

PhD-VGSE: Microeconomics

Winter semester 2016

Lecture: Every Wednesday, 10:30-12:00, starting October 4, VGSE meeting room

Tutorial: Every Monday, 11:12:30, starting October 10, VGSE meeting room

Instructor: Karl Schlag, PhD, room: 5.641

contact: karl.schlag@univie.ac.at

office hours: by appointment

Tutor: Anton Sobolev, contact: anton.sobolev@univie.ac.at

office hours: by appointment

Eligibility: this course is designed for VGSE students. Other PhD students in Economics at the University of Vienna, can get permission to follow this course after contacting the Director of Graduate Studies, Prof. Maarten Janssen, maarten.janssen@univie.ac.at.

Goal: Teach PhD students how to use formal and rigorous methods to understand and solve microeconomic research questions. Show students the different phases in writing a research paper in microeconomics that builds on formal methods.

Outline: Microeconomics comes with a formal apparatus that is used to derive results. This formal apparatus involves both mathematics (like when looking at derivatives and constrained optimization) and separate tools such as game theory. Statements are made based on assumptions and proofs using these assumptions. In this course we wish to show to PhD students how to apply such methods, how to be able to derive statements about microeconomics from primitives. The lecture is presented as a series as of topics. Each week homeworks are assigned and corrected.

Topics include:

- choice and preferences
- von Neumann Morgenstern and alternative models of choice under uncertainty
- marginal rates of substitution and ordients
- aggregation of preferences and the representative consumer
- power and failure of first and second welfare theorems
- type spaces and information economics
- auctions and mechanism design

In addition, a research topic will be assigned at the beginning and students are asked to jointly write a paper on this topic, progress discussed whenever necessary in class (such as relevant literature, research motivation, model, proofs, outline of paper, final editing).

The main bibliography for the course is A. Mas-Colell, M.D. Whinston & J.R. Green, *Microeconomic Theory*, Oxford University Press, New York, 1995, complimented by some research papers and handouts.

Grading: The grade of the course is determined based on three equally weighted parts: homeworks, midterm and final exam.