COURSE DESCRIPTION CARD - SYLLABUS

Course name
PRODUCT MANAGEMENT IN A CIRCULAR ECON [S5NOZIJ>ZPGOZ]

Course

Proposed by Discipline
–

Year/Semester
3/5

Level of study
Doctoral School

Course offered in
English

Form of study
full-time

Requirements
elective

Number of hours

Lecture
4

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

Knowledge: Students should have a basic knowledge of product design, production, and logistics processes. Skills: Students should be able to acquire information from recommended sources, critically analyse and evaluate the results of scientific research and expert reports. Social Competences: Students should demonstrate the ability to cooperate effectively within a team.

Course objective

The course aims to critically investigate the key challenges of product management within the circular economy. The impact of circular business models on the design, production, logistics and after-use phases of products will be analysed. The course will also examine how these models reshape value creation within companies and influence the configuration of entire supply chains. Students will be encouraged to engage with empirical research methods and theoretical debates in this field.

Course-related learning outcomes

Knowladge:
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:

Knowladge W01, W02, W03, Methods: Case study presentation, quiz
Assessment: Quiz: pass mark over 50%

Skills: U01, U02, U03, U07: Methods: Problem solving and case study (practical task).
Assessment: Quality of solved problems.

Social competencies: K01, K02, K03, Methods: Readings – class discussion. Assessment: quality of class discussion.

Grading system:
50% - 60,0%: 3,0
over 60% - 70,0%: 3,5
over 70% to 80,0%: 4,0
over 80% - 90,0%: 4,5
over 90% - 100%: 5,0

Programme content

This course explores the key challenges of product management within the circular economy. It will analyse the impact of circular business models on the design, production, logistics, and after-use phases of products. It will also examine how these models reshape value creation within companies and influence the configuration of entire supply chains. Students will be encouraged to engage with empirical research methods and theoretical debates in this field.

Course topics

• Introduction to the Circular Economy (concepts, principles, EU policies)
• Product Life-cycle in Circular Economy, scope and main challenges
• Eco-design requirements
• Circular Business Models and Value Creation
• Digital Enablers of products management in CE (Digital Product Passport, Data for Circularity)
• Case Studies: Circular product strategies in key sectors (electronics, textiles, automotive, packaging)

Teaching methods

A multimedia presentation, illustrated with examples and case studies.

Discussion of research problems.
Case study anlysis

Bibliography

Basic:
1) Burke, H., Zhang, A., & Wang, J. X. (2023). Integrating product design and supply chain management for a circular economy. Production Planning & Control, 34(11), 1097-1113.
2) Aguiar, M. F., & Jugend, D. (2022). Circular product design maturity matrix: A guideline to evaluate new product development in light of the circular economy transition. Journal of Cleaner Production, 365, 132732.
3) Diaz, A., Reyes, T., & Baumgartner, R. J. (2022). Implementing circular economy strategies during product development. Resources, Conservation and Recycling, 184, 106344.

Additional
1) Rusch, M., Schöggl, J. P., & Baumgartner, R. J. (2023). Application of digital technologies for sustainable product management in a circular economy: A review. Business strategy and the environment, 32(3), 1159-1174.
2) Santibanez Gonzalez, E. D., Koh, L., & Leung, J. (2019). Towards a circular economy production system: trends and challenges for operations management. International Journal of Production Research, 57(23), 7209-7218.

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	4	0,00
Doctoral student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation)	21	1,00