COURSE DESCRIPTION CARD - SYLLABUS

Course name
OPPORTUNITY RECOGNITION - HUMAN VS ARTIFICIAL INTELLIGENCE

Course

Proposed by Discipline
Management and Quality Studies
Type of studies
Doctoral School
Form of study
full-time

Year/Semester
II/4
Course offered in
English
Requirements
elective

Number of hours

Lecture
8

Tutorials

Projects/seminars

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
prof. dr hab. inż. Stefan Trzcieliński
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Faculty of Engineering Management
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Responsible for the course/lecturer:

Prerequisites

Knowledge: segmentation of the organisation's environment, methods of strategic analysis, resources of the organisation, organisation's objectives.

Skills: acquiring data about internal and external conditions of functioning of an organisation and conducting strategic analysis.

Social competencies: effective communication with participants of the organisation, teamwork, arguing own judgements.

Course objective

Understanding opportunities and the mechanisms for creating and discovering them

Course-related learning outcomes

Knowledge

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

1) global achievements, covering theoretical foundations as well as general and selected specific issues that are relevant to scientific disciplines studied at the Doctoral School, to the extent that enables revision of existing paradigms, [P8S_WG/SzD_W01]
2) key developmental trends of disciplines of science in which education at the Doctoral School takes place, [P8S_WG/SzD_W02]
3) scientific research methodology in disciplines represented at the Doctoral School, , [P8S_WG/SzD_W03]
4) fundamental dilemmas of the contemporary civilization, [P8S_WK/SzD_W05]

Skills

A PhD student who graduated from doctoral school can:

1) critically analyze and assess scientific research results, work of experts and other creative activities together with their contribution into knowledge development, [P8S_UW/SzD_U02]
2) communicate on specialist issues on the level that allows active participation in the international scientific community, [P8S_UK/SzD_U04]
3) share results of scientific activity also in a popular form, [P8S_UK/SzD_U05]
4) take part in scientific discourse, [P8S_UK/SzD_U07]

Social competencies

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

1) critically assess achievements within a given scientific discipline, [P8S_KK/SzD_K01]
2) critically evaluate their own contribution to development of a given scientific discipline, [P8S_KK/SzD_K02]
3) acknowledge the importance of knowledge in solving cognitive and practical problems, [P8S_KK/SzD_K03]
4) think and act in an entrepreneurial manner, [P8S_KO/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, W03, W05	Conversation during the lecture	• Correctness of answers to the questions asked • Accuracy of examples included in the statement
U02, U04, U05, U07	Completing a task during the lecture Completing a final project	• Correctness of the formulation of the opportunity as a relationship between goals, resources and the external situation • Application of a systems approach to discovering the opportunity understood as unmet demand for alternative products
K01, K02, K03, K06	Completing a task during the lecture Completing a final project	• Application of a systems approach to discovering the opportunity understood as unmet demand for alternative products • Development of a flow matrix between resources for the purpose of demand simulation with use of AI

Programme content

1. A brief theory of opportunity.
2. Mechanism of discovering and creating opportunities.
3. Analytical and cognitive approaches to opportunity recognition.
4. Application of Markov Chain Monte Carlo (MCMC) methods to discover opportunities.

Course topics

1. A brief theory of opportunity.
2. Mechanism of discovering and creating opportunities.
3. Analytical and cognitive approaches to opportunity recognition.
4. Application of Markov Chain Monte Carlo (MCMC) methods to discover opportunities.

Teaching methods

Lecture: multimedia presentation including illustrations and examples.

Bibliography

Basic

1. Trzcielinski S., Pawlowski G. (2023). Knowledge in the Discovery of Market Opportunities. Proceedings of 24th European Conference on Knowledge Management ECKM 2023, Lisbon.
2. Trzcielinski S. (2023). Human Intelligence vs. Artificial Intelligence in Opportunity Discovery. In: Waldemar Karwowski and Stefan Trzcielinski (eds) Human Aspects of Advanced Manufacturing. AHFE (2023) International Conference. AHFE Open Access, vol 80. AHFE International, USA. http://doi.org/10.54941/ahfe1003512
3. Trzcieliński S. (2021). Model of the Opportunity Recognition Process. Proceedings of 37th IBIMA Conference, Cordoba.

Additional

Trzcieliński S. (2010). Przedsiębiorstwo zwinne. Wydawnictwo Politechniki Poznańskiej, Poznań.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	8	0
Doctoral student's own work (literature studies, preparation for tutorials, project preparation) [1]	42	2,0

[1] delete or add other activities as appropriate