

COURSE DESCRIPTION CARD

Bialystok University of Technology Faculty of Engineering Management									
Field of study	Management							Degree level and programme type	first degree/ second degree
Specialization/ diploma path	-							Study profile	-
Course name	Intermodal transport							Course code	IS-FM-00107S
								Course type	elective
Forms and number of hours of educational activities	L	C	LC	P	SW	FW	S	Semester	summer
					30			No. of ECTS credits	6
Entry requirements	-								
Course objectives	Acquiring skills of selecting branches of transport, forming load units and analysing transport chains in intermodal transport. Acquiring skills of identifying and solving problems in intermodal transport and their optimization; acquiring skills of transport cost accounting. Developing social skills while working in a group.								
Course content	Concepts of intermodal transport; Means of transport and loading units; Concept of container transport. Choice of mode of transport by type of cargo, cost of transport, transport corridors, safety, environmental aspects; Basic optimisation models for minimising the cost of flow in a network with transshipment.								
Teaching methods	Project, discussion								
Assessment method	Evaluation of active participation in the class, report from the project								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
L01	the student: defines the terms related to intermodal transport and is able to elaborate on their essence							-	
L02	is able to choose the mode of transport with respect to type of cargo, transport costs, transport corridors, safety, environmental aspects							-	
L03	applies basic optimisation models (linear programming models), e.g. flow cost, optimal location, etc.							-	
L04	identifies problems in intermodal transport and knows the approaches, methods and tools to solve them (relocation of empty containers, reverse logistics, container storage, etc.)							-	
L05	carries out the project and presents its results							-	
Symbol of learning outcome	Methods of assessing the learning outcome							Type of tuition during which the	

		outcome is assessed	
L01	discussion, evaluation of tasks	SW	
L02	discussion, solving tasks in a group and presentation of results	SW	
L03	task solving, project implementation	SW	
L04	realisation of the project	SW	
L05	realisation of the project	SW	
Student workload (in hours)		No. of hours	
Calculation	participation in the class	30	
	preparation for classes	40	
	working on the project, preparation of the report	40	
	Preparation for the project defence	30	
	participation in consultations	10	
	TOTAL:	150	
Quantitative indicators		HOURS	No. of ECTS credits
Student workload – activities that require direct teacher participation		40	1,6
Student workload – practical activities Student workload – practical activities:		140	5,6
Basic references	<ol style="list-style-type: none"> 1. Rodrigue J.P., Comtois C., Slack B., The geography of transport systems, Routledge Taylor and Francis Group, New York 2013 2. Kuźmicz K.A., Pesch E., 2019, Approaches to empty container repositioning problem, Omega, 85, 194-213 3. Tekil-Ergün S., Pesch E., Kuzmicz K.A., 2022, Solving a hybrid mixed fleet heterogeneous dial-a-ride problem in delay-sensitive container transportation, International Journal of Production Research, 60:1, 297-323 		
Supplementary references	<ol style="list-style-type: none"> 1. Zain R. M., Rahman M.N., Nopiah Z.M., Saibani N. 2014, Understanding of empty container movement: a study on a bottleneck at an off-dock depot, Statistics and Operational Research International Conference (SORIC2013), AIP Conference Proceedings, 1613, pp. 403-419 2. Boysen N., Fliedner M., Jaehn F., Pesch E., 2013, A survey on container processing in railway yards, Transportation Science, 3, 312-329 3. Nossack J., Pesch E., 2013, A truck scheduling problem arising in intermodal container transportation, European Journal of Operational Research, 230, 666–680 		
Organisational unit conducting the course	Department of International Logistics and Service Science	Date of issuing the programme	
Author of the programme	dr Katarzyna Anna Kuźmicz	21.02.2022	