



Subject card

Subject name and code	, PG_00041853						
Field of study	Ocean Engineering, Ocean Engineering						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2021/2022		
Education level	first-cycle studies		Subject group		Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		3.0		
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	0.0	0.0	0.0	20.0	0.0	20
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie:						
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	20		5.0		50.0	75
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 can prepare a technical report in accordance with the formal and technical requirements, including a simplified initial design of the ship		[SW3] Assessment of knowledge contained in written work and projects		
	[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		The student independently formulates conclusions regarding the designed ship and explains their origin.		[SW3] Assessment of knowledge contained in written work and projects		
	[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		The student performs a simplified conceptual design of the multipurpose dry cargo ship, including: a) parametric model b) hull shape (lines) c) compartments d) freeboard e) tonnage f) estimation of stability g) a simplified general arrangement		[SU1] Assessment of task fulfilment		
Subject contents	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 multipurpose dry cargo ship. Compartmentation. 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 report	80.0%	100.0%
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 Okrętów, 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-Nalecki 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 okrętu, Gdynia Wydawnictwo Morskie, 1962.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Project of multipurpose dry cargo vessel.		
Work placement	Not applicable		