



Subject card

Subject name and code	Selected issues of Ship Designing, PG_00045084						
Field of study	Ocean Engineering, Ocean Engineering						
Date of commencement of studies	October 2020	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	3	Language of instruction			Polish		
Semester of study	5	ECTS credits			2.0		
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. Maciej Reichel					
	Teachers	dr inż. Maciej Reichel					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	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	To acquaint students with of ship power plants specialization with selected problems in the field of creating the initial ship design based on the design requirements set by the shipowner.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W08] has knowledge of the principles of sustainable development	The knowledge in question justifies the optimization approach to the design of ships in order to minimize the pollution of the atmosphere proportional to the installed power of the engine room.			[SW1] Assessment of factual knowledge		
	[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	Acquiring knowledge about the methods of determining the main design parameters of ships at the initial stages of design.			[SW1] Assessment of factual knowledge		
Subject contents	Main design parameters of the ship - nomenclature and defining terms; Design spiral; Presentation of classic sets of design assumptions; functional types of ships; The issue of determining the values of the design parameters of the propulsion system of a transport vessel: Preliminary design methodology - "Naval Architecture Approach"; Initial design methodology - "Marine Engineering Approach"; The issue of ship stability safety assessment; Modeling of ship stability: Stability of the ship in an intact hull; Initial stability; static stability; dynamic stability; Stability standardization (documents, regulations, requirements); Stability of the ship in the damaged hull condition; a deterministic or probabilistic approach; Stability standardization.						
Prerequisites and co-requisites	In the initial semesters, the student completed the knowledge of the basics of ship design.						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Written credit 100%	60.0%			100.0%		
Recommended reading	Basic literature	Jan P. Michalski, Fundamentals of ship design theory; Gdańsk University of Technology Publishing House; Gdansk 2013.					

	Supplementary literature	Discussed during classes with students.
	eResources addresses	Podstawowe http://Internet - Book item - textbook. Uzupełniająca Adresy na platformie eNauczanie: Wybrane zagadnienia projektowania okrętu 2022/2023 - Moodle ID: 26886 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26886
Example issues/ example questions/ tasks being completed	For the given values of the drive system parameters, estimate the efficiency of the propeller using the graphs of B. Wageningen.	
Work placement	Not applicable	