

# Microeconomics Syllabus

## Lecturer:

Peter Katušćák (Peter.Katuscak@gmail.com)

## Teaching assistant:

Rostislav Staněk (75243@mail.muni.cz)

## Objectives:

The aim of the course is to provide a rigorous graduate level training in microeconomic theory with opportunities to apply principles to applications and policy problems.

## Prerequisites:

This course needs to be preceded by a mathematical preparation course that will cover the following topics:

- Univariate and multivariate functions
- Exponential function and logarithm
- Differentiation of univariate functions and partial differentiation of multivariate functions
- Unconstrained optimization
- Constrained optimization using Lagrangians
- Basics of integration
- Basic statistics, expected value, variance, uniform distribution

## Reading list:

### Main textbook:

Gravelle, Hugh and Ray Rees: *Microeconomics* (3<sup>rd</sup> ed.), Prentice Hall 2004. (GR)

### Other useful references:

Kreps, David M.: *A Course in Microeconomic Theory*, Princeton University Press, 1990.

Mas-Collel, Andrew, Michael Whinston, and Jerry Green (MWG): *Microeconomic Theory*, Oxford University Press 1995.

Varian, Hal R: *Microeconomic Analysis*, W. W. Norton and Company, any edition.

## **Lectures, Topics, and Reading Assignments:**

### **1. Consumer Theory (10 lecture hours)**

- Consumption space, utility function, indifference curves, marginal rate of substitution, budget constraint (GR 2A-B)
- Utility maximization, Marshallian demand and its comparative statics (GR 2C-D)
- Expenditure minimization, Hicksian demand, expenditure function, comparative statics for Hicksian demand (GR 3A)
- Duality, Slutsky equation, income and substitution effects (GR 3B)

### **2. Producer Theory (6 lecture hours)**

- Production functions, returns to scale (GR 5)
- Cost minimization, conditional factor demands, cost function (GR 6.A,B,E)
- Profit maximization, output supply, input demands, profit function (GR 7.A,C,D)

### **3. General Equilibrium (4 lecture hours)**

- Introduction (GR 12.A-B)
- Illustrative examples of GE: exchange economy and Robinson Crusoe economy (GR 12.E)
- Pareto efficiency and welfare theorems (GR 13.A,B,D,E)

### **4. Inefficiencies (4 lecture hours)**

- Taxes on sales, consumption, and income
- Externalities (GR 14)
- Public Goods (GR 14)

## **Problem Sets:**

There will be four ungraded problem sets pertaining to the four topics, respectively. These problem sets will give students an opportunity to apply concepts introduced in the lectures. Also, the problems will be indicative of problems to be encountered during the exam. It is therefore highly recommended that students try to work on these problem sets. The teaching assistant will go over solutions to these problem sets during the exercise sessions. However, you are strongly encouraged to work on these problem sets on your own beforehand.

## **Evaluation:**

There will be a 100-minute exam at the end of the course worth 100 points. The evaluation for the course will be based on this exam only.

**Schedule of lectures:**

Sept. 30, Oct. 1, Nov. 11-12 , Dec. 12-13. On each of these days, the lectures are scheduled from 11:00-12:30 and 13:30-15:00 in room N.

**Schedule of exercise sessions:**

Oct. 16, Nov. 11, Dec. 12 and Jan TBA. On each of these days, the exercise sessions are scheduled 14:30 in room S4.

**Office hours:**

**Peter Katuščák:** Sept. 30, Nov. 11 and Dec. 12, from 15:30 till 17:30 in office 621.

**Rostislav Staněk:** Wednesday 17:00 till 18:30 in office 607