GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Ship Design II, PG_00060552		
Field of study	Naval Architecture and Offshore Structures		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Optional subject group 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	3	Language of instruction	Polish
Semester of study	6	ECTS credits	4.0
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 inż. Tomasz Hinz	
	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	45.0	0.0	60

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	60	6.0	34.0	100

Subject objectives

The aim of the course is to develop design skills and to acquire knowledge in the assessment of damaged ship stability.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U06] in compliance with a formulated specification and with the aid of appropriate tools and methods, is able to complete a simple engineering task within the range of design, construction and operation of ocean technology objects and systems	Students can carry out basic stability calculations.	[SU1] Assessment of task fulfilment
[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems	The student has a structured knowledge of the ship's damage stability to the extent necessary for its design	[SW3] Assessment of knowledge contained in written work and projects
[K6_U02] can work individually and in a team, communicate through various techniques in professional environment and also record, analyse, and present the results of work, can estimate the time needed to complete a given task	The student is able to prepare a basic intact and damage stability booklet.	[SU1] Assessment of task fulfilment

Subject contents

1. The concept of ship damage stability and subdivision.
2. Measures of ship damage stability and applied calculation techniques.
3. Deterministic assessment of ship damage stability.
4. Probabilistic assessment of ship damage stability.
5. Modeling of ship hull with spatial subdivision in NAPA software.
6. Calculations of damage stability in NAPA.

Prerequisites and co-requisites

Sound mastery of knowledge of ship hydrostatics and intact ship stability.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Report</td><td>50.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">1) International Convention for the Safety of Life at Sea (SOLAS)

2) International Convention for the Prevention of Pollution from Ships (MARPOL)

3) International Convention on Load Lines

4) NAPA Manual</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Ruponen, Pekka: Principles of Ship Buoyancy and Stability</td></tr>
<tr><td>eResources addresses</td><td colspan="2">Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">Perform and present selected stability calculations.

Discuss the watertight subdivision of a ship's hull.

Generate a set of damages meeting SOLAS regulations.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
</table>

Document generated electronically. Does not require a seal or signature.