

Theory of general economic equilibrium in infinite dimensions

Lecturer : Santiago Moreno-Bromberg, Institut für Mathematik, Humboldt-Universität zu Berlin.

Format of the lecture : two hours lecture a week without exercises

Semester : Summer semester 2010

Room : RUD25, 1.013 (Hörsaal 100)

Time : Wednesday 11 :00–13 :00

Language of the Lecture : English

Description of the lecture

The first part of this course will cover the classical, finite dimensional, Arrow–Debreu pure exchange economy model. This will comprise a relatively thorough presentation of preference relations, utility functions, demand functions and exchange economies. We will prove the existence of Walrasian equilibrium in this setting, and study the efficiency of competitive outcomes (Welfare Theorems). Next we will introduce the necessary mathematical tools for the study of existence of equilibria in infinite dimensions, namely Banach lattices and Riesz spaces. The final part of the course deals with the the questions of existence and optimality of Walrasian equilibria for economies with a finite number of households and firms, but with an infinite number of commodities. If time allows, both pure exchange and production economies will be studied, as well as the so called overlapping generations model. Basic knowledge of Functional Analysis and Probability Theory are required, and any further knowledge of Financial Mathematics/Mathematical Economics is welcome.