



## Subject card

Subject name and code	Cargo Handling Systems, PG_00060631						
Field of study	Transport and Logistics						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	1	ECTS credits			2.0		
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. Jacek Nakielski					
	Teachers	dr inż. Jacek Nakielski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	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	30	2.0		18.0		50
Subject objectives	The aim of the course is to familiarize the student with reloading systems. Transhipment systems operating on ships and in transhipment terminals will be presented.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U04] is skilled in self-educating in order to develop his professional qualifications, is prepared to work in an industrial environment, applies the principles of occupational health and safety	Can actively participate in lectures.			[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_W05] has established knowledge in the field of design, construction and operation of transport means and systems	Familiarization with transhipment systems, both port and ship.			[SW1] Assessment of factual knowledge		
Subject contents	<ol style="list-style-type: none"><li>1. Introduction to the subject.</li><li>2. Maritime transport systems. The role of maritime transport in servicing world trade.</li><li>3. Characteristics of cargo transported by sea.</li><li>4. General and technical characteristics of vessels designed to transport solid, liquid and gaseous bulk cargo.</li><li>5. winding reloading systems for solid, liquid and gaseous bulk cargo.</li><li>6. General and technical characteristics of vessels intended for the transport of general cargo, large-size and containerized cargo.</li><li>7. Ship lo-lo reloading systems.</li><li>8. winding ro-ro transhipment systems.</li><li>9. Oil terminals.</li><li>10. Gas terminals.</li><li>11. Bulk cargo terminals.</li><li>12. Container terminals.</li><li>13. Ro-ro terminals.</li></ol>						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Test 2		50.0%		50.0%		
	Test 1		50.0%		50.0%		

Recommended reading	Basic literature	<ul style="list-style-type: none"> <li>• Urbaniak R.; Typowe ładunki masowe i ich transport, materiały</li> <li>• Puchalski J., Poliwoda J.; Eksploatacja masowców, Wyd. Trademar, Gdynia 2008</li> <li>• Wiewióra A., Wesolek Z., Puchalski J.; Ropa naftowa w transporcie morskim, Wyd. Trademar, Gdynia 1999</li> <li>• Puchalski J.; Drewno, celuloza, papier w transporcie morskim, Wyd. Trademar, Gdynia 1998</li> <li>• Wojtaszczyk W.; Urządzenia przeładunkowe drobnicowców ro-ro i lo-lo, Wyd. Morskie, Gdańsk 1988</li> <li>• Kozak E, Klein E.; Eksploatacja urządzeń portowych, Wyd. Wyższej Szkoły Morskiej, Szczecin 1995</li> <li>• Guldogan E. U.; Port operations and container terminal management : with applications, VDM Verlag Dr. Müller, Saarbrücken 2011</li> <li>• Krośnicka K. A.; Przestrzenne aspekty kształtowania i rozwoju morskich terminali kontenerowych, Wyd. Politechniki Gdańskiej, Gdańsk 2016</li> <li>• Ligteringen H., Velsink H.; Ports and terminals, Delft Academic Press, 2014, Delft 2016</li> </ul>
	Supplementary literature	Brochures, catalogs and online materials.
	eResources addresses	Adresy na platformie eNauczanie: Systemy przeładunkowe, Transport i logistyka, I st., inż., stacj., 2023//2024, sem. 1 - Moodle ID: 33390 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33390">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33390</a>
Example issues/ example questions/ tasks being completed	<p>Jaki jest podstawowy system przeładunkowy ropy naftowej?</p> <p>Jakie występują zagrożenia podczas operacji przeładunkowych materiałów masowych?</p>	
Work placement	Not applicable	