

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 <u>visit the exchange</u> <u>programmes webpages</u>.

Introduction to Econometrics, Operations Research and Mathematical Economics

Course Code	E_EOR1_IEOMF
Credits	6
Period	P3
Course Level	100
Language Of Tuition	English
Faculty	School of Business and Economics
Course Coordinator	dr. L.F. Hoogerheide
Examiner	dr. L.F. Hoogerheide
Teaching Staff	dr. C.J. Jagtenberg, dr. L.F. Hoogerheide, prof. dr. J.R. van den Brink, dr. I.D. Lindner
Teaching method(s)	Lecture

Course Objective

Introducing the principles of the fields within the bachelor.

Course Content

Econometrics: The goal of econometrics is to describe the relations between observations as a useful model, from which predictions and inference can be made. This introduction presents some first filters which can be used for a predictions, and continues with the principles of regression, applied to real data.

Operations Research: Core business in Operations Research is optimization. Several problems from network optimisation are covered, among which the shortest path problem, the minimal spanning tree problem, and the maximum flow problem. For these problems, the mathematical structure is studied leading to the design of algorithms for solving them. A glimpse will be offered on complexity theory by analyzing the computation time of these algorithms theoretically.

Mathematical Economics: Within economic science frequent use is made of mathematical models. Many of these models try to explain the choices of economic agents in their economic environment. In this introduction, we set the first steps in modelling mathematically the decision processes in economics, looking both at behaviour surrounding individual choice in strategic decision situations, and at cooperative decision making.

Additional Information Teaching Methods

Lectures

Method of Assessment

Exam. The mark of the exam will only be registered officially once the Language proficiency test (taaltoets) has been passed. (The language test is obligatory for first-year VU students.)

Literature

Slides

Recommended background knowledge

Probability Theory, Linear Algebra, Analysis I