GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00055297		
Field of study	Ocean Engineering		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2023/2024
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	5	ECTS credits	3.0
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 inż. Krzysztof Wołoszyk	
	Teachers	dr inż. Krzysztof Wołoszyk	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	0.0	30.0	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	5.0	40.0	75

Subject objectives

To teach students designing of ship hull structures by performing a design excercise where a part of ship hull structure is designed based on the criteria of minimal thickness and local strength. The project shall be conducted based on the rules of Classification Societies.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems	Student understands influence of requirements concerning ship's stability, ability to float in flooded conditions, properties of ship propulsion system, sea keeping properties and characteristics of materials used – on ship hull structure. Student knows basic requirements of Classification Societies Rules. Student understands problem of strength of ship hull structures(predicting stress values, buckling and fatigue strength analysis. Student is able to make sketches showing typical arrangements of ship hull structures.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
[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	Student is able to write the final report from conducted project works and is able to present the results of his/her work during the project.	[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task
[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	Student knows structures of typical floating objects and understands restrictions indicating from criteria to be fulfilled (stability, strength, technoligical aspects) and knows basic methods of strength analysis.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
[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	Student is able to propose configuration and arrangement of basic elements forming a ship hull structure and find their scantlings that fulfill the criteria of strength.	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information

Subject contents

Lecturer shows reasonable arrangement of basic structural elements of a similar structure, performs some computations to obtain required dimensions of the elements and their welded connections.

Students may discuss with lecturer any technical problems related to their designed structure.

Prerequisites and co-requisites

Student should have knowledge on ship hull structures collected at lectures in semesters III and IV.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
assessment of the design exercise	50.0%	100.0%

Recommended reading

Basic literature	1. M.Bogdaniuk, Lectures on ship hull structures. 2. Polski Rejestr Statków, Rules for classification and construction of sea-going ships, Part II - Hull, 2019.
Supplementary literature	1..S.Wewiórski, K.Wituszyński, *Konstrukcja stalowego kadłuba okrętowego*, Wyd. Morskie Gdańsk, 1977(in polish).
eResources addresses	Adresy na platformie eNauczanie: Praca projektowa II, P, Oce, Sem. 05, zimowy 23/24 (PG_00055297) - Nowy - Moodle ID: 27733 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=27733

Example issues/ example questions/ tasks being completed	Determine the thickness of outer bottom plating based on the local strength criteria and rules of classification societies. Determine the dimensions of upper deck stiffener based on the local strength criteria and rules of classification societies. Draw up the structural drawings.
Work placement	Not applicable