



Subject card

Subject name and code	Storage Techniques, PG_00056237						
Field of study	Transport and Logistics						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2024/2025		
Education level	first-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Zakład Projektowania Okrętu -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Jakub Montewka					
	Teachers	dr inż. Ievgen Medvediev mgr inż. Filip Zarzycki					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	30.0	0.0	0.0	0.0	45
	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	45	3.0		27.0	75	
Subject objectives	The aim of the subject is to familiarize with the basic knowledge of the process of storing goods and services related to them. The subject is designed to present the most important aspects in the field of supply chain management, domestic and international logistics of goods and services, the functioning of the warehouse market in Poland and Europe, the construction and equipment of warehouses, the operation of warehouses in the logistics process. An important element of the subject is a project in which the Student learns to design and equip the warehouse with its most important elements.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W08] has knowledge regarding the principles of sustainable development	The student is aware of the need for sustainable development, taking into account a number of aspects belonging to a given system and the environment in which the system functions.			[SW3] Assessment of knowledge contained in written work and projects		
	[K6_W05] has an organized knowledge on design, construction and operation of means and systems of transport	The student is able to prepare a simple project concerning the construction or operation of a selected element and aspect of a transportation system, being aware of the boundary conditions and constraints.			[SW3] Assessment of knowledge contained in written work and projects		

Subject contents	<ol style="list-style-type: none"> 1. Introduction to the subject 2. The essence and importance of the warehouse and warehousing in a logistics system, supply chain management 3. Logistic infrastructure and the warehouse market in Poland, the flow of information in logistics 4. Types and kinds of warehouses, classification. Modal points in logistics. The functioning of the warehouse, 5. Forms and types of warehouses (logistic, storage and distribution centers) 6. Goods storage techniques. Processes in the warehouse, warehouse division, storage zones, construction and equipment of the warehouse 7. Warehousing techniques. Forming cargo units in warehouses. Stocks and stock management. Cross-docking 8. Warehouse processes. Division of warehouses, storage zones, construction and equipment of the warehouse 9. Warehouse techniques and technical equipment of the warehouse 10. automatic warehouses 11. IT systems in warehousing 12. Security in storage 		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lectures	51.0%	50.0%
	Project	51.0%	50.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Paweł Andrzejczyk, Paweł Fajfer, Ewa Rajczakowska, Podstawy logistyki w przykładach i ćwiczeniach, Instytut Logistyki i Magazynowania, 2020 2. Daniel Chudzik Andrzej Szymonik, , Logistyka nowoczesnej gospodarki magazynowej, Difin 2018 3. Cieśla Maria, Hat-Garncarz Grażyna, Opasiak Tadeusz, Nowakowski Piotr , Logistyka w łańcuchach dostaw. Wybrane zagadnienia, Wydawnictwo Politechniki Śląskiej 2017 4. Jan Długosz, Nowoczesne technologie w logistyce, PWE 2017 5. Golemska Elżbieta, Majchrzak-Lepczyk Justyna, Bentyn Zbigniew , Logistyka usług, PWN 2017 6. Michał Kłodawski, Modelowanie procesów magazynowych w zastosowaniu do oceny wydajności i bezpieczeństwa pracy w magazynach, Oficyna Wydawnicza Politechniki Warszawskiej 7. Michał Kłodawski, Modelowanie procesów magazynowych w zastosowaniu do oceny wydajności i bezpieczeństwa pracy w magazynach, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2019 8. Łapko Aleksandra, Wagner Natalia, Logistyka dystrybucji . Trendy - Wyzwania Przykłady, CeDeWu Sp. z o.o. 2019 9. Richards Gwynne, Zarządzanie logistyką magazynową, Wydawnictwo Naukowe PWN, 2016 10. Grzegorz Tarczyński, Optymalizacja procesów magazynowych, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, 2019 	
	Supplementary literature	<ol style="list-style-type: none"> 1. Cieśla Maria, Hat-Garncarz Grażyna, Opasiak Tadeusz, Nowakowski Piotr , Logistyka w łańcuchach dostaw. Wybrane zagadnienia, Wydawnictwo Politechniki Śląskiej 2017 2. Richards Gwynne, Zarządzanie logistyką magazynową, Wydawnictwo Naukowe PWN, 2016 	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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