



Subject card

Subject name and code	, PG_00056296						
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			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Ship Manufacturing Technology, Quality Systems and Materials Science -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ryszard Pyszko				
	Teachers		dr inż. Ryszard Pyszko				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	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		15.0	50
Subject objectives	The aim of the course is to familiarize students with the requirements of regulations and characteristic conventions for the industry, an indication of the variety of facilities and operational requirements, materials used and processing technologies, construction safety requirements and environmental impact						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[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 identify basic problems of design, manufacturing, quality control, application of standards, and TK regulations		[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_K03] understands non-technical aspects and effects of operation as an engineer, its influence on the environment and is aware of the responsibilities for the decisions taken		The student has knowledge related to the specificity of operating offshore installations		[SK4] Assessment of communication skills, including language correctness		
	[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 gets acquainted with the typical course of the construction and installation of offshore systems		[SW1] Assessment of factual knowledge		
	[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems		The student has basic knowledge related to the typical constructions of typical ocean engineering systems		[SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge		

Subject contents	<p>1. Offshore facilities with a reinforced concrete structure</p> <p>1.1. Material characteristics</p> <p>2. Offshore facilities with a steel structure</p> <p>2.1. Solar energy installations</p> <p>2.2. Wind towers - division according to the axis of rotation</p> <p>3. Comparison of the efficiency of renewable sources</p> <p>3.1. Technologies of the future</p> <p>4. Material for offshore structures</p> <p>5. Safety of manufactured structures</p> <p>5.1. ISO standards</p> <p>5.2. Norse standards</p> <p>5.3. PRS - Offshore Wind Farms</p> <p>6. Construction technology of steel masts of wind towers</p> <p>7. Manufacturers of offshore facilities</p>		
Prerequisites and co-requisites	Marine general knowledge of other subjects in the field of IMO conventions, rules of Classification Societies and Maritime Affairs		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test	60.0%	100.0%
Recommended reading	Basic literature	<p>1. Regulations of classification societies and ISO and Norsok standards</p> <p>2. Industry magazines <a href="https://www.rivieramm.com/offshore-wind-journal">https://www.rivieramm.com/offshore-wind-journal</a>; <a href="https://www.tandfonline.com/journals/tsos20">https://www.tandfonline.com/journals/tsos20</a></p> <p>3. Internet: Internet: <a href="https://www.oedigital.com/">https://www.oedigital.com/</a>; <a href="https://www.portalmorski.pl/offshore">https://www.portalmorski.pl/offshore</a></p>	
	Supplementary literature	<p>Magazines, websites, yard and other institutional dealing with maritime Websites conventions and lows.</p> <p><a href="https://konferencja-offshore.pl/en/">https://konferencja-offshore.pl/en/</a> ; <a href="http://centrumoffshore.umg.edu.pl/">http://centrumoffshore.umg.edu.pl/</a>; <a href="https://www.gospodarkamorska.pl/firmy-przemysl-offshore-f37">https://www.gospodarkamorska.pl/firmy-przemysl-offshore-f37</a></p>	
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Technologia konstrukcji offshore,W,P,L,Sem.5,zima23/24, (PG_00056296) - Moodle ID: 32740  <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32740">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32740</a></p>	

Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"><li>1. Give the characteristics of steel materials for offshore structures</li><li>2. What standards are used and who formulates them in the offshore industry</li><li>3. Discuss the technologies of prefabrication of wind tower sections</li></ol>
Work placement	Not applicable