GDAŃSK UNIVERSITY OF TECHNOLOGY

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 2025	Academic year of realisation of subject	2025/2026
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 - Brak (istniała Wcześniej) -> Institute Of Naval Architecture -> Faculty Of Mechanical Engineering And Ship Technology -> Wydziały Politechniki Gdańskiej		
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	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

<table>
<tr><td>Subject contents</td><td>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.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Background of physics at the high-school level.</td></tr>
<tr><td>Assessment methods and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Final test</td><td>50.0%</td><td>100.0%</td></tr>
</table></td></tr>
<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>Ruponen P., Principles of Ship Buoyancy and Stability.

Rawson K.J., Tupper E. C.,Basic Ship Theory.</td></tr>
<tr><td>Supplementary literature</td><td>Lewis, E. V. (ed): Principles of Naval Architecture.

Hirdaris, S., Lecture Notes on Basic Naval Architecture.</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
</table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Determine and draw the hydrostatic curves of a yacht whose hull shape is represented by the given body lines.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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