



## Subject card

Subject name and code	Technical, Economical and Ecological aspects of Ship propulsion, PG_00045230						
Field of study	Transport and Logistics, Transport and Logistics						
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 Ship and Land Based Power Plants -> Faculty of Ocean Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Piotr Bzura					
	Teachers	dr inż. Piotr Bzura					
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						
	Techniczne, ekonomiczne i ekologiczne aspekty napędu statku,W,ZLwT,sem.05, zimowy 22/23 - Moodle ID: 26330 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26330">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26330</a>						
Additional information: Classes conducted remotely and conducted on the MS Teams platform							
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	Familiarize students with the technical, economic and ecological aspects of the selection and operation of a ship's propulsion						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W08] has knowledge regarding the principles of sustainable development	The student is able to assess the efficiency of various ship propulsion systems.			[SW2] Assessment of knowledge contained in presentation		
	[K6_W05] has an organized knowledge on design, construction and operation of means and systems of transport	The student is able to assess the engine exhaust emission			[SW2] Assessment of knowledge contained in presentation		
	[K6_W06] has an organized knowledge on engineering methods and design tools allowing the conducting of projects within the construction and operation of means and systems of transport	The student is able to find the relationship between efficiency and economy of the drive. He can determine the influence of the type of propulsion on ecological threats.			[SW2] Assessment of knowledge contained in presentation		
Subject contents	Technical requirements for ship propulsion, selection of propulsion for transport tasks, influence of economic criteria on the choice of ship propulsion, impact of propulsion type on environmental pollution.						
Prerequisites and co-requisites	Basic information about heat and electric engines.						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Test	50.0%			100.0%		

Recommended reading	Basic literature	Literature  1. Balcerski A.: Siłownie okrętowe. Wyd. PG 1990  2. Urbański P.: Gospodarka energetyczna na statkach, Wyd. Morskie 1978  3. Woud H. K., Stapersma D.: Design of propulsion and electric power generation systems. IMarEST, London 2002 4. Kosowski K, Ship Turbine Power Plans, Wyd. PG Delft University, Gdańsk 2004
	Supplementary literature	Dr C.B.Barrass: Ship Design and Performance for Masters and Mates. 2004 Elsevier
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	