GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00056278		
Field of study	Ocean Engineering		
Date of commencement of studies	October 2022	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	1	Language of instruction	Polish
Semester of study	2	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Theory and Ship Design -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Cezary Żrodowski	
	Teachers	dr inż. Cezary Żrodowski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

E-learning hours included: 0.0

Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=1247

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	15	2.0	8.0	25

Subject objectives

Introduction to ship design theory, presentation of ship design process, basic tools and professional vocabulary.

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	The student knows and carries out the course the ship design process, described by Evans' spiral and her younger derivatives.	[SW1] Assessment of factual knowledge
[K6_U04] has self-education skills in order to improve professional qualifications, is ready to work in industrial environment, adheres to HSE rules and regulations	The student is able to find and analyze the regulations of classification societies and international conventions in the context of the project.	[SU1] Assessment of task fulfilment

Subject contents

History of ship design methods. Mathematical modelling, problem idealization and algorithm development for design process. Tools for improvement of design process. Design spiral. Stages of parametric and geometric design. Professional language. Rules for design calculations: measurement units, mathematical models, presentation and explanation of calculation results. Physical phenomena, theoretical and empirical design relationships. Functional and safety criteria. Buoyancy equation. Calculation of main design parameters on example of general cargo ship. Compartmentalization. Calculation of buoyancy, stability and register tonnage.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Project	60.0%	50.0%
Lecture exam	100.0%	50.0%

Recommended reading	Basic literature	1. Buczkowski L.: Podstaw Budownictwa Okrętowego, I, II, III tom, skrypt Politechniki Gdańskiej. 2. Milewski J.: Projektowanie i budowa jachtów żaglowych. Gdynia 1998. 3. Staszewski J., Paczesniak J.: Projektowanie Okretów, I, II, III tom, skrypt Politechniki Gdańskiej. 4. Marchaj C.A.: Teoria żeglowania, aerodynamika żagla. Almaress. 2001. 5. Michalski J.P.: Podstawy teorii projektowania okrętów. Wydawnictwo PG, 2013
	Supplementary literature	1. Watson D.: Practical ship design , Amsterdam, Elsevier, 1998. 2. Schneekluth H.: Ship design for efficiency and economy, London,Butterworths, 1987. 3. Piskorz-Nałecki J.: Projektowanie statków morskich. Szczecin, Wyd. PS, 1982. 4. Semenov I., Sanecka K.: Teoria projektowania statków, Szczecin, Wyd. PS, 2001. 5. Nogid L.M: Teoria projektowania okretu, Gdynia Wydawnictwo Morskie, 1962.
	eResources addresses	Adresy na platformie eNauczanie: Podstawy projektowania okrętu, W, Oceanotechnika, sem.03 , letni 22/23 - Moodle ID: 23911 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=23911
Example issues/ example questions/ tasks being completed	Project of Multipurpose Cargo vessel.	
Work placement	Not applicable	