

Syllabus

1. Course Description

a. Title of a Course

Digital Economy (Цифровая трансформация мировой экономики / Digital Economy)

b. Instructor

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c. Pre-requisites

English language proficiency, Macroeconomics, Microeconomics, 3rd year standing

d. Course Type

elective

e. Abstract

This advanced elective course overviews critical changes in the world economy due to its rapid digital transformation. The course examines the nature of these changes in three distinct, but integrated parts:

1. Development and global scope of digital economy,
2. Contemporary and potential challenges arising from global digital transformation, and
3. Future opportunities and implications related to digital economy expansion.

While the course is not primarily technically focused, the technical aspects needed to understand the implications, opportunities, limitations and management issues related to the expansion of the digital economy will be covered.

2. Learning Objectives and Learning Outcomes

On successful completion of the course students will be:

- able to know the fundamentals of the digital economy,
- familiarized with the nature and extent of the global digital economy today,
- able to evaluate the various challenges that the globalization of digital economy presents,
- aware of the likely global implications of digital economy development in the future,
- having a framework for analyzing advancement in technological innovation in the global economy.

The knowledge and skills gained in this course will contribute to students' toolkit necessary for anticipating and shaping the impact of emerging technologies and for reacting quickly to changing circumstances in the evolving new economy.

3. Course Plan

Lecture 1

Transformation of the real economy into digital economy. Role of technology revolution in the world economy.

Lecture 2

Digital innovation and its impact on economic growth. Concept of the "Fourth Industrial Revolution".

Lecture 3

Digital economy's ecosystem – I:

- infrastructure,
- IT skills and growing digital population,
- online platforms.

Lecture 4

Digital economy's ecosystem – II:

- Internet of Things,
- cloud computing,
- e-commerce and e-finance,
- data protection and cybersecurity.

Lecture 5

Review of regression analysis. Machine learning. AI (Artificial Intelligence).

Lecture 6

Distributed ledger technology. Blockchain's disruptive potential.

Lecture 7

Firms in the digital economy:

- digital business models, increasing pressure to innovate,
- large internet companies and OTT (over the top) services.
- cross-border trade barriers.

Lecture 8

Households in the digital economy:

- individualization of products and services,
- changing structure of consumption,
- potential for economic participation.

Lecture 9

States in the digital economy:

- e-government, e-public service,
- digital enabling,
- evolving governance frameworks relevant to the digital economy.

Lecture 10

Global technology frontiers and laggards; Comparative global overview of the advancement in innovation in the digital economy.

Lecture 11

Digital economy's social impact. The digital divide.

Lecture 12

Key factors of globalization and economic growth in the digital age.

4. Reading List

There is no required textbook for this course. Study materials will consist of lecture notes and weekly reading assignments drawn from the following list:

Autor, D. 2010. *The Polarization of Job Opportunities in the U.S. Labor Market: Implications for Employment and Earnings*. Washington, DC: Center for American Progress and The Hamilton Project.

Brynjolfsson, E. and McAfee, A. 2014. *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York: W. W. Norton & Company.

European Commission. 2012. *Ethical and Regulatory Challenges to Science and Research Policy at the Global Level*. Brussels: European Commission. Available at http://ec.europa.eu/research/science-society/document_library/pdf_06/ethical-and-regulatory-challenges-042012_en.pdf.

Fox, J. 2014. "What Still Makes Silicon Valley So Special." *Harvard Business Review*, December 5. Available at <https://hbr.org/2014/12/what-still-makes-silicon-valley-so-special>.

Mettler, A. and A. D. Williams. 2011. *The Rise of the Micro-Multinational: How Freelancers and Technology-Savvy Startups are Driving Growth, Jobs and Innovation*. Brussels: The Lisbon Council.

Negroponte, N. *Being Digital*. 1995. New York: Alfred A. Knopf.
<https://proxylibrary.hse.ru:2864/ehost/detail/detail?sid=c011e19c-fb0a-4f69-b141-f252d51e8ad2%40sessionmgr4006&vid=0&hid=4204&bdata=#AN=930984&db=nlebk>

Roland Berger Strategy Consultants. 2015. *The Digital Transformation of Industry*. Available at http://www.rolandberger.com/media/pdf/Roland_Berger_digital_transformation_of_industry_20150315.pdf.

Schwab, K. 2016. *The Fourth Industrial Revolution*. Geneva: World Economic Forum.

Sundararajan, A. 2016. *The Sharing Economy: The End of Employment and the Rise of Crowd-Based Capitalism*. Cambridge, MA: MIT Press.

United Nations. 2000. *The Ten Principles of the UN Global Compact*. Available at <https://www.unglobalcompact.org/what-is-gc/mission/principles>.

Varian, H. 2010. "Computer-Mediated Transactions." *American Economic Review* 100 (2): 1–10.

Varian, H., J. Farrell, and C. Shapiro. 2004. *The Economics of Information Technology: An Introduction*. Cambridge, UK; The Raffaele Mattioli Lectures, Cambridge University Press.

5. Grading System

Midterm in-class written exam – 50%

Final in-class written exam – 50%

6. Guidelines for Knowledge Assessment

Active work during seminars is crucial for developing practical skills and do well on exams in this course. Students must be thorough familiar with university's plagiarism policy.

7. Methods of Instruction

The following methods are used in the course:

- lectures,
- seminars,
- home assignments,
- self-study.

8. Special Equipment and Software Support (if required)

Regular multimedia teaching equipment.