



Subject card

Subject name and code	, PG_00056305						
Field of study	Ocean Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group					
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 dr inż. Piotr Bzura 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_W08] has knowledge of the principles of sustainable development	the student knows the reasons for the currently occurring changes in the use of fuels on ships			[SW1] Assessment of factual knowledge		
	[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 combustion, heat transfer, humid gases			[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 the selection of the type of fuel on board			[SU1] Assessment of task fulfilment		
[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			
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		
	colloquium lecture	60.0%			50.0%		
	colloquium on exercises	60.0%			25.0%		
	completion of laboratory exercises	100.0%			25.0%		

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, C, OCE, sem. 3, zima 23/24 (PG_00056305) - Moodle ID: 32949 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32949 Termodynamiczne podstawy siłowni okrętowej, C, OCE, sem. 3, zima 23/24 (PG_00056305) - Moodle ID: 32949 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32949 Termodynamiczne podstawy siłowni okrętowej, C, OCE, sem. 3, zima 23/24 (PG_00056305) - Moodle ID: 32949 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32949
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	