



## Subject card

Subject name and code	, PG_00056319						
Field of study	Ocean Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2023/2024		
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	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Faculty of Ocean Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Piotr Bzura				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	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		5.0		25.0	75
Subject objectives	Learn the basic principles of using and operating marine engine systems						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U05] can formulate a simple engineering task and its specification within the range of design, construction and operation of ocean technology objects and systems		Applies knowledge of the basics of operation to the practical use and supervision of machinery and equipment in the ship's power plant in various operating states		[SU3] Assessment of ability to use knowledge gained from the subject		
	[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		Explains the basic concepts of the use and maintenance of marine equipment and energy systems		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems		The operation process of machinery and equipment in a ship's engine room is known		[SW2] Assessment of knowledge contained in presentation		
Subject contents	Lecture: The use of ship equipment and energy systems (main propulsion, generating sets and boilers). Servicing of ship devices and energy systems (main propulsion, generating sets and boilers). Operational susceptibility of ship devices. Mathematical models of ship equipment operation processes. Controlling the operation process of ship devices. Basics of logistics in the operation of power plants and ship devices. Management of the operation of marine power plants. Operation of reloading equipment. Laboratory: Measurement of physical properties of working media (density, viscosity, flash point). Measurement of lubricating properties of lubricating oils. Preparation for operation, start-up, supervision during operation, stopping the piston internal combustion engine, gas turbine set, fired boiler, fuel centrifuges, reciprocating compressor						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Test		50.0%		100.0%		

Recommended reading	Basic literature	<p>Dr C.B.Barrass: Ship Design and Performance for Masters and Mates. 2004 Elsevier</p> <p>Niziński S.: Eksploatacja obiektów technicznych, Biblioteka problemów eksploatacji, Radom 2002 r.</p> <p>Włodarski J.K.: Podstawy eksploatacji maszyn okrętowych, Akademia Morska, Gdynia 2006 r.</p>
	Supplementary literature	Biernat J., Girtler J: Techniczna eksploatacja okrętów. Skrypt WSMW, Gdynia 1983 r.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	