

Subject card

Subject name and code	Circular Economy, PG_00178099						
Field of study	Logistics and Mobility						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026		
Education level	Master's studies		Subject group				
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		English English		
Semester of study	3		ECTS credits		5.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Marcin Wolek				
	Teachers		dr hab. Marcin Wolek				
			dr Agnieszka Szmelter-Jarosz				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		0.0		0.0	30
Subject objectives	To make participants familiar with the concept, theoretical background, goals and principles of circular economy supported with living examples from the selected sectors (including city level, waste management, urban mobility and automotive).						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[LMMU2_W07] has an in-depth knowledge of economic and financial principles governing the functioning and management of economic entities and organisations, which require logistics support or provide logistics services, as well as of systems of legal, organisational, professional, moral and ethical norms and rules organising public structures and institutions, both in the national and international spheres	The student has in-depth knowledge of the economic and financial principles of operation and management of economic entities and organizations that require adaptation to the requirements of the circular economy, as well as of systems of legal, organizational, professional, moral, and ethical norms and rules that organize public structures and institutions, both at the national and international level, relating to circularity and the principles of sustainable development.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
	[LMMU2_K02] is aware of the level of his/her knowledge in the field of logistics and mobility; understands the need to extend and update this knowledge throughout his/her life	The student is aware of their level of knowledge in the field of the circular economy and understands the need to deepen and update this knowledge throughout their life.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
	[LMMU2_W01] has an in-depth knowledge of the nature of social sciences and their place in the system of sciences; understands the differences between contemporary trends in theory of logistics and mobility	The students should be able to refer to basic knowledge of linear and circular economy and explain the difference between them.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
	[LMMU2_K01] recognises the importance of knowledge in the field of logistics and mobility in the process of identifying and solving work-related problems and of consulting experts when having difficulties in solving them independently	The students should be aware of the complexity of the circular economy and the connection with a holistic approach to sustainable development. The students should be able to address opportunities for the circular economy in an optional case. The students should be able to use an expert's opinions on very complex topics in the circular economy.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
	[LMMU2_U07] can independently propose solutions to complex logistics and mobility problems, select methods of analysis and conduct conclusive procedures in this respect	The students should be able to find solutions by applying theoretical and practical knowledge of sustainable business models. The students will gain basic knowledge of CSRD and LCA and become familiar with the possibilities of using AI to address sustainability issues.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
	[LMMU2_U01] can creatively interpret and explain economic and social phenomena and relations between them, using acquired knowledge of economics, finance, management sciences, logistics and mobility	The student is able to creatively interpret and explain socio-economic phenomena in the field of the circular economy and the relationships between them, using acquired knowledge in economics, finance, management sciences, logistics, and mobility.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report

1. Introduction to the Circular Economy

- The concept of sustainable development
- Renewable and non-renewable resources and environmental economics
- United Nations Sustainable Development Goals (SDGs)

2. What is the Circular Economy?

- Why the circular economy? (Inefficiencies of traditional business models)
- Evolution of the circular economy concept
- Limitations of the circular economy

3. Circular Economy as an Element of Corporate Social Responsibility (CSR)

- Economic, social, and environmental potential of the circular economy
- Circular economy as an element of non-financial reporting
- Implementation of the circular economy in a company

4. Levels of Circular Economy Implementation (macro, meso, micro)

- Circular economy at the macroeconomic level [EU Action Plan for the Circular Economy, comparison of country profiles exercise]
- Circular economy at the mesoeconomic level (region and metropolitan area)
- Circular economy at the microeconomic level (enterprise and organization)

5. Impact of the Circular Economy on Business Models

- What is a business model
- Green business models
- Circular economy in business models

6. Measuring the Impact of the Circular Economy

- Circulations (technical circulations, bio-based circulations)
- Carbon footprint
- RESOLVE framework
- Introduction to Life Cycle Assessment (LCA)

	- Environmental impact assessment - Setting standard indicators for monitoring and evaluating the circular economy		
	7. Circular Supply Chains - Introduction to Closed-Loop Supply Chain Management (CLSCM) - CLSCM in enterprises and logistics operators - Case studies of CLSCM in various sectors (e.g., pharmaceutical, food, FMCG)		
	8. Circular Economy and Processes in Organizations - Introduction to Business Process Management (BPM) - Mapping and measuring business processes - KPIs for the circular economy in business process management		
	9. Governing the Circular Economy in the Urban Context - Introduction to urban resource management - Case studies of the circular economy in water management (e.g., sponge city) and other resource management areas (e.g., green city, resilient city) - Circular economy in the strategic context of selected cities		
	10. Circular Economy in the Transport Sector Using the Circularity Compass - Circular economy in infrastructure management case studies based on the CE4CE project - Circular economy in fleet management case studies based on the CE4CE project - Circular economy in energy, fuels, and similar resources case studies based on the CE4CE project		
	11. Circular Economy in Practice: Study Visit to the Tram Depot of GAI T Ltd. (Urban Public Transport Operator in Gdańsk) equivalent of 4 lecture hours		
	12. Circular Economy in the Automotive Sector CLSCM in the automotive industry		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final presentation	65.0%	75.0%
	Attendance rate	75.0%	25.0%

Recommended reading	Basic literature	C. Weetman: A Circular Economy Handbook for Business and Supply Chains. Kogan Page 2017 H. Lehmann and others: The Impossibilities of the Circular Economy: Separating Aspirations From Reality. Routledge. 2023 The Circularity Gap Report 2024. Circle Foundation 2024. World Economic Forum publications on the Circular Economy
	Supplementary literature	Other data sets and websites, including https://www.circularcityfundingguide.eu/
	eResources addresses	
Example issues/ example questions/ tasks being completed	The phenomenon of greenwashing in the selected industry Circular economy in a chosen country. Environmental Impact Assessment in the circular economy Circular business models Is my city circular? An evaluation of the circularity level of a selected city. Circularity assessment of the selected company. Carbon footprint in the evaluation of circularity. Life Cycle Assessment in the evaluation of circularity. Circularity at a household level.	
Work placement	Not applicable	

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