GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Ship Theory, PG_00051272		
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	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	5	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 hab. inż. Przemysław Krata	
	Teachers		

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	3.0	17.0	50

Subject objectives

The objectives are to outline the general background of hydrostatic calculations applicable to ships, yachts and other floating structures. The introduced stability principles are to constitute the basis for future stability calculations performed during the ship design process.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W06] has an organized knowledge on engineering methods and design tools allowing the conducting of projects within the construction and operation of ocean technology objects and systems	The student is able to perform basic calculations related to the ship's stability and interpret their results.	[SW2] Assessment of knowledge contained in presentation
[K6_W08] has knowledge of the principles of sustainable development	The student understands the relationship of the issues discussed in the framework of the ship theory classes with the general picture of the design and operation of floating structures.	[SW1] Assessment of factual knowledge

Subject contents

Basics of determining hydrostatic curves.

Initial stability of the ship.

Calculation of the drafts at perpendiculars.

Stability at large angles of heel. The static stability curve and its interpretation.

Determination of the static angle of heel of the ship.

Fundamentals of dynamic stability of a ship.

Prerequisites and co-requisites

Basic knowledge of physics and technical mechanics. Ability to use selected computational tools.

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	assigned task evaluation	50.0%	100.0%
Recommended reading	Basic literature	Derret, Stability for mates and masters	
	Supplementary literature	Kobyliński L., Kastner S., 2003. Stability and safety of ships, Volume I, Regulation and Operation, Elsevier Ocean Engineering Book Series, volume 9.	
	eResources addresses	Podstawowe https://www.azoresuperyachtservices.pt/images/downloads/SHIP%20STABILITY/Ship%20Stability%20(Masters%20and%20Mates)%20-%20Bryan%20Barrass%20and%20D.R%20Derrett.pdf - Book Stability for mates and masters Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Computation of of the Bonjean scale and the hydrostatic curves. Determining the displacement and coordinates of the center of gravity. Determination of the ship's stability characteristics for small and large angles of heel. Determination of small and large static angle of heel of a ship subjected to external heeling moment. Determination of the dynamic angle of heel of the ship.		
Work placement	Not applicable		