

Course description

Course title: Network Economics	Neptune code of course: GTGKG250MNA Institute of Economic Theory and Methodology
	Course type: elective
Course coordinator	Zoltan Bartha, PhD https://gemi.uni-miskolc.hu/zolibartha
Syllabus:	https://gemi.uni-miskolc.hu/netecon
Recommended semester: Spring	Precondition: -
Time of classes:	Thursday 12:00-13:30
Place of classes:	Building A4 Room 421B
Number of lessons/week: 2+0	Acknowledgement of course completion: presentation & single choice written exam
Credit value: 3	Training format: full-time
Aim and content of course: The course presents general microeconomic and macroeconomic models that have special importance in the age of networked computer systems and shows the challenges the society and the labour market face in the next decade. Having finished the course students will have a good understanding of the way information- and knowledge-related businesses work and will get to know methods that help to reap the benefits of the networked economy.	
Competences to be developed: <i>Knowledge:</i> T1, T5, T7 <i>Skills:</i> K1, K4 <i>Attitudes:</i> A1, A2 <i>Autonomy and responsibility:</i> AF5, AF8	
Schedule of the semester & thematic description of course content:	
	Lecture:
2 Mar	The age of the intelligent machines – trends & consequences
9 Mar	Key features of the digital age – economic impact
16 Mar	The benefit of the new technologies – how to measure it
23 Mar	The spread – costs and dangers <i>Senate meeting!</i>
30 Mar	What should we do to be prepared?
6 Apr	Microeconomics approach: knowledge products and cost structure
13 Apr	Consumer and producer surplus, Lock-in
20 Apr	Dean's study break – no teaching
27 Apr	Network effect
4 May	Rector's study break – no teaching
11 May	Final test
18 May	Student presentations <i>Senate meeting!</i>
25 May	Student presentations
Extraordinary circumstances amendment The information provided in the syllabus was prepared with in-person teaching in mind, and may change if online teaching is introduced. Students will be notified in Neptun about the changes in the latter case.	
Method and evaluation of in-semester assessment: <i>Requirements for obtaining the signature:</i> at least 1 class participation points & at least 5 presentation points	
Students are required to make a presentation on a previously agreed topic. The presentation should be app. 10 minutes long. Suggested topic of the presentation: How, and how well do business models based on new technologies work? Format of the presentation: PPT, ~10 minutes (10-12 slides)	

Student task: Pick a company/organisation that operates in one of the areas listed below; present the following: 1) brief description of the organisation and the market you chose; 2) what is the core business idea – how does it work; 3) overall evaluation about the company/market/idea: do you see a great potential in the idea? Would you recommend investing money in it, and if yes, why? What potential threats and weaknesses can you identify?

Always cite & reference your sources.

Key areas/markets you may pick your topic from:

- Platform economy (firms operating within a digital platform)
- Non-fungible tokens (NFTs)
- Central Bank Digital Currency
- Decentralised-Finance (De-Fi) applications
- AI applications in a specific area (e.g., natural language processing, voice assistance, facial/picture/pattern recognition, robotics, autonomous vehicles, diagnostics, personalised assistance)
- Virtual/augmented reality environments

Deadlines:

- Finalising the topic of presentation: 23 March (you will not be able to complete the course if you do not have a topic by this date)
- Sending the PPT to zoltan.bartha@ekon.me: 10 May
(The maximum points that can be obtained for the presentation (12) is decreased by one with every day that you are late with)
- Presentation: for time & place see the course schedule and consult the instructor

If the presentation is not given on the agreed date, the signature is denied. The only way to make up for the lost presentation points is to write a 30-page (~10,000 words) essay on the same topic, discussing the same issues as it was required in the presentation. The essay is declined if any fraud or plagiarism is detected.

Deadline for the essay: 30 May

Points for class participation:

- at least 5 occasions: 1 point
- at least 7 occasions: 2 points
- at least 9 occasions: 3 points

Completion requirements and evaluation criteria for seminar grades and exams: you may only take the exam if you obtained a signature from the course

Oral/written exams, or specific methods/practices applied during the course:

Students have the option to write a midterm exam (see the syllabus about the exact date), or they can write the final exam during the exam period. The midterm and the final exam have the exact same structure, it includes 15 single choice questions (pick the correct answer from four options; each correct answer is worth 1 point) focusing on key definitions, examples, logical exercises. The time available for the test is 20 minutes.

The final grade is calculated as follows:

- Class participation (max. 3 points)
- Presentation (max. 12 points)
- Midterm or final test (max. 15 points)

The point structure is the following: 30-24 excellent; 23-21 good; 20-18 satisfactory; 17-15 pass; 14-0 fail.

For Erasmus students the following ECTS grading scale will be used: 30-27 excellent – A; 26-24 very good – B; 23-21 good – C; 20-18 satisfactory – D; 17-15 pass – E; 14-0 fail – F

Required reading:

Most of the materials & more are available in the elearning system: <https://elearning.uni-miskolc.hu/zart/>
Bartha, Zoltán: Network Economics.

Carl Shapiro – Hal R. Varian: Information Rules. Harvard Business Review Press, 1998. ISBN-13: 978-0875848631

Suggested reading:

MIT Initiative on the Digital Economy: <http://ide.mit.edu/publications>

Anna Nagurney: Network Economics.

http://supernet.isenberg.umass.edu/Austria_Lectures/fintros1.pdf

Kranton: Reciprocal Exchange.

<http://public.econ.duke.edu/~rek8/reciprocalexchange.pdf>

Andrew McAfee and Erik Brynjolfsson: The Second Machine Age. W. W. Norton & Company, 2014. ISBN 978-0-393-35064-7

Nick Bostrom: Superintelligence: Paths, Dangers, Strategies. Oxford University Press, 2014. ISBN-13: 978-1501227745

Miskolc, 01 February 2023