



Subject card

Subject name and code	, PG_00057349						
Field of study	Ocean Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			6.0		
Learning profile	general academic profile	Assessment form			exam		
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 inż. Piotr Bzura					
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	27.0	9.0	0.0	18.0	0.0	54
	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	54	20.0		76.0	150	
Subject objectives	To acquaint students with all possible issues related to the design of marine diesel power plants						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W06] has an organized, widened knowledge on engineering methods and design tools allowing the conducting of advanced projects within the construction and operation of ocean technology objects and systems	The student is able to make a preliminary design of a marine power plant			[SW2] Assessment of knowledge contained in presentation		
	[K7_U07] in compliance with a formulated specification and with the aid of appropriate tools and methods, is able to complete an advanced engineering task within the range of design, construction and operation of ocean technology objects and systems	The student is able to choose the optimal solution to the problem related to the design of the marine power plant.			[SU1] Assessment of task fulfilment		
	[K7_W05] has an organized, widened knowledge on design, construction and operation of ocean technology objects and systems	The student understands the processes of energy transformation in ship machinery and equipment and the phenomena occurring in pipelines.			[SW2] Assessment of knowledge contained in presentation		
Subject contents	The procedure for the selection of various propulsion systems, thrusters, selection of main engines, generating sets and various machines and devices necessary in the engine room. Creating integrated installations and plan of a power plant, analysis of energy, electric and steam balances						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	exam	50.0%			100.0%		

Recommended reading	Basic literature	<p>1. Zygmunt Górski, Mariusz Giernalczyk. Siłownie okrętowe. Akademia Morska w Gdyni 2014.</p> <p>2. Michalski R.: Siłownie okrętowe. Obliczenia wstępne oraz ogólne zasady doboru mechanizmów i urządzeń pomocniczych instalacji siłowni okrętowych. Skrypt Politechniki Szczecińskiej, Szczecin 1987.</p> <p>3. Przepisy klasyfikacji i budowy statków morskich. PRS, Gdańsk 2004.</p> <p>4. Urbański P.: Instalacje spalinowych siłowni okrętowych. Skrypt PG, Gdańsk 1994.</p> <p>5. Wojnowski W.: Okrętowe siłownie spalinowe. Gdańsk, 1992</p>
	Supplementary literature	<p>1. Project Guide MAN B&W</p> <p>2. Project Guide Wartsila</p>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<p>1. Draw and describe the integrated fuel system</p> <p>2. Draw and annotate the integrated lubricating oil system</p> <p>3. Present and describe the propulsion system in which obtaining the motive power for the ship N_w, electric power and heat Q_0 takes place in two independently operating devices, namely in two main engines and from systems with heat loss utilization of exhaust gases from main engines for heat production and obtaining electricity in a turbo generator.</p>	
Work placement	Not applicable	