

DIGITAL ENTREPRENEURSHIP CURRICULUM

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6. DIGITAL INFRASTRUCTURE

Course Description

Infrastructure has always been particularly important in reducing poverty: access to minimum infrastructure services is one of the criteria for determining the well-being of the population. Much of the world's population is still below the poverty line, lacks access to clean water and lives in unsanitary conditions, with extremely limited mobility and communications. Digital technologies of the Fourth Industrial Revolution are becoming the basis of modern society and a universal synonym for digital infrastructure.

Digital infrastructure is a complex concept, as it includes cellular infrastructure and satellite networks. Combined with other digital technologies such as personal computers and smartphones, these innovations have changed the daily lives of society and the way we do business around the world. Digital technologies are changing the nature of economic relations, forms of relations between different institutions, areas of digital enterprises. Digital Infrastructure of Industry 4.0 is primarily an infrastructure access to the state-of-the-art trunk and mobile networks, along with a service infrastructure. Today, digital infrastructure is a platform for the development of all spheres of society in any country.

Course Objectives and Learning Outcomes

As a student graduate of this course, you will have developed knowledge, skills and social competences that are essential for gaining employment and advancing lifelong learning. This course refers to them as Learning Outcomes (LO) and identifies them as follows: LO1 Intellectual rigor, LO2 Creativity, LO3 Ethical practice, LO4 Knowledge of a discipline, LO5 Lifelong learning, LO6 Communication and social skills, LO7 Cultural competence.

This course will assist you to develop the following learning outcomes:

Learning outcome for this course	LO1	LO2	LO3	LO4	LO5	LO6	LO7
On completion of this unit, students should be able to:							
• synthesise, analyse, interpret and evaluate information from a range of sources			✓				
• identify own personal attributes applicable to entrepreneurial situations in digital contexts					✓		
• self-manage the development of learning and study skills, both individually and as part of a collaborative learning group							✓
• select and use effective digital infrastructure tools in practice				✓			
• establish the values, vision, mission, goals and criteria by which the entrepreneur determines the further directions of digital development and entry into digital infrastructure		✓		✓			
• master and learn to work with digital technologies throughout life					✓		
• make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of law, ethical considerations and social responsibility	✓						✓

Course Design / Organization

Follow the logic of studying the course as follows:

- Get acquainted with the materials of Chapter 6 "Digital infrastructure" a textbook "Doing business digitally" (see Readings) and other relevant literature on this topic.
- View the prepared presentation for Chapter 6 "Digital infrastructure" and use active links to Internet resources, watch videos, etc.
- Independently find and get acquainted with the practical experience of building digital infrastructure. Based on the obtained data, using both individual (critical thinking, generalization, analysis, etc.) and collective methods (brainstorming, discussion, etc.) to intensify their creative thinking and develop approaches to assess the effectiveness of digital infrastructure management.

- The class is divided into groups of 3-4 people each and work together to solve case problems (DIYA (State and I), Beatik, Delsol, Cargometer and others), presented in a casebook "How to do business in digital era". Answer the questions and discuss in class, reflect.
- In the class, each student independently performs Task 1 (presented in Assignment / Grading) on the level of development of digital infrastructure in a particular country and presents to the audience the results obtained, concludes.
- Each student independently performs Task 2 (presented in Assignment / Grading) to assess the state of digital infrastructure in a particular field of life and in class demonstrates a prepared presentation with a speech, draws a conclusion and answers questions from the audience.

