

Econ 701D.001: Microeconomic Analysis I, Sessions 1-12
The Economic Agent

Meetings: TTH 1:25-2:40pm, Social Sciences 136

Instructor: Philipp Sadowski,
Office hours by appointment, Social Sciences 203
p.sadowski@duke.edu

TA for Econ PhDs: Taishi Sassano
TA-session: W 6:15-7:15pm, Social Sciences 105
Office hour: T 4:00-5:00pm, location TBA
taishi.sassano@duke.edu

TA for all other students: Riley League
TA-session: W 6:15-7:15pm, Social Sciences 136
Office hour: M 2:45-3:45pm, Social Sciences B03
riley.league@duke.edu

If you have questions, the TAs should be your first contact. If you and the TAs cannot answer a question or if you have concerns with the TAs, please email me for an appointment.

Requirements:

There will be one exam on the topics covered in this module, on **Thursday 10-10 from 6:15pm to 9:15pm.**

In addition there will be home work. Some problems will be hard. You should not expect to solve them all. However, you should not give up easily either! The problems are designed to make you think, not to test your knowledge or formal background. Sit down, give yourself time and *think*, and you will make progress. It is fine or even advantageous to work in a small group. Two people might be the ideal team size, but three is also fine. Every student has to hand in a set of answers. Some of the problems will be covered in detail in the TA sessions, but there will not be solution handouts. Please make sure to attend the sessions regularly. Assignments of each week are due the next week at the beginning of the TA session and will be discussed in that same session. You may not hand in home works late, no exceptions. However, you have one free shot: of your weekly assignments the worst one will not count.

Grading:

Your grade in this module will count for half of your total grade for the class. Curt's module will count for the other half (the role of the TAs will be switched in that module). Your grade for this module will depend 1/3 on your homework and 2/3 on the exam.

Assignment grades will be based on a subset of answers (you will appreciate this, should you become TA yourself at some point).

Obvious Rules:

No phones, no food, and **no internet**.

Books:

We will mostly draw on

- Kreps (2013) '*Microeconomic Foundations I, Choice and Competitive Markets*', Princeton University Press.
- Rubinstein (2019) '*Lecture Notes in Microeconomic Theory*', Princeton University Press.

It can be downloaded freely here: <http://arielrubinstein.tau.ac.il/>

Note: The printed version from 2012 can also be purchased, but has been revised slightly. Homework problems reference the 2019 online version.

In the outline below K followed by a number refers to the corresponding chapter in Kreps and R to Rubinstein. For each session the primary source is listed first, the secondary source second. For reference you might also want to consult (and you should own in any case)

- Mas-Colell, Whinston and Green (1995) '*Microeconomic Theory*', Oxford University Press.

Tentative Outline

Part 1**Session 1: Preferences (R1, K1)**

- strict preferences
- weak preferences
- equivalence of the two

Session 2: Utility Representation of Preferences (R2, K1)

- representation of preferences on finite choice sets
- Debreu's Theorem: representation of continuous preference relations

Session 3: Choice and Revealed Preferences (R3, K4)

- rational choice
- Weak Axiom of Revealed Preferences
- common failures of rationality
 - framing

- similarities
- reference dependence

Session 4: Expected Utility (R8, K5)

- Von Neumann-Morgenstern Axiomatization
- brief discussion of Subjective Expected Utility (De Finetti, Anscombe-Aumann, Savage, Preference for Flexibility)

Session 5: Risk Aversion (R9, K6)

- lotteries over money
- stochastic dominance
- comparative risk aversion

Session 6: Social Choice (K8, R10)

- aggregation of preferences
- Arrow's Impossibility Theorem

Part 2

Sessions 7 and 8: Consumer Preferences

- properties: (K3, R4)
 - monotonic, continuous and convex preferences
 - homothetic preferences
 - quasi linear preferences
 - differentiable preferences
- Choosing the budget set (indirect preferences) (K3, R6)
- Demand functions (K4, R5)
- Rationalization of demand – Afriat's Theorem
- Compensated demand

Session 9: Classic Demand Theory (K10&11, R6)

- The dual Problem and Hicksian demand
- Shephard's Lemma
- Roy's Identity
- Slutsky Equation
- Complements and Substitutes

Session 10: The Producer (R7, K9)

- Profit function
- Law of supply

Sessions 11 and 12: Aggregating Consumer and Producer (K14&15)

- Definition of Walrasian Equilibrium
- Edgeworth box
- Efficiency: First Welfare Theorem
- Existence: Second Welfare Theorem (for strictly monotone preferences)