



## Subject card

Subject name and code	, PG_00056305						
Field of study	Ocean Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2022/2023		
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	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		4.0		
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 hab. inż. Damian Bocheński				
	Teachers		dr hab. inż. Damian Bocheński  mgr inż. Dominik Kreft  dr inż. Patrycja Puzdrowska				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	15.0	0.0	0.0	45
	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	45		6.0		49.0	100
Subject objectives	Acquainting students with thermodynamic issues in a ship power plant (fuel combustion, heat transfer, wet gases)						
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 has a basic knowledge of the design of selected systems of a ship power plants		[SW1] Assessment of factual knowledge		
	[K6_U03] can use computer-aided design, production and operation tools for ocean technology objects and systems		the student learned the basic methods used in design for tje selection of the type of fuel on board		[SU1] Assessment of task fulfilment		
	[K6_W03] has a basic knowledge on hydromechanics, thermodynamics, machine construction, ecology, materials science and electronics necessary to understand the construction and operation principles of ocean technology objects and equipment		the student knows the issues of fuel combustio, heat transfer, humid gases		[SW1] Assessment of factual knowledge		
	[K6_W08] has knowledge of the principles of sustainable development		the student knows the reasons for the currently occuring changes in the use of fuels on ships		[SW1] Assessment of factual knowledge		
Subject contents	Theoretical cycles of internal combustion engines, fuel combustion processes, selection of the type of fuel, heat transfer (heat transfer, conduction and convection), selection of heat exchangers, moist gases (air, exhaust fuels).						
Prerequisites and co-requisites	Knowledge from the subject of Thermodynamics						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	completion of laboratory exercises	100.0%	25.0%
	colloquium on exercises	60.0%	25.0%
	colloquium lecture	60.0%	50.0%
Recommended reading	Basic literature	Pudlik W .: Thermodynamics PG script (in Polish)  Pudlik W .: Heat transfer PG script (in Polish)	
	Supplementary literature	Internet	
	eResources addresses	Adresy na platformie eNauczanie: Termodynamiczne podstawy siłowni okrętowej - Moodle ID: 25713 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25713">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25713</a> Termodynamiczne podstawy siłowni okrętowej - Moodle ID: 25713 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25713">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25713</a>	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		