



Subject card

Subject name and code	Cargo Science, PG_00056216						
Field of study	Transport and Logistics						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group			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	3	Language of instruction			Polish		
Semester of study	5	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Agnieszka Maczyszyn				
	Teachers		dr inż. Agnieszka Maczyszyn				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	15.0	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		5.0		50.0	100
Subject objectives	Knowledge of cargo classification, cargo quality characteristics, criteria of subdivision and classification of cargo, cargo resistance to transport and storage conditions, principles of hazardous cargo transport and classification. P/S Justification of selection of a project theme, determination of the work objective and the necessary elements to active the intendant effect. Presentation of the elements of performed project, active participation in seminar discussions						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W05] has an organized knowledge on design, construction and operation of means and systems of transport		The student is able to recognize dangerous loads by marking placed on the means of transport.		[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		
	[K6_U05] can formulate a simple engineering task and its specification within the range of design, construction and operation of means and systems of transport		The student is able to select the appropriate means and transport systems for a specific group of goods.		[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU5] Assessment of ability to present the results of task [SU1] Assessment of task fulfilment		

Subject contents	<p>LECTURES Basic definitions: transport, transportation process, commodities, science of commodities, cargo, science of cargos, quality, standardization, unification; cargo vulnerability; cargo classification; physical and chemical properties of cargo; biochemical properties of cargo; external impact on cargos; packaging; cargo units; cargo containers; classification of containers; packaging markings, main loading techniques; choice of loading technique: Lo-Lo, Ro-Ro, Pump in - Pump out; cranes: types, characteristics, capacities; travelling cranes, cranes, lift trucks; store equipment: lift, wagon tippers; cargo holders; loading techniques and cargo protection on the transport vehicles.</p> <p>PROJECT mini-project in selected problems</p>		
Prerequisites and co-requisites	Principles of machine design		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Colloquiums	50.0%	50.0%
	Presentation and submission of project work	50.0%	50.0%
Recommended reading	Basic literature	<p>1. Szarnow R.: Ładunkoznawstwo okrętowe, Wyd. WSM Gdynia 1996 2. Nierzwicki W.: Opakowania, Wyd. WSM Gdynia 1996 3. Korzeniowski A.: Zarządzanie gospodarką magazynową, PWE 1997 4. Grzybowisk L.: Kontenery w transporcie morskim, Wyd. Trademar Gdynia 1999 5. Karpel Ł., Skrzypek M.: Towaroznawstwo ogólne, Wyd. Akademii Ekonomicznej 2000 6. Gubiła M.: Podstawy zarządzania magazynem w przykładach, Biblioteka logistyka Poznań 2002 7. Wiśnicki B.: Vademecum konteneryzacji, Link 2006</p>	
	Supplementary literature	No requirements	
	eResources addresses	<p>Adresy na platformie eNauczanie: Ładunkoznawstwo, W,P, TiL, sem.05, zimowy 23/24 (PG_00056216) - Moodle ID: 31377 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=31377</p>	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		