



Subject card

Subject name and code	Selected issues of technology, PG_00057348						
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			5.0		
Learning profile	general academic profile	Assessment form			exam		
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	18.0	0.0	9.0	18.0	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		15.0		65.0	125
Subject objectives	The purpose of the course is to familiarize students with selected issues of marine technologies for the production of energy from renewable sources and the extraction of natural resources.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_W05] has an organized, widened knowledge on design, construction and operation of ocean technology objects and systems	Student understands the physical phenomena which accompany operations and processes of technical activities related to offshore units and can include them in your design work Student keeps track of the technical development in design of offshore units and their equipment and he is able to apply them in design process and work organization	[SW1] Assessment of factual knowledge
	[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	Student understands needs and takes into account the impact of installation and operation of transport and foundation or anchoring properties, as well as influence of their exploitation on the marine environment Student when developing technology of transport operations and installation of offshore units and processes of their operation uses knowledge from both the range of ocean engineering and mechanical engineering. He is able to perform simple calculations on equipment parts related to operation of ships and other offshore units	[SW1] Assessment of factual knowledge
	[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	Student is able to analyze the new design solutions and technologies and certain operations or operational processes, and then he is able to assess their advantages and disadvantages in order to possibly use in your design work. He is familiarized with contemporary computing systems and can perform analytical calculations and validate their performance	[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
Subject contents	<p>Offshore wind turbines and other renewable energy production equipment.</p> <p>Oil and gas exploration systems under the seabed.</p> <p>Systems for extracting oil and gas deposits from under the seabed.</p> <p>Offshore stationary drilling units.</p> <p>Offshore displacement drilling units.</p> <p>Oceanotechnical exploitation systems.</p> <p>Underwater evaluation and transmission pipelines.</p> <p>Position maintenance by floating oceanotechnical units</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	laboratory	51.0%	25.0%
	lectures - test	51.0%	50.0%
	project	51.0%	25.0%

Recommended reading	Basic literature	<p>Günther Clauss, Eike Lehmann, Carsten Østergaard. Offshore Structures: Volume I and Volume II. Springer 2012</p> <p>Huacan Fang and Menglan Duan. Offshore Operation Facilities. Equipment and Procedures. http://www.sciencedirect.com/science/book/9780123969774</p> <p>Subrata K. Chakrabarti. Handbook of Offshore Engineering. Elsevier 2005.</p> <p>Charlier, R. H., Finkl, Charles W. Ocean Energy. Tide and Tidal Power. Springer. 2009.</p>
	Supplementary literature	Tarekko W. Power Take-off Systems of Offshore Rig Power Plants. Journal of Polish CIMAC. Vol. 5 No 1. 2010. pp. 187-198
	eResources addresses	<p>Adresy na platformie eNauczenie:</p> <p>Wybrane zagadnienia technologii, W, L, P, Sem.IIn,zima23/24, (PG_00057348) - Moodle ID: 32741</p> <p>https://enauczenie.pg.edu.pl/moodle/course/view.php?id=32741</p>
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	