



Subject card

Subject name and code	Hydromechanics of Ship, PG_00046528						
Field of study	Ocean Engineering, Ocean Engineering						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group					
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	5	ECTS credits			3.0		
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. Michał Krężelewski					
	Teachers	dr inż. Michał Krężelewski dr inż. Ewelina Ciba					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	10.0	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	5.0		40.0		75
Subject objectives	The student recognizes basic problems connected with flows and flows around bodies. Uses the laws and methods of hydromechanics and can apply them to ship and ocean structures.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems	The student recognizes basic problems connected with flows and flows around bodies. Uses the laws and methods of hydromechanics and can apply them to ship and ocean structures.			[SW1] Assessment of factual knowledge		
	[K6_W03] has a basic knowledge on hydromechanics, thermodynamics, machine construction, ecology, materials science and electronics necessary to understand the construction and operation principles of ocean technology objects and equipment	The student recognizes basic problems connected with flows and flows around bodies. Uses the laws and methods of hydromechanics and can apply them to ship and ocean structures.			[SW1] Assessment of factual knowledge		
	[K6_U05] can formulate a simple engineering task and its specification within the range of design, construction and operation of ocean technology objects and systems	The student recognizes basic problems connected with flows and flows around bodies. Uses the laws and methods of hydromechanics and can apply them to ship and ocean structures.			[SU1] Assessment of task fulfilment		
Subject contents	Lecture: surface forces. Boundary layer and hydrodynamic wake. The similarity of flows and modeling laws. Ship resistance. Basic field theory. Field operators: gradient, velocity flux, divergence, rotation and circulation of velocity. Basic wing theory: geometrical and hydrodynamic characteristics of foils. Potential flows. Gravity waves. Exercises: numerical examples connected with lectures.						
Prerequisites and co-requisites	Fluid Mechanics						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		exam	60.0%
Recommended reading	Basic literature	Dudziak J. Teoria Okrętu, 2008 Gdańsk Krężelewski M. Hydromechanika ogólna i okrętowa, strypt PG Tom I , II, Gdańsk 1982	
	Supplementary literature	Journee J.M.J. Offshore Hydrodynamics, Delft, 2001	
	eResources addresses	Adresy na platformie eNauczenie:	
	Example issues/ example questions/ tasks being completed		
Work placement	Not applicable		