University of Gdańsk

Subject card

Subject name and code	Supply chain management in a low-carbon economy , PG_00199003						
Field of study	Economics						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		exam		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Dorota Książkiewicz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	10.0	0.0	40
	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	40		0.0		10.0	50
Subject objectives	The course aims to familiarize students with the key aspects of supply chain management in the context of a low-carbon economy. It is designed to develop knowledge and skills related to the integration of sustainable practices, reduction of greenhouse gas emissions, and the implementation of innovative solutions within supply chains that support both ecological and economic goals of modern enterprises.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[EKONL3_K05] correctly identifies, diagnoses and resolves professional dilemmas and different options for solutions	correctly identifies, diagnoses, and resolves dilemmas and various solution options related to professional practice, with particular emphasis on challenges associated with implementing low-carbon and sustainable practices in supply chain management.	[SK2] presentation/project/paper/ report
[EKONL3_W03] knows the relations between economic agents and social organisations operating in the national, international and intercultural arenas	has advanced knowledge of the relationships between economic entities and social organizations operating in the national, international, and intercultural environment of supply chains, with particular emphasis on sustainable development and the low-carbon economy.	[SW2] presentation/project/paper/ report
[EKONL3_K03] participates in the preparation of economic and social projects, being able to reconcile legal, economic, ecological, political and social requirements	participates in the preparation of socio-economic projects in the field of supply chain management, being able to reconcile legal, economic, ecological, political, and social requirements, with particular emphasis on the goals of the low-carbon economy.	[SK2] presentation/project/paper/ report
[EKONL3_U04] can predict and forecast the course of economic and social processes and phenomena	is able to anticipate the course of economic and social processes and phenomena occurring in supply chains, especially in the context of the transition towards a low-carbon economy, and to forecast their impacts on enterprises and the environment.	[SU2] presentation/project/paper/ report
[EKONL3_U07] is able to participate in analyses and evaluations of alternative solutions to economic and social problems and to choose the methods and instruments to resolve them rationally	is able to participate in analyses and evaluations of alternative solutions related to ecological and economic challenges in supply chain management, and to select appropriate methods and tools that enable rational decision-making supporting emission reduction and sustainable development.	[SU2] presentation/project/paper/ report
[EKONL3_W08] has an advanced knowledge of the processes of changing elements, enterprises and whole structures of economic organisations, as well as the processes of changing social institutions, knows what their causes, course, scale, consequences are and what the influence of external stakeholders is on them	Has knowledge of the processes of change in elements, enterprises, and entire structures of economic organizations, as well as changes in social institutions, with particular emphasis on aspects related to the transition to a low-carbon economy. Understands the causes, course, scale, and consequences of these changes, and is aware of the influence of external stakeholders on these processes.	[SW2] presentation/project/paper/ report

Subject contents

1. The specifics of modern supply chains management and optimization
2.Introduction to the low-carbon economy and its significance for supply chain management
3.Sources of greenhouse gas emissions in the supply chain and methods of their measurement
4.Emission reduction strategies in logistics and transportation
5.Sustainable inventory and warehouse management in the context of a low-carbon economy
6. Sustainable packaging solutions
7.Technologies and innovations supporting low-carbon supply chains
8.The role of partnerships and cooperation in building low-carbon supply chains
9.The future of supply chain management in the context of global ecological transformation

Students have the opportunity to receive additional substantive assistance during consultations with the course instructor.

The condition for obtaining a passing grade is to achieve at least 51% of the total points from practical classes, 51% of the points from exercises and projects, and at least 51% of the points from the final exam. The final grade is based on the total number of points obtained from both the practical and lecture components.

Prerequisites and co-requisites

Basic knowledge of supply chain management and logistics processes.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>exam</td><td>51.0%</td><td>50.0%</td></tr>
<tr><td>presentation</td><td>51.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Robert Stanisławski, Andrzej Szymonik, Artur Błaszczyk : Nowoczesna koncepcja ekologistyki. Difin 2021

Zrównoważona logistyka. Praca zbiorowa pod red. K. Kolasińskiej-Morawskiej i M. Ziółko, CeDeWu 2023

D. Książkiewicz: Rozwój transportu, spedycji I logistyki w dobie cyfryzacji i globalnej gospodarki, Wydawnictwo UG 2021.
Adam Koliński, Michał Adamczak, Innowacyjne technologie w logistyce - koncepcja zrównoważonego rozwoju, e-book
Wydawnictwo Spatium, 2024</td></tr>
<tr><td>Supplementary literature</td><td>Krzysztof Małachowski, Gospodarka a środowisko i ekologia. CeDeWu 2023</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">What is the concept of a low-emission supply chain and what are its key elements?
What are the main sources of CO emissions in traditional supply chains? Provide examples from different sectors.</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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