

## Course description

<b>Course title:</b> Network Economics	<b>Neptune code of course:</b> GTGKG250MLA Institute of Economic Theory and Methodology <b>Course type:</b> elective
<b>Course coordinator</b>	Zoltan Bartha, PhD <a href="https://gemi.uni-miskolc.hu/zolibartha">https://gemi.uni-miskolc.hu/zolibartha</a>
<b>Syllabus:</b>	<a href="https://gemi.uni-miskolc.hu/netecon">https://gemi.uni-miskolc.hu/netecon</a>
<b>Recommended semester:</b> Spring	<b>Precondition:</b> -
<b>Number of lessons/semester:</b> 9+0	<b>Acknowledgement of course completion:</b> presentation & single choice written exam
<b>Credit value:</b> 3	<b>Training format:</b> part-time
<p><b>Aim and content of course:</b> 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.</p> <p><b>Competences to be developed:</b> <i>Knowledge:</i> T1, T5, T7 <i>Skills:</i> K1, K4 <i>Attitudes:</i> A1, A2 <i>Autonomy and responsibility:</i> AF5, AF8</p>	
<b>Schedule of the semester &amp; thematic description of course content:</b>	
	<b>Lecture:</b>
24 Mar 13:20-18:30 A1/312	The age of the intelligent machines – trends & consequences Key features of the digital age – economic impact The benefit of the new technologies – how to measure it The spread – costs and dangers What should we do to be prepared? Microeconomics approach: knowledge products and cost structure Consumer and producer surplus Lock-in Network effect
6 May 9:00-11:30 A1/311	Student presentations
<p><b>Extraordinary circumstances amendment</b> 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.</p> <p>Method and evaluation of in-semester assessment: <i>Requirements for obtaining the signature:</i> at least 5 presentation points</p> <p>Students are required to make a presentation on a previously agreed topic. The presentation should be app. 10 minutes long. <b>Suggested topic of the presentation:</b> How, and how well do business models based on new technologies work? <b>Format of the presentation:</b> PPT, ~10 minutes (10-12 slides) <b>Student task:</b> 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 it, and if yes, why? What potential threats and weaknesses can you identify? Always cite &amp; reference your sources.</p>	

**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: 30 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: 4 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 schedule of the course

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 plagiarism is detected.

Deadline for the essay: 30 May

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 course schedule 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:

- Presentation (max. 15 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](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