COURSE DESCRIPTION CARD - SYLLABUS

Course name

CHALLENGES IN THE LOGISTICS, PRODUCTION AND SUPPLY CHAIN MANAGEMENT IN CIRCULAR ECONOMY BUSINESS MODELS – FROM THEORY TO PRACTICE

Course

Proposed by Discipline

management and quality studies

Type of studies

Doctoral School

Form of study

full-time

Year/Semester

II/3, III/5

Course offered in

English

Requirements

elective

Number of hours

Lecture	Tutorials	Projects/seminars
4		

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

dr hab. inż. Paulina Golińska-Dawson, prof. PUT

email: paulina.golinska@put.poznan.pl

phone: +48 61 665 34 10

Faculty of Engineering Management

Poznan University of Technology

ul. Jacka Rychlewskiego 2,

60-965 Poznan, Poland

Responsible for the course/lecturer:

Prerequisites

Knowledge: A student starting this course should have a basic knowledge of logistics, production processes and supply chain management.

Skills: Student should have the ability to acquire information from the indicated sources, critically analyze and evaluate the results of scientific research and expert's reports.

Social competencies: Student should have the ability to cooperate within a team.

Course objective

The goal of the course is to explore the Circular Economy principles in the context of supply chain, logistics and production. The focus will be place on the impact of the circular business models (e.g., Product as a Service PaaS) on the materials management in a company and the whole supply chain. The challenges for closing the loop and increasing the resource efficiency will be presented.

Course-related learning outcomes

Knowledge

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

1) The extent that enables revision of existing paradigms - global achievements, covering theoretical basis as well as general and selected specific issues, that are characteristic to scientific disciplines studied at the doctoral school, [P8S_WG/SzD_W01]
2) Key developmental trends of science disciplines in which education takes place at the doctoral school, [P8S_WG/SzD_W02]
3) Scientific research methodology in disciplines represented at the doctoral school. [P8S_WG/SzD_W03]

Skills

A PhD student who graduated from doctoral school can:

1) Use the knowledge from different branches of science to creatively identify, formulate and to innovatively solve complex problems or to execute research tasks in particular: - define the aim and subject of scientific research, form a research hypothesis, - develop research methods, techniques and tools and use them creatively, - draw conclusions on the basis of research results, [P8S_UW/SzD_U01]
2) Critically analyze and asses scientific research results, work of experts and other creative activities together with their contribution into knowledge development, [P8S_UW/SzD_U02]
3) Transfer the results of scientific activity to the economic and social sphere, [P8S_UW/SzD_U03]
4) Participate in the scientific discourse [P8S_UK/SzD_U07]

Social competencies

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

1) Critically assess the achievements within a given scientific discipline, [P8S_KK/SzD_K01]
2) Critically evaluate their own contribution to the 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]

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	Case studies, scietific discurss - active participation in discussion and problem solving exercises , quiz	Quality of the feedback provided; Quiz min 51% to pass
U01, U02, U03, U07	Problem solving, case study – practical task	Quality of the solved problems
K01, K02, K03	Readings - class discussion. Team work	Assessment of the quality of class discussion

Programme content

The course will discuss challenges in the logistics, production and supply chain management in circular economy business models - from theoretical and practical perspective

Course topics

The goal of the course is to explore the Circular Economy principles in the context of supply chain, logistics and production. The focus will be place on the impact of the circular business models (e.g., Product as a Service PaaS) on the materials management in a company and the whole supply chain. The challenges for closing the loop and increasing the resource efficiency by redesign of materials flow and its recovery will be presented. Topics:

- Introduction to Circular Economy principles.
- Circular business models and their strategic implications for logistics, production and material management in the supply chain.
- Challenges for slowing down and closing material loops and increasing resource efficiency in the supply chain.
- Challenges for recovering value in the circular supply chain using different recovery scenarios (reduce, reuse use, remanufacturing, recycling).

Teaching methods

Multimedia presentation illustrated with examples and case studies

Bibliography

Basic

- Golińska-Dawson P. (Ed.), Logistics operations and management for recycling and reuse, Springer, 2020.
- De Angelis R., Howard M., Miemczyk J., Supply chain management and the circular economy: towards the circular supply chain, Production Planning & Control, 29(6), 2018, s. 425-437.

Additional

- Kulczycka J., Głuc K., W kierunku gospodarki o obiegu zamkniętym Perspektywa przemysłu, Instytut Gospodarki Surowcami Mineralnymi i Energią Polskiej Akademii Nauk, Warszawa, 2017.
- Amir, S., Salehi, N., Roci, M., Sweet, S., & Rashid, A. Towards circular economy: A guiding framework for circular supply chain implementation. *Business Strategy and the Environment*, *32*(6), 2684-2701,2023

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,0
Classes requiring direct contact with the teacher	4	0
Doctoral student's own work (literature studies, preparation for tutorials, project preparation) [1]	21	1,0

[1] delete or add other activities as appropriate