

Economics: Syllabus

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This course aims to give students a taste of economics in six 90-minute lectures. It covers basics of (neo)classical, behavioral, and international economics, and touches upon game theory.

Since the course was designed for high school students (ages 15-18), all maths is kept simple and straightforward. 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.fiala \[at\] uvt.nl](mailto:l.fiala@uvt.nl).

Class 1: Neoclassical Economics

The aim of this class is to familiarize students with the basic assumptions and applications of neoclassical economics. Focus is on debate: to what extent and under which circumstances can this be assumed?

- Introduction: a brief history of economic thought (10 minutes)
- Group discussion: what did you find interesting, why are you here (15 minutes)
- Lecture: three main assumptions of neoclassical economics (15 minutes)
- Work in pairs: pick one assumption and think of examples where it applies (5 minutes)
- Group discussion: where can we use neoclassical theories? (10 minutes)
- Game: market game - buying and selling apples (15 minutes)
- Game: oligopoly game - Bertrand and Cournot in groups of 3 (20 minutes)

Homework: Compare the market and oligopoly games we played. Which assumptions of neoclassical economics were satisfied? What happened in those games? How did you play?

Class 2: Companies as Rational Players

The aim of this class is to discuss basic market structures, and solve for Nash equilibria while maintaining key assumptions of profit maximization and perfect information.

- Homework check (15 min)
- Work in pairs: what happens under perfect competition? (10 minutes)
- Lecture: The golden rule of $P=MC$ (10 minutes)
- Group discussion: How is Bertrand and perfect competition related? (5 minutes)
- Lecture: taking derivatives of polynomials (10 minutes)
- Lecture: solving Cournot (10 minutes)
- Work in pairs: solve a Cournot market, think about what happens in monopoly (20 minutes)
- Group discussion: what did we learn about firms and markets (10 minutes)

Homework: Discuss what you would do as a firm facing perfect competition. Is there anything you can do to earn positive profits? Comment on all the market models we have seen so far: what is missing?

Class 3: The Rise of Behavioral Economics

The aim of this class is to show students how easy it is to break the standard neoclassical assumptions, and how that affects outcomes.

- Homework check (15 min)

- Game: dictator game (10 minutes)
- Game: ultimatum game (10 minutes)
- Group discussion: how did you play, and how does that contrast with “standard” predictions? (15 minutes)

- Competition: analyse a situation of your choice (20 minutes)
 - who are the players, what do they know
 - what is the rational behavior if they had all information and rational preferences
 - how does real life interfere? (emotions, inability to think or calculate, instability of preferences, trust, ...)

- Lecture: case study - paying not to go to the gym (10 minutes)
- Work in pairs: how would you help somebody go to the gym regularly? (10 minutes)

Homework: You are now an employer and you realize that your employees are stealing from the company. Nothing big, mostly pens, or other office supplies, or cans of soda from the common fridge. Think of ways to address this problem.

Class 4: International Trade

The aim of this class is to introduce basic models of international trade and discuss their empirical relevance.

- Homework check (15 minutes)

- Lecture: the gravity model of trade (10 minutes)
- Work in pairs: is it good to use things from other disciplines, can you find other models from physics, for example, that economists could use? (10 minutes)
- Group discussion + empirical evidence: does this model make sense? (10 minutes)

- Lecture: absolute and relative advantage (10 minutes)
- Work in pairs: which key things are missing from the models? (10 minutes)

- Lecture: Heckscher-Ohlin model (15 minutes)
- Group discussion + empirical evidence: does this make sense, Leontief paradox (10 minutes)

Homework: So far we completely ignored innovation in the models. Discuss why it is important, and how it could fit at least one of the models we talked about. How does it link to innovation on the firm level? Hint: go back to lecture 2.

Class 5: Currency Wars

The aim of this class is to teach students the fundamentals of monetary economics: who makes decisions about monetary policy, and what does a strong/weak currency mean? What happens when all countries try to manipulate their currency?

- Homework check (15 minutes)

- Work in pairs: is it good when the dollar is strong or weak? (15 minutes)
- Group discussion: so, if countries were to engage in a currency war, would they want their currencies strong or weak? (10 minutes)
- Work in pairs: how do you manipulate your currency? who can do that? (15 minutes)

- Game: currency war (20 minutes)
- Group discussion: what happened? (10 minutes)

- Food for thought (pairs, alone, or smaller groups): what did you learn from the game we played, and what do you take away for “real” life? (5 minutes)

Homework: In reality, there are also political consequences when a country manipulates its currency. Can you explain which ones? If it helps, think about what would happen if China artificially decreased the value of yuan, and the US president got upset about it.

Class 6: Economics Expected and Unexpected

The aim of this class is to show that economic analysis can be applied to a variety of situations, and even if it does not provide us with a perfect prediction, it gives us a good idea of what is going on.

- Homework check (15 minutes)

- Work in pairs: Labor economics: is a long maternity leave a good idea? (5 minutes)
- Lecture: reservation wage developments (10 minutes)

- Lecture: nudging in practice, case study: charitable giving (5 minutes)
- Work in pairs: come up with a nudge to solve a problem (10 minutes)

- Lecture: experimenting to figure out what works in education (10 minutes)
- Group discussion: is it morally OK to experiment on students? people in general? in this domain? (10 minutes)

- Task: stand up and pair up with somebody to solve together a problem (3 minutes)
- Lecture: matching algorithm - marriage market (12 minutes)
- Work in pairs: flaws of the algorithm? comparison to how you matched? (5 minutes)

- Final Q& A (5 minutes)

Extra Content

In case things go quicker, have two extra topics ready to discuss:

- Self-control and diets
- Debate: should basic knowledge of economics be taught in schools, and should it be required to vote?

In case there is no time left, the students are given easy-to-read handouts that guide them on these topics if they are interested.