



## Subject card

Subject name and code	, PG_00043294						
Field of study	Coastal and Offshore Engineering, Coastal and Offshore Engineering						
Date of commencement of studies	February 2022	Academic year of realisation of subject			2021/2022		
Education level	second-cycle studies	Subject group			Obligatory subject group in the field of study 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	1	ECTS credits			5.0		
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. Małgorzata Pruszkowska-Caceres					
	Teachers	dr hab. Małgorzata Pruszkowska-Caceres dr hab. inż. Beata Jaworska-Szulc dr Dawid Potrykus					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	E-learning hours included: 0.0						
	Geologia dna morskiego 2021/2022 - Moodle ID: 21018 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=21018">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=21018</a>						
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	15.0		50.0	125	
Subject objectives	Getting acquainted with the geological structure of seafloor and of coastal zone; knowledge of geological processes shaping marine environment, of the influence of geological processes on building foundation (and its parameters) and stability of marine structures; understanding of groundwater occurrence in coastal areas; acquiring skills of reading and drawing maps and cross-sections.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K7_K02	Student is ready to cooperate for resolving entrusted issues	[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness [SK3] Assessment of ability to organize work
	K7_W07	Student gets acquainted with rules of creating maps and drawing cross sections at the basic level, acquires the abilities of using modern methods of technical survey of foundation soils.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
	K7_U10	Student describes inner and surface geological processes. Student explains hazards deriving from geological processes. Student interprets the influence of geological processes on the Earth's relief. Recognition of foundation conditions of building constructions in the geotechnical and hydrogeological context. Tools for foundation recognition. The influence of geological processes on values of geotechnical parameters.	[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

Subject contents	<p>Lecture</p> <ul style="list-style-type: none"> <li>- seas and oceans in the Earth's history; the oceanic crust</li> <li>- sea water – physical-chemical properties, isotopic composition</li> <li>- dynamics of water in seas and oceans; floods, surface and bottom sea currents, convection currents, waves</li> <li>- depth zones and sedimentation zones, sediments of seas and oceans</li> <li>- dynamic and geological processes occurring in different zones of seas and oceans, the role of the processes in sedimentation and seafloor topography</li> <li>- epi-continental seas on the basis of the Baltic Sea – characteristics, geology, history, hazards</li> <li>- geological and hydrogeological conditions in coastal zones</li> <li>- geo-hazards of coasts</li> <li>- methods of coast and sea bed investigations</li> </ul> <p>Tutorials:</p> <ul style="list-style-type: none"> <li>- Sediments classification</li> <li>- recognition and description of textural properties of sediments with interpretation of the results</li> <li>- conditions and structures of sediments (sorting, rounding, granulation, layering)</li> <li>- sea coast classification</li> </ul>														
Prerequisites and co-requisites	knowledge of basic issues of basic geology														
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Subject passing criteria</th> <th style="width: 33%;">Passing threshold</th> <th style="width: 33%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>class attendance</td> <td>80.0%</td> <td>0.0%</td> </tr> <tr> <td>activity during classes</td> <td>60.0%</td> <td>50.0%</td> </tr> <tr> <td>colloquia</td> <td>60.0%</td> <td>50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	class attendance	80.0%	0.0%	activity during classes	60.0%	50.0%	colloquia	60.0%	50.0%
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Recommended reading	Basic literature	<p>Duxbury A.C., Duxbury A.B. &amp; Sverdrup K.A., 2002 - Oceany Świata. Wyd. Nauk. PWN.</p> <p>Erikson J., 2003 – Marine Geology. Facts On File, Inc. New York.</p> <p>Gradzinski R., 1986 - Zarys sedymentologii. Wydawnictwa Geologiczne, Warszawa</p> <p>Kennett J., 1982 - Marine Geology. Prentice Hall.</p> <p>Leontjew O.K., 1989 - Geologia morza. Wyd. Nauk. PWN.</p> <p>Subotowicz W., 1982 – Litodynamika brzegów klifowych wybrzeża Polski. Ossolineum, Wrocław.</p> <p>Tejchman A., Gwizdała K., Świdziński W., Brzozowski T., Krasieński A., 1995 - Stateczność i ochrona klifów polskiego wybrzeża. Politechnika Gdańska</p> <p>Thurman H.V., 1982 - Zarys oceanologii. Wyd. Morskie Gdańsk.</p>
	Supplementary literature	<p>Kramarska R. (red.), 1999 – Mapa geologiczna dna Bałtyku bez utworów czwartorzędowych 1:500 000. Państw. Inst. Geol., Warszawa.</p> <p>Leontjew O.K., Nikiforow L.G., Safjanow G.A., 1982 - Geomorfologia brzegów morskich. Wyd. Geol., Warszawa</p> <p>Łomniewski K., Mańkowski W., Zaleski J., 1975 - Morze Bałtyckie. PWN, Warszawa</p> <p>Majewski A., 1992 - Oceany i Morza. Wyd. Nauk. PWN.</p> <p>Radomski A., Gasiński M.A., 2004 - Elementy Oceanologii. Wyd. UJ</p> <p>Schopf T.J.M., 1987 – Paleoceanografia. Wyd. Nauk. PWN.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> <li>1. Where is the most intensive coastal erosion?</li> <li>2. What is the name of a flat area of an ocean floor, with seamounts called guyots?</li> <li>3. Which of the indicators of the DMT test describes the stress history (preconsolidation) in soil?</li> </ol>	
Work placement	Not applicable	