



COURSE DESCRIPTION CARD - SYLLABUS

Course name

FOUNDATIONS OF INNOVATIVENESS

Course

Proposed by Discipline

Civil engineering and transport

Type of studies

Doctoral School

Form of study

full-time

Year/Semester

II/4

Course offered in

English

Requirements

elective

Number of hours

Lecture

4

Tutorials

Projects/seminars

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

Prerequisites

Knowledge: student has a fundamental knowledge on management of organizations and quality issues as well as about environmental and other conditions of civilization development.

Skills: student possesses an ability of perceiving and associating of phenomena occurring in management of market organizations and is able to interpret them, to draw conclusions and to formulate opinions.

Social competencies: student has an awareness of importance of sequential world development and understands the importance of taking into consideration market oriented activities, socially sensitive.

Course objective

Transmitting to students the knowledge about the basic issues connected with conditions of undertaking the creation process of innovative, market oriented, products.



Course-related learning outcomes

Knowledge

A PhD student who graduated from doctoral school knows and understands:

- 1) processes leading to innovations in economy, knows the main types of innovations, sources of innovativeness, in the individual as well as the organizational dimensions, [P8S_WG/SzD_W01], [P8S_WG/SzD_W02]
- 2) through the study of cases, student can appreciate the important role of outstanding innovators in historical development of civilization. [P8S_WK/SzD_W05], [P8S_WK/SzD_W07]

Skills

A PhD student who graduated from doctoral school can:

- 1) analyze the problem situations and find needs for elaborating innovative solutions, [P8S_UW/SzD_U01], [P8S_UW/SzD_U02]
- 2) prepare a scientific paper in a foreign language in the field of innovations and innovativeness, based on literature and other sources of information, including online sources and submit an oral presentation in this field. [P8S_UK/SzD_U04], [P8S_UK/SzD_U08]

Social competences

A PhD student who graduated from doctoral school is ready to:

- 1) set priorities for realization of undertaken tasks in the field of innovation process, [P8S_KK/SzD_K01], [P8S_KK/SzD_K02]
- 2) think and act in an entrepreneurial manner, specially in the field of introduction of innovations. [P8S_KR/SzD_K06]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

PQF code	Methods for verification of learning outcomes	Assessment criteria
W01, W02, W05, W07	presentation of the example of the process leading to significant innovation	degree of novelty of the model
U01, U02, U04, U08	description of the problem situation, taken from economy (especially industry), in which innovative solution is needed	level of description of the situation, including specially aspect of reality
K01, K02, K06	suggestion of methods leading towards implementation of innovation in given case	evaluation of multiplicity and diversity of methods



Programme content

1. Innovation and innovativeness (definitions, main types of innovations, leaders in innovation).
2. Innovators (features of innovative entrepreneurs, examples of outstanding innovators).
3. Innovative ideas (sources of innovative ideas, analysis of innovative ideas, criteria for choosing the promising schemes).
4. Innovation process, commercialization (sources of innovation in innovation process, sources for transfers of knowledge and technology, factors relating to the objectives and effects of innovation, main factors hampering innovation activities, eco-innovations, different aspects of introduction of innovative products to the market).

Teaching methods

Lecture: multimedia presentation including illustrations and examples.

Bibliography

Basic

1. J. Tidd, J. Bessant, Managing innovation. Integrating Technological Market and Organizational Change. John Wiley & Sons Limited, New York 2018.
2. J. G. Wissema, Towards third generation university. Technostarters, why and how? Edward Elgar Publishing, Cheltenham 2009.
3. Oslo manual. 3rd edition. OECD Publishing, Paris 2005.

Additional

1. M. Winger, The innovation imperative. New Direction Press, Texas 2010.
2. J. Verloop, J. G. Wissema, Insight in innovation. Elsevier/Shell Global Solutions, 2006.

Breakdown of average student's workload

	Hours	ECTS
Total workload	18	1.0
Classes requiring direct contact with the teacher	6	0.5
Student's own work (literature studies, preparation for tutorials, project preparation) ¹	12	0.5

¹ delete or add other activities as appropriate