GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Ship Theory 2, PG_00053546		
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	Department of Hydromechanics and Hydroacoustics -> 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	10.0	10.0	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	0.0	0.0	30

Subject objectives

The course aims at outlining the generic background of the hydrostatic calculations typically applicable to ships, yachts and other floating structures. The introduction to ship stability issues is presented in order to provide the very basics for further stability calculations routinely undertaken during a ship design process.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[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 identify issues related to the buoyancy and stability of ships and is able to properly outline the area of engineering search for solutions.	[SU1] Assessment of task fulfilment
[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems	A student has a well structured knowledge of the ship hydrostatics and the basics of stability concept.	[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	A student has a basic background allowing for understanding of the hydrostatic curves and the stability booklet.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents

- Basics of the hydrostatic curves determination.
- Initial stability.
- Salculation of draft at perpendiculars.
- Stability for large angle of heel.
- Righting arm curve and its interpretation.
- Determination of a static angle of heel.
- Basics of the dynamical stability of ships.

Prerequisites and co-requisites

Background of physics at the secondary 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	Rawson K.J., Tupper E. C.,Basic Ship Theory. International Code on Intact Stability, 2008 , (2008 IS Code)
	Supplementary literature	Lewis, E. V. (ed): Principles of Naval Architecture. Hirdaris, S., Lecture Notes on Basic Naval Architecture, Aalto University, 2021.
	eResources addresses	Podstawowe https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/MSCResolutions/MSC.267(85).pdf - International Code on Intact Stability, 2008 , (2008 IS Code) Uzupełniające Adresy na platformie eNauczanie: Teoria Okrętu II - hydrostatyka, stateczność zima 2022/2023 - Moodle ID: 27439 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=27439
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	