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 8:00-9:30
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
Issued:	**1 February 2025**

Aim and content of course:

The course presents general microeconomic and macroeconomic models that have special importance in the age of information as a resource, and 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:

Knowledge:

Students have comprehensive knowledge of the most important interconnections between the economic system and the various branches of society.

Skills:

Students have relevant knowledge and are prepared to actively participate in social and public life. They can recognize and understand social problems and new phenomena.

Attitudes:

Students are open and receptive to new results of business and economics

Autonomy and responsibility:

Students have formulated their professional opinion on well-known economic phenomena and are able to defend it in an open debate. They take responsibility for decisions made in complex and fuzzy situations.

Schedule of the semester & thematic description of course content:

	Lecture:
13 Feb	Digital knowledge/information as a key resource - economic consequences
20 Feb	The age of the intelligent machines – trends
27 Feb	Key features of the digital age – economic impact
6 Mar	The benefit of the new technologies – how to measure it.
13 Mar	The spread – costs and dangers
20 Mar	No teaching - Dean's study break
27 Mar	What should we do to be prepared? - an outlook on jobs and skills.
3 Apr	Microeconomics approach: knowledge resources and cost structure
10 Apr	Increasing returns & scalability
17 Apr	Pricing, consumer and producer surplus
24 Apr	No teaching – Rector's study break
1 May	No teaching – Bank Holiday
8 May	Lock-in, Path dependence, Network effect, Standards
15 May	Final test | Student presentations
22 May	Student presentations

Extraordinary circumstances amendment

The information provided in the syllabus was prepared with face-to-face 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:
Requirements for obtaining the signature: at least 1 class participation points & at least 5 presentation points

Students are required to make a presentation on a previously agreed topic.
Suggested topic of the presentation: AI & job efficiency
Format of the presentation: PPT, 10-15 minutes (~12 slides)
Student Task
Research suggests that employees are generally more receptive to AI adoption in the workplace than their employers.
Your task:
1. Describe your current role or field of expertise (or describe the job/field of expertise your presentation focuses on)
2. Outline the primary tasks and challenges one encounters in this role.
3. Explain how AI technologies could enhance one's efficiency in performing these tasks. Be specific and provide concrete examples.
4. Evaluate the potential impact of AI on this role:
- Do you anticipate significant efficiency gains through AI implementation?
- Will AI enhance your creativity or potentially diminish it?
- Will familiarity with AI applications be a crucial competitive advantage in your field within the next 5 years?

When preparing your presentation:
- Focus on facts and figures: Support your arguments with data, statistics, and real-world examples.
- Cite and reference all sources: Ensure proper attribution of information.
- Be concise and to the point: Present your information clearly and avoid unnecessary jargon.

Deadlines:
- Finalising the topic of presentation: 6 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: 14 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 above 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: 22 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 schedule above for 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/fintrosl.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