



## Subject card

Subject name and code	Project 3, PG_00041794						
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	6		ECTS credits		3.0		
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 inż. Roman Liberacki				
	Teachers		dr inż. Roman Liberacki				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	30.0	0.0	30
	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	30		5.0		40.0	75
Subject objectives	The aim of the course is to teach students how to design a power plant at the initial stage of ship design.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U03] can use computer-aided design, production and operation tools for ocean technology objects and systems		The student is able to use computer programs for selection of main engines and make system diagrams using AutoCAD.		[SU4] Assessment of ability to use methods and tools		
	[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		The student knows the offer of online computer programs for the selection of main engines and knows how to use the AutoCAD software.		[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 student has an organized knowledge of the designing of ship power plants.		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_U06] in compliance with a formulated specification and with the aid of appropriate tools and methods, is able to complete a simple engineering task within the range of design, construction and operation of ocean technology objects and systems		The student is able to make a preliminary design of the ship power plant.		[SU1] Assessment of task fulfilment		
Subject contents	Determining the power required for ship propulsion, the power of electricity generators and the capacity of boilers. Selection of main engines, generating sets and boilers. Preliminary designs of cooling system, lubricating oil system, fuel system, exhaust gas system and starting air system.						
Prerequisites and co-requisites	Basic knowledge of marine power plants.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Project		60.0%		100.0%		

Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. Wojnowski W. Okrętowe silownie spalinowe. Cz. 3. WOiO PG, Gdańsk 1992 r.</li> <li>2. Michalski R. Silownie okrętowe. Politechnika Szczecińska, Szczecin 1997 r.</li> <li>3. Michalski J.P. Podstawy teorii projektowania okrętów. PG, Gdańsk 2016 r.</li> <li>4. PRS. Przepisy klasyfikacji i budowy statków morskich.</li> </ol>
	Supplementary literature	<ol style="list-style-type: none"> <li>1. MAN: Basic principles of ship propulsion (brochure)</li> <li>2. Hans Klein Woud, Douwe Stapersma: Propulsion and Electric Power Generation systems. IMAREST 2002</li> </ol>
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Praca projektowa III, PG_00041794, P, SiUO, sem.6, letni 2023/2024 - Moodle ID: 37468</p> <p><a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37468">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37468</a></p>
Example issues/ example questions/ tasks being completed	Make a preliminary design of a container ship with a capacity of 10,000 TEU and a speed of 21 knots.	
Work placement	Not applicable	