



Subject card

Subject name and code	Manufacturing Technology, PG_00041727						
Field of study	Ocean Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2022/2023		
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			English		
Semester of study	1	ECTS credits			3.0		
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. Jakub Kowalski					
	Teachers	dr inż. Jakub Kowalski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	15.0	0.0	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	Student recognize and describe basic processes of material machining, metrological problems , type of shipyards. Recognizes processes of ship hull assembly. Identified, classified and characterized basic structural materials used in shipbuilding. Describe tools and equipment applied in processes of preparation of material, processes of prefabrication and assembling as well as processes of hull launching.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W08] has knowledge necessary to understand economical, social and legal conditions and effects of engineering activities, knows general principles of initiating and develop forms of private entrepreneurship and has knowledge on the protection of industrial and intellectual property and on the copyrights	Student properly select problems for content od project and decide on range of particular problems in whole project area			[SW1] Assessment of factual knowledge		
	[K7_W05] has an organized, widened knowledge on design, construction and operation of ocean technology objects and systems	Student apply known methods and tools to solving the measurement problem			[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 properly select problems for content od task and decide on range of particular problems in whole project area			[SU4] Assessment of ability to use methods and tools		
	[K7_U03] can conduct a detailed analysis of the obtained results and present them in the form of a technical report or presentation, also in English	Student recognizes and knows issues and physical processes in relations to scope of subject. Is able to analyses and interpret results			[SU2] Assessment of ability to analyse information		

Subject contents	Shipyard : arrangement, organization of manufacturing processes, documentation for process of ship manufacturing. Technology of ship erection process : basic definitions. Producibility of structure : technical and economical criterion. General characteristic of processes of ship erection and fitting out. System for preparation of production process : traditional, integrated, CAD, CAM, CAQ, CIM. Ship hull structural materials : basic strength and technological characteristics. Problems of protection against corrosion. Storage of steel materials. Technological processes of manufacturing : characteristic of center for processing, equipment and processes : cutting and bending of steel and aluminum plates and profiles. Processing of special materials. tendencies in development of technological processes : automation and robotics. Center for pretreatment of hull materials. Flat and curvilinear panel production lines. Sectional and block hull arrangement. Prefabrication of sections and blocks. Methods for hull assembly.		
Prerequisites and co-requisites	Basic knowledge on metal material processing		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	lecture	50.0%	50.0%
	project	75.0%	50.0%
Recommended reading	Basic literature	Baker III: Introduction to Steel Shipbuilding, McGraw-Hill 1953	
	Supplementary literature	Journals: Ship & Boat International, Superyacht Business, itp.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		