



Subject card

Subject name and code	Fundamentals of the Ship Hydrostatics, PG_00060528						
Field of study	Naval Architecture and Offshore Structures						
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 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	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Zakład Projektowania Okrętu -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Przemysław Krata				
	Teachers		dr inż. Ewelina Ciba dr hab. inż. Przemysław Krata				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	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		3.0		17.0	50
Subject objectives	The course aims at outlining the generic background of the hydrostatic calculations traditionally applicable to floating structures including yachts.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W03] has knowledge of hydromechanics, thermodynamics, machine design, ecology, materials science necessary to understand the principles of construction and operation of ocean engineering facilities and equipment		A student gains knowledge of hydrostatics of floating bodies allowing to understand the principles of developing of hydrostatic curves.		[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 ocean technology objects and systems		A student is able to carry on hydrostatic calculations using numerical integration methods.		[SU1] Assessment of task fulfilment		
	[K6_U01] can obtain information from literature, databases and other sources, can verify and organize the obtained information, interpret them and form conclusions and justified opinions		A student is able to identify the shape of a yacht using body lines drawings.		[SU4] Assessment of ability to use methods and tools		

Subject contents	Determination of static equilibrium of a yacht afloat.		
	Introduction to numerical integration methods.		
	Determination of geometrical characteristics of waterplanes.		
	Determination of geometrical characteristics of stations.		
	Developing of hydrostatic curves.		
Prerequisites and co-requisites	Background of physics at the high-school level.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final test	50.0%	100.0%
Recommended reading	Basic literature	Ruponen P., Principles of Ship Buoyancy and Stability.	
		Rawson K.J., Tupper E. C.,Basic Ship Theory.	
	Supplementary literature	Lewis, E. V. (ed): Principles of Naval Architecture.	
		Hirdaris, S., Lecture Notes on Basic Naval Architecture.	
	eResources addresses	Podstawowe https://aaltodoc.aalto.fi/handle/123456789/61 - Aalto University textbooks repository Uzupełniające Adresy na platformie eNauczanie: Podstawy hydrostatyki okrętu - sem. letni 2023/2024 - Moodle ID: 37449 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37449	
Example issues/ example questions/ tasks being completed	Determine and draw the hydrostatic curves of a yacht whose hull shape is represented by the given body lines.		
Work placement	Not applicable		

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