POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Sustainability in Logistics and Supply chain management [S2Log2-SPL>ZRwLiŁD]

Course

Field of study	Year/Semester
Logistics	2/3
Area of study (specialization)	Profile of study
Production-logistics Systems	general academic
Level of study	Course offered in
second-cycle	Polish
Form of study	Requirements
full-time	elective

Number of hours

Lecture	Laboratory classes	Other
30	0	0
Tutorials	Projects/seminars	
0	30	

Number of credit points

3,00

Coordinators	Lecturers
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Prerequisites

A student starting this course should have basic knowledge of logistics, logistic processes and supply chain management. He or she should also have the ability to acquire information from the indicated sources and be ready to cooperate within a team.

Course objective

The goal of the course is to explore the sustainability principles and understand how to create a more sustainable logistics operations and supply chain strategy. The course will cover economic, environmental and social aspects of the supply chain management. The challenges and the principles of sustainable (green) procurement, warehousing and transportation also will be discussed.

Course-related learning outcomes

Knowledge:
1. Student knows dependencies between the sustainability and their relations with logistics [P7S_WG_01]
2. Student knows extended concepts for sustanaible logistics and its detailed problems and sustainable supply chain management [P7S_WG_05]

3. Student knows extended issues in the life cycle of sustainable logistic systems and the life cycle of sustainaible industrial products [P7S_WG_06]
4. Student knows phenomena and contemporary trends characteristic for sustainable logistics and its detailed issues and sustainable supply chain management [P7S_WK_03]
5. Student knows best practices within sustainable logistics and its specific issues [P7S_WK_04]

Skills:
1. Student collects on the basis of the literature of the subject and other sources (in Polish and in English) and in an orderly manner, provide information on the problem within the framework of sustainable logistics and its specific issues and sustainable supply chain management [P7S_UW_01]
2. Student designs, using appropriate methods and techniques, the sustaianble logistic process associated with it including defining the path of its implementation and potential threats or limitations in analyzed sustainability domain [P7S_UW_05]
3. Student formulates and solves tasks through interdisciplinary integration of knowledge from different fields and disciplines used to design sustainable logistics systems [P7S_UO_01]

Social competences:
1. Student recognizes causal relationships in achieving the set goals and grading the significance of alternative or competitive tasks in sustanaible logstics and sustainable supply chain management [P7S_KK_01]
2. Student is aware of the correct identification and resolution of dilemmas related to the profession of logistic manager, with respect for professional ethics and respect for diversity of views and cultures relevant for the sustainability [P7S_KK_02]
3. Student is aware of theResponsibility and initiation of activities related to the formulation and information sharing and cooperation in the society in the scope of sustainable logistics [P7S_KO_02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: The knowledge acquired in the lecture is verified by solving problem tasks (30 points in total) and a public presentation of a case study analysis of sustanailbe logistics or sustainable supply chain management practice (20 points). The final test will include open and multiple choice questions (50 points in total). Total mark 100 points. Pass mark: 51% of the points.
Project: Partial assessments of the progress of the project stages, defense of the project, final assessment. Total mark 100 points. Pass threshold: 51% of the points

Programme content

Lecture: Discussion of theoretical issues related to the impact of sustainability policies on logistics and supply chain management.

Project: Designing practical solutions in the area of sustainable logistics and sustainable supply chain management, with a focus on best practices in various sectors.

Course topics

Lecture: Foundations of sustainable development policy guidelines and their impact on the logistics and supply chain management. Sustainable business models and their strategic implications for organization of logistics and supply chain. Sustainability in logistics - sustainable procurement, sustainable transport and sustainable warehousing. The processes in the reverse logistics - differences between forward and reverse flows in SC, the characteristics of the material and information flows in the reverse logistics. Integration reverse and forward processes in a closed loop supply chain.
Project: Developing concepts for sustainable logistics and sustainable supply chain management, with a focus on best practices in various sectors. The project will include the identification of sustainable supply chain management objectives. Identification of the necessary changes to implement sustainable logistics and sustainable supply chain management. Characterization of selected supply chain and/or logistics processes in terms of sustainability. Proposing solutions for selected areas (e.g., implementation of green purchasing, sustainable transportation, sustainable distribution, etc.) and assessing the feasibility of the proposed solutions in economic, environmental and social terms.

Teaching methods

Lecture: multimedia presentation illustrated with examples and case studies.
Project: multimedia presentation illustrated by examples given by the instructor and solving case study and the problem tasks given by the instructor.
Local education methods on the ekursy.put.poznan.pl platform.

Bibliography

Basic:
1.Tundys, B. (2017). Zarządzanie zrównoważonym i odpowiedzialnym łańcuchem dostaw-analiza metod, narzędzi i dobrych praktyk. Zeszyty Naukowe Politechniki Częstochowskiej. Zarządzanie, (25, t. 2), 73-83.
2. Golinska P., Logistyka zwrotna, Wydawnictwo Politechniki Poznańskiej, Poznań, 2013.
3. Chaberek M., Trzuskawska-Grzesińska A., Metody i narzędzia strategicznej oceny i wyboru kanałów logistycznych w procesie wariantowego kreowania konkurencyjnych łańcuchów dostaw, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, nr 505, 2018, s. 13-34.
4. Michałowska M., Aspekty środowiskowe w zarządzaniu łańcuchem dostaw, Globalna Gospodarka, Zarządzanie, Prawo i Administracja, Global Economy, Management, Law and Administration, 29, 2018.

Additional:
1. Grant D. B., Wong C. Y., & Trautrims A., Sustainable logistics and supply chain management: principles and practices for sustainable operations and management, Kogan Page Publishers, 2017.
2. García-Alcaraz J.L. (Ed.), Tools, Methodologies and Techniques Applied to Sustainable Supply Chains, MDPI, 2020.
3. Lazar S., Klimecka-Tatar D., Obrecht M., Sustainability orientation and focus in logistics and supply chains, Sustainability, 13(6), 2021, 3280.
4. Rudnicka A., Zrównoważony rozwój w modelach biznesowych firm z branży TSL. Założenia i praktyka, Studia Ekonomiczne, 357, 2018, s. 96-107.

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,00
Classes requiring direct contact with the teacher	60	2,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50