



Subject card

Subject name and code	, PG_00055813						
Field of study	Ocean Engineering						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2021/2022		
Education level	first-cycle studies	Subject group			Obligatory subject group 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			7.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Faculty of Ocean Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Wojciech Leśniewski					
	Teachers	mgr inż. Tomasz Pająk mgr inż. Dariusz Duda dr inż. Agnieszka Maczyszyn dr inż. Jakub Kowalski mgr inż. Ewa Wojtowicz					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	30.0	0.0	90
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie: Grafika inżynierska - Nowy - Nowy - Moodle ID: 18516 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18516 Grafika inżynierska - Nowy - Nowy - Moodle ID: 18516 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18516						
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	90		16.0		69.0	175
Subject objectives	Introduction to Engineering Graphics. The development of spatial imagination. Engineering graphics as a basic tool for transmitting information about machine elements. Ability to draw sketches of drawing elements of machine parts using rectangular and axonometric projections. Understanding the basics of the construction.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W04] has a basic knowledge in IT, electronics, automation and control, computer graphics useful to understand the possibilities of their application in ocean technology	Ability to use computer software and freehand drawing to present and describe the operation and production technology of the presented elements.			[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects		
	[K6_U01] can obtain information from literature, databases and other sources, can verify and organize the obtained information, interpret them and form conclusions and justified opinions	Ability to use steel and standards to shape the shapes and principles of operation of installations and installations.			[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools		

Subject contents	<ul style="list-style-type: none"> - the role of engineering graphics, basics of standardization, - parallel, rectangular and axonometric projections, - point, line, plane, determination, common points, special locations, - revolving solids and polyhedrons, punching, intersecting, penetrating - views, cases, sections, - dimensioning of elements, tolerating dimensions, marking the condition of the surface, - types of drawings, graphic form of the sheet, rules for the preparation of executive and assembly documentation - getting to know the Autocad / Slidedge software. - basic commands and operations needed to make a 2D detailed and assembly drawing, - construction of 3D models, - construction of simple assemblies in a 3D environment, - creating technical documentation in an electronic version from entrusted axonometric views, - principles of geometrical description of the shape of the hull of ships - theoretical lines - basics of the constructional and technological drawing of the ship's structure 														
Prerequisites and co-requisites	Knowledge of basic machines parts and their construction;														
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Subject passing criteria</th> <th style="width: 30%;">Passing threshold</th> <th style="width: 30%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Colloquium including lectures</td> <td>60.0%</td> <td>20.0%</td> </tr> <tr> <td>Drawing exercises</td> <td>60.0%</td> <td>50.0%</td> </tr> <tr> <td>Colloquia of exercises</td> <td>60.0%</td> <td>30.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Colloquium including lectures	60.0%	20.0%	Drawing exercises	60.0%	50.0%	Colloquia of exercises	60.0%	30.0%
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Recommended reading	Basic literature	<p>FILIPOWICZ K., KUCZAJ M., KOWAL A., Rysunek techniczny, Wydawnictwo Politechniki Śląskiej, Gliwice 2016</p> <p>MIERZEJEWSKI, W.: Geometria wykreślna. Rzuty Monge'a. Oficyna Wyd. P. War., 2006</p> <p>DOBRZAŃSKI, T.: Rysunek techniczny maszynowy. WNT, 2004</p> <p>Rysunek techniczny w mechanice i budowie maszyn Paweł Romanowicz</p> <p>Modelowanie w programie Solid Edge Podstawy Tomasz Gawroński</p> <p>Polski Rejestr Statków, Przepisy Klasyfikacji i Budowy Statków Morskich, Część II Kadłub, lipiec 2021. dostępne online na stronie Polskiego Rejestru Statków</p> <p>George J. Bruce and David J. Eyres; Ship construction, Elsevier Science & Technology, 2012</p> <p>Eric C. Tupper, Introduction to Naval Architecture, Fifth Edition, Elsevier, 2013</p> <p>W. Więckiewicz, Budowa Kadłubów Statków Morskich (Seria: Budowa i teoria okrętu), Wydawnictwo Akademii Morskiej, Gdynia, 2003</p>													

	Supplementary literature	<p>Autodesk Inventor 2014. Oficjalny podręcznik</p> <p>Kurmaz L.W.: Projektowanie węzłów i części maszyn. Wydawnictwo Politechniki Świętokrzyskiej, 2007</p> <p>Kozak J.: Pomiary w procesie budowy kadłuba statku. Gdańsk: Wydawnictwo Politechniki Gdańskiej, 2015.95 s. ISBN 978-83-7348-627-0</p> <p>J. Dudziak, Teoria okrętu, Fundacja Promocji Przemysłu Okrętowego i Gospodarki Morskiej, Wydanie II, Gdańsk, 2008</p> <p>J. Babicz, Słownik okrętowy,</p>
	eResources addresses	<p>Grafika inżynierska - Nowy - Nowy - Moodle ID: 18516 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18516</p> <p>Grafika inżynierska - Nowy - Nowy - Moodle ID: 18516 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18516</p>
Example issues/ example questions/ tasks being completed	<p>Preparation of projections of points, lines, surfaces, solids, intersections</p> <p>Preparation axonometric projections of a solid</p> <p>Preparation of an executive drawing of a machine part</p> <p>Preparation of an assembly drawing of the mechanism</p> <p>Preparation of drawing documentation with the use of computer software</p> <p>Drawing the theoretical lines of the hull</p> <p>Preparation of a drawing of the transverse assembly</p> <p>Preparation of the plating layout drawing</p>	
Work placement	Not applicable	