GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	MARINE CIVIL ENGINEERING AND OCEAN ENGINEERING, PG_00042258		
Field of study	Civil 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	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Geotechnics, Geology and Marine Civil Engineering -> Faculty of Civil and Environmental Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Waldemar Magda	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	30.0	0.0	60

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	60	5.0	35.0	100

Subject objectives

Presentation of basic problems related with design and operating of offshore structures.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U10] can analyse complicated environmental loads acting on a construction; can apply proper processes to design marine and hydroengineering constructions taking into consideration hydrological and hydraulical impact	A student is able to analyze complex patterns of environmental loadings acting on: jack-up rigs, semi-submersible rigs, anchoring systems, and submarine pipelines.	[SU1] Assessment of task fulfilment
[K7_U01] can evaluate and list any loads acting on constructions	A student is able to estimate and complete hydrostatic and hydrodynamic loads acting on: jack-up rigs and semi-submersible rigs, anchoring systems and submarine pipelines.	[SU1] Assessment of task fulfilment
[K7_W11] has deep knowlege of marine and inland hydotechnical constructions; has knowledge about hydraulical and hydrological constrains in design and exploitation of buildings	A student has an extended knowledge on offshore structures and types of loadings acting on structures.	[SW1] Assessment of factual knowledge

Subject contents

Minerals dissolved in sea water and mineral resources of the seabed. Exploration investigations and systems for operating, storage and production of hydrocarbons, especially natural gas and crude oil. Submarine pipelines (operating parameters, classical methods of pipe laying on a seabed, vertical stability of pipelines buried in seabed sediments. Mooring systems of floating offshore structures (e.g. semi-submersibles). Systems of natural gas utilization on drilling and production platforms.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
design case	60.0%	50.0%
written test	60.0%	50.0%

Recommended reading	Basic literature	1. Magda W.: Budownictwo morskie. Wybrane zagadnienia wraz z przykładami obliczeniowymi. Wydawnictwo Naukowe PWN, Warszawa, 2020. 2. Magda W.: Rurociągi podmorskie. Zasady projektowania. Wydawnictwo-Naukowo Techniczne, Warszawa, 2004. 3. Mazurkiewicz B.: Oceanotechnika. Zagadnienia wybrane. Politechnika Gdańska, Gdańsk, 1996. 4. Mazurkiewicz B.: Stałe pełnomorskie platformy żelbetowe. Wydawnictwo Morskie, Gdańsk, 1985. 5. Mazurkiewicz B.: Stałe pełnomorskie platformy stalowe. Wydawnictwo Morskie, Gdańsk, 1988. 6. Karlic S.: Zarys górnictwa morskiego. Wydawnictwo ,,Śląsk"", Katowice, 1983.
	Supplementary literature	1. Brahtz J. F.: Oceanotechnika. Wydawnictwo Morskie, Gdańsk, 1974. 2. Inżynieria Morska i Geotechnika (dwumiesięcznik, biblioteka Wydziału). 3. Zeszyty naukowe Katedry Budownictwa Morskiego PG, seria - Studia i Materiały (biblioteka Wydziału).
	eResources addresses	Adresy na platformie eNauczanie: Budownictwo morskie i oceanotechnika - Moodle ID: 34769 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=34769
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	