



Subject card

Subject name and code	Hydromechanical Shipbuilding Equipment, PG_00050982						
Field of study	Coastal and Offshore Engineering, Coastal and Offshore Engineering						
Date of commencement of studies	February 2022	Academic year of realisation of subject			2022/2023		
Education level	second-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	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. Jakub Kowalski				
	Teachers		dr inż. Jakub Kowalski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	15.0	15.0	0.0	60
	E-learning hours included: 0.0						
	Hydromechaniczne urządzenia stoczniowe, W/P/L, IMiB, sem 02, zimowy 2022/23 (PG_00050982) - Moodle ID: 26381 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26381						
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	60		13.5		31.5	105
Subject objectives	The aim of the course is to familiarize students with the specificity of hydromechanical shipyard equipment such as: ramps, dry and floating docks, lifts, mounting plates and others. Will be presented characteristics and partially theoretical basis of the above-mentioned devices. Procedures will be discussed accompanying the operation of these devices, including anti-corrosion issues. The selected ones will be displayed elements of the production process and accompanying processes.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K7_U02	student is able to calculate complex engineering tasks in the field of construction and operation of shipyard hydrotechnical facilities and devices	[SU4] Assessment of ability to use methods and tools
	K7_U01	Student is able to assess the usefulness of and the possibility of using new ones technological achievements and development technology in the field design, manufacture and shipbuilding operations facilities and hydrotechnical equipment	[SU2] Assessment of ability to analyse information
	K7_U07	Student has an extensive knowledge of the impact of the construction and operation of shipyard hydrotechnical facilities and equipment on natural environment and in the field of environmental protection methods	[SU3] Assessment of ability to use knowledge gained from the subject
	K7_U03	Student is able to plan and execute construction simulations and shipbuilding operations facilities and hydrotechnical equipment; can interpret their results and formulate the resulting ones conclusions	[SU3] Assessment of ability to use knowledge gained from the subject
	K7_U06	Student has knowledge of the prospects for the development of shipyard hydrotechnical facilities and devices, and knows the new, most important achievements in this field	[SU2] Assessment of ability to analyse information
	K7_U04	Student knows the basic methods and techniques in performing complex engineering tasks in the field of construction and operation of shipbuilding and hydrotechnical facilities and devices	[SU4] Assessment of ability to use methods and tools
Subject contents	<p>Lecture: Against the background of development directions of global shipbuilding (ships, offshore structures) methods of building ships and offshore structures will be presented in order to present them further against this background the most important problems related to the technical operation of ship assembly and launching equipment of new build and repair of ships such as: assembly plates, dry docks, longitudinal slipways and transverse, longitudinal and transverse lifts, swim docks, lifts: synchrolifts and hydro-lifts. Discussed the most important problems related to the horizontal and vertical transport of sections, modules and blocks will be discussed ships or entire hulls (launched by a crane, gantry crane or moved from land on pontoons or floating docks). The issues of measurement methods and tools will be discussed used in the processes of assembly and positioning of structural elements and / or renovation or reconstruction ships. The most important issues of environmental management will be discussed (significant aspects and methods of reducing their impact on the environment) so important in the global era sustainable development.</p> <p>Project: group project of preparing documentation for docking a vessel</p> <p>Laboratory: measurements in docking processes, the problem of friction during launching, the problem of horizontal. transport</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	75.0%	30.0%
	lecture	50.0%	40.0%
	laboratory	80.0%	30.0%
Recommended reading	Basic literature	Dry Docking and Shipboard Maintenance: A Guide for Industry 2nd Edition, by David House, Routledge; 2nd edition (August 14, 2015), ISBN-13 : 978-1138909243	
	Supplementary literature	Design and Construction of Dry Docks, by B. K. Mazurkiewicz, Trans Tech Pubn (December 1, 1981), 978-0878490363	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		