Syllabus

The topics studied in the course:

- Definition of infrastructure
- The essence of digital infrastructure
- The growing role of infrastructure in digital space
- The impact of soft digital infrastructure on digital business
- Opportunities provided by the supporting ("solid") digital infrastructure for digital entrepreneurship
- Criteria for assessing the level of digital infrastructure development
- Positive and negative consequences of the impact of IoT technology as a structural element of digital infrastructure
- Digital tourism infrastructure and characteristics of tourism business
- Key players, resources and technologies to promote digital infrastructure
- Research teams of researchers, practitioners and socio-technical systems that produce successful digital infrastructure
- The role of digital infrastructure in the socio-economic and sustainable development of entrepreneurship
- Digital infrastructure for environmental protection and ecology: creation and innovative developments
- Digital transformation of medical infrastructure
- Analysis of technologies, products and services of digital infrastructure as innovative trends of entrepreneurship
- FinTech market structure and analysis of its key elements
- Possibilities of digital transformation of enterprises with the help of the latest Blockchain technology
- Socio-economic benefits and threats from digital infrastructure
- The role of the city's Smart Infrastructure for digital business development

Assignment / Grading

Course credit will be based on a class attendance and student's participation in lectures (20% of the final evaluation), individual and team work (40% of the final evaluation), development and presentation of a project work (40% of the final evaluation).

Readings

Mandatory:

Botti, A., Parente, R. & Vesce, R. (Eds.) (2021). How to do business in digital era? A casebook. Salerno-Cracow: Cracow University of Economics. URL: <https://ted.uek.krakow.pl/wp-content/uploads/2021/12/Casebook-31122021.pdf#page=38> (accessed 27 March 2022).

Optional:

Andrusiak, N.O., Kraus, N.M. & Kraus, K.M. (2021). Training in digital entrepreneurship: innovative techniques, technologies, types and techniques. Efficient economy, 2. URL: <http://www.economy.nayka.com.ua/?op=1&z=8643> (accessed 27 July 2021). <https://doi.org/10.32702/2307-2105-2021.2.7>.

- Kliushnyk, I.A., Kolesnykova, T.O., Shapoval, O.S. (2019). The only digital infrastructure of a modern scientific library based on web-technologies. *Science and progress of transport*, 1 (79). URL: <http://stp.diit.edu.ua/article/view/160434/162288> (accessed 27 July 2021).
- Kraus, K., Kraus, N. & Pochenchuk, G. (2021). Digital infrastructure in the conditions of virtualization and new quality of economic relations management. *Efektivna ekonomika*, vol. 9. URL: <http://www.economy.nayka.com.ua/?op=1&z=9279> (accessed 05 Oct 2021). <https://doi.org/10.32702/2307-2105-2021.9.82>.
- Magliocca, P. (Ed.) (2021). *Doing business digitally. A textbook*. Foggia-Cracow: Małopolska School of Public Administration, Cracow University of Economics. ISBN 978-83-89410-44-3 URL: <https://ted.uek.krakow.pl/wp-content/uploads/2021/12/Textbook-31122021.pdf> (accessed 30 March 2022).
- Markevych, K. (2021). *Smart-infrastructure in sustainable urban development: world experience and prospects of Ukraine*. Kyiv: Razumkov Center, Publishing House "Zapovit". 400 p. URL: <https://razumkov.org.ua/uploads/other/2021-SMART-%D0%A1YTI-SITE.pdf> (accessed 20 July 2021).
- Smart Sustainable Cities at a Glance (2021). ITU. URL: <https://www.itu.int/en/ITU-T/ssc/Pages/info-ssc.aspx> (accessed 23 July 2021).
- Teaching Guidelines for Digital Entrepreneurship, eds. Kateryna Kraus, Nataliia Kraus, Olena Shtepa, Cracow University of Economics, Kiev-Cracow 2021, 76 p. ISBN: 978-83-959463-6-3. URL: <https://ted.uek.krakow.pl/output-1-teaching-guidelines/> http://webgate.ec.europa.eu/eac/mobility/systemLayers/5_FE/dist/index.html#/project/272256/view/0 (accessed 23 March 2022).
- Zaporozhets, T.V. (2020). Development of digital infrastructures as a factor in bridging digital divide. *Public administration: improvement and development*, 5. URL: http://www.dy.nayka.com.ua/pdf/5_2020/58.pdf (accessed 24 July 2021). <https://doi.org/10.32702/2307-2156-2020.5.56>.

Hours

4 hours: 3 contact hours (the classroom teaching) and 1 hour individual study