



Subject card

Subject name and code	Designing of Ship Structures, PG_00045100						
Field of study	Ocean Engineering, Ocean Engineering						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Zakład Mechaniki Konstrukcji Oceanotechnicznych -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Krzysztof Wołoszyk					
	Teachers	dr inż. Krzysztof Wołoszyk					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	45.0	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	5.0	25.0	75		
Subject objectives	Students becomes familiar with performing computations of strength of ship hull structure required by Rules for Classification and Construction of Ships.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[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	Student is able to use the knowledge regarding ship structures in order to optimally design the part of ship hull structure			[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		
	[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems	Student fluently uses the typical terminology related to ship structural design			[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		
	[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	Student is able to apply structural changes, to ensure the safety of the designed structure			[SK5] Assessment of ability to solve problems that arise in practice		
	K_U05	Student is able to use the commercial FE software to perform strength computations			[SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task		

Subject contents	<p>Strength calculations are to be performed to analyse strength of ship hull structure initially designed in the previous semester (semester V). Dimensions of the structure elements are to be corrected, if necessary.</p> <p>Calculations concern general and zone strength of the structure and buckling check of structural elements are to be performed. Requirements of Polish Register of Ships Rules for Classification and Construction of Sea-going Ships, Part II - Hull are to be applied.</p>		
Prerequisites and co-requisites	<p>Student should have some knowledge on theory of ships, technical mechanics, design materials and technical drawing. Lectures on ship hull construction and project elaborated in the previous semester should be completed.</p>		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project presentation	50.0%	20.0%
	Report from calculations performed is assessed	50.0%	80.0%
Recommended reading	Basic literature		<p>1. As above (in polish language).</p> <p>2.. Robert Taggart(Editor), <i>Ship Design and Construction</i>, The soc. Of Nav. Arch. And Marine Eng., New York,1980.</p> <p>3. D.J. Eyres: <i>Ship construction</i>. Elsevier, 5ed.</p> <p>4. Polski Rejestr Statków, Rules for classification and building of sea-going ships, Part II - Hull, 2014.</p>
	Supplementary literature		1. IACS, <i>Common Structural Rules for Bulk Carriers</i> , 2006.
	eResources addresses		<p>Adresy na platformie eNauczanie:</p> <p>Projektowanie Konstrukcji Okrętu, P, Oce, sem. 06, letni 22/23 (O: 098570) - Moodle ID: 27954 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=27954</p>
Example issues/ example questions/ tasks being completed	<p>Calculations of general and zone strength of the structure and buckling check of structural elements are to be performed. Requirements of Polish Register of Ships Rules for Classification and Construction of Sea-going Ships, Part II - Hull are to be applied.</p>		
Work placement	Not applicable		