

Experimental Economics: Syllabus

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August 4, 2015

This course aims to give students a taste of experimental economics (and a little bit of game theory) in six 90-minute lectures. It covers experimental design, most well-known biases, and common failures of classical economics. It teaches students to think critically about economic theories and encourages them to come up with methods to test theories or everyday intuitions.

Since the course was designed for high school students (ages 15-18), all maths is kept simple and straightforward; for example, the optimal strategy in Cournot is not calculated as most students are not familiar with calculus at this age. Focus is on interactivity and involving all students in the lecture (lecturer monologue is kept to a necessary minimum).

Both this syllabus and the course materials are meant to be shared and you, dear reader, are invited to use any parts you see fit.

If you have any comments, criticism, or suggestions, please contact me at [l.habetinova \[at\] uvt.nl](mailto:l.habetinova@uvt.nl).

Class 1: Introduction to (Experimental) Economics

The aim of this class is to familiarize students with the field of experimental economics, explain the main rationale behind conducting experiments, and show students that human intuition does not always lead to correct answers or reasonable outcomes.

- Introduction of the course and field (10 min)
- Students introduce themselves, list their expectations and prior knowledge (10 min)
- Small group activity (3-4 students per group)
 - Brainstorm answers to the following questions: (5 min)
 - * Give examples of questions or problems economics tries to answer (solve).
 - * Where do economists get data? Give examples of good and bad sources of information.
 - * Which is more important: theory or applied research?
 - Present answers, group discussion and evaluation (15 min)
- Group brainstorming: which difficulties do economists face when conducting research? (10 min)
- Correlation and causality: a cautionary note (5 min)
- Worksheet: How do experiments work? (20 min)
- Group discussion: Is human intuition good or bad? When? (5 min)
- Worksheet: Test your intuition – the ball and the bat problem and related questions (10 min)
- Poll: the Asian disease problem (worksheet handed out afterwards) (5 min)

Homework: Critically evaluate an experiment based on a short description (a description similar to what would be given in a published paper).

Class 2: How to Trick People into Believing Things

The aim of this class is to follow up on the idea that our intuition can fool us and present multiple ways people can lie with graphs, statistics, or numbers in general. In this class we also explore some well-known biases and then move on to classical economic theory.

- Homework check (10 min)

- Worksheet: How to lie with graphs and numbers (30 min)
- Small group activity: Make a list of tips how not to get confused and present it (15 min)

- Worksheet: Biases (5 min)
- Discussion: Other examples, implications for real life (15 min)

- Quick introduction to consumer behavior theory: poll – what are the things that influence your shopping behaviour (15 min)

Homework: (1) Correct misleading graphs, i.e., explain why they are misleading and how to draw them properly. (2) Students are randomly allocated into two groups and make hypothetical purchasing decisions (see *Chocolate* worksheet).

Class 3: Classical Economic Theory Continued: Other Examples When Things Go Wrong

The aim of this class is to continue the topic of consumer behavior, and introduce three other classical theories as well as their problems and failures.

- Homework check (15 min)

- Quick introduction to Ricardian equivalence (5 min)
- Discussion: Does it work like that? Why or why not? (10 min)

- Small group activity: Inflation (20 min)
 - What is inflation?
 - Who and how can create inflation?
 - Is inflation good or bad?
 - Nowadays we see that inflation equals around 2%, the interest rate on saving accounts equals 1%, and yet people keep a lot of money in the banks and do not invest in stocks or bonds. Why?

- Game: Bertrand (20 min)
 - Change feedback conditions
- Discussion: Are prices in reality equal to marginal costs? Why (probably) not? (15 min)
- Competition: Change the standard Bertrand game to test an interesting hypothesis (5 min)

Homework: Contrast theory and experimental evidence on public goods.

Class 4: Why Things Go Wrong I: Social Norms

The aim of this class is to show students that social norms, even though typically not modeled by economists, can have tremendous influence on behaviour.

- Homework check (15 min)

- Game: stag hunt in 5 rounds (10 min)
- Discussion: what is the best strategy and does this realistically model some human interaction? (10 min)

- Group brainstorming: How would you, as a kindergarten owner, incentivize parents to pick up their children on time? (5 min)
- Case study: what happened when the kindergarten started charging parents and why (5 min)

- Competition: come up with a solution to a problem (such as people littering in parks) (10 min)
- Competition continued: present your solution and convince your classmates that your intervention would work (15 min)

- Game: battle of the sexes (5 min)
- BoS discussion: what is the optimal strategy and how would real couples solve the coordination problem? (5 min)

- Group discussion: Can you list other social norms? (10 min)
 - Why do we give presents without price tags?
 - Why is it a bad idea to say to your mother-in-law *Thanks for the lovely dinner, how much do I owe you?*

Homework: Advise an alien how the society works - should he rely on markets or social norms when he needs to repair his spaceship, get medical help, etc.?

Class 5: Why Things Go Wrong II: We are not Computers

The aim of this class is to show students that economic theory has hard time predicting behaviour because it is hard to quantify how much (or how little) people know, how well they process information, and how other factors that are difficult to model (such as emotions) influence our reactions.

- Homework check (15 min)

- Game: centipede (15 min)
 - Discussion: How would a perfectly rational player play? How did we play and why?
 - And if we played again, how would our behaviour change based on our opponent?

- Group brainstorming: How difficult is it for a firm to make decisions about prices? What does the firm need to know and is that information available? (10 min)

- Game: Cournot (25 min)
 - Discussion: was it difficult?
 - Discussion: what if we allowed for cartels?

- Reminder: Paradox of choice – Too many chocolates ruin the fun (5 min)

- Game: Investment/Trust game (20 min)
 - Discussion: How does reciprocity work? How about trust?
 - If you could play again, what kind of person would you choose as your opponent?

Homework: Come up with a 5-min strategy to persuade an opponent in the trust game to cooperate with you.

Class 6: Risk and Other Topics

The aim of this class was to highlight other interesting research areas in experimental economics such as factors affecting risk aversion or mental accounting.

- Homework check (15 min)

- Thought experiment: When is it worth buying a lottery ticket? (5 min)
- Quick introduction to risk aversion (5 min)

- Brainstorming: When do we seek risk and when do we avoid it? (10 min)
- Poll: Is it better to lose 100 for sure, or have a 90% chance of losing 150? (5 min)

- Small group activity: Suppose you have money to invest. I claim to be an experienced investor who offered you help. What are the things you should ask me? (10 min)
- Small group activity: Groups ask the questions they prepared and then discuss the best method to find out if this financial advisor is trustworthy (10 min)
 - Highlight that good past performance can be due to chance or luck, not necessarily skill

- Poll: If I lost a cinema ticket worth 10, will I buy another one? And what if I lose a banknote worth the same amount? (5 min)
- Quick introduction to mental accounting (5 min)
- Discussion: what is mental accounting good for? (10 min)

- Time for questions, summary of course, general discussion (10 min)