Information Teaching Methods

Lectures and exercises in the computer lab.

Method of Assessment

Final written exam – Individual assessment.
Exercises - groups of 1 or 2 students.

Literature

Slides and exercises that will all appear on Canvas.

Recommended background knowledge

Programming, Econometrics I, Numerical Methods.