GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fundamentals of Manufacturing Engineering, PG_00060641		
Field of study	Transport and Logistics		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2024/2025
Education level	first-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	2	Language of instruction	Polish
Semester of study	3	ECTS credits	5.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Wojciech Leśniewski	
	Teachers	dr hab. inż. Karol Niklas dr inż. Agnieszka Maczyszyn dr inż. Jakub Kowalski dr inż. Wojciech Leśniewski	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	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	60.0	125

Subject objectives	The student is introduced to basic aspects related to manufacturing in ocean engineering.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W07] has general knowledge in the field of humanities, social and economic sciences. Knows the principles of creating forms of individual entrepreneurship and running a business, and knows how to protect industrial and intellectual property and copyright law	The student is introduced to the basics of the of the process of construction of marine transportation means.	[SW2] Assessment of knowledge contained in presentation
[K6_W03] has well structured knowledge of hydromechanics, thermodynamics, machine construction, ecology, material science and electrical engineering necessary to understand the principles of construction and operation of means of water transport	The student is introduced to the basics of of shipbuilding technology.	[SW2] Assessment of knowledge contained in presentation
[K6_U05] can formulate a simple engineering task and its specification in the field of design, maintenance and operation of transport means and systems	The student is introduced to engineering issues related to the process of construction of marine transportation means.	[SU2] Assessment of ability to analyse information

Subject contents	General characteristics of the technological process of shipbuilding and basic methods of assembly of ship hulls. Diagram of the manufacturing process of a ship. Steels for the construction of ship hulls, strength and technological requirements, mechanical properties, weldability. Storage of metallurgical materials, warehouses of plates and profiles. Prefabrication sequence of plates and profiles. Prefabrication of structural components, completion. Sectional and block division of the hull. Prefabrication of lobe flat sections and curved sections. Assembly of spatial sections and blocks. Assembly of a hull on a slipway. Launching the hull of a ship from a longitudinal and transverse slipway.	
Prerequisites and co-requisites		
Assessment methods and criteria	Subject passing criteria: colloquium	Passing threshold: 51.0% / Percentage of the final grade: 100.0%
Recommended reading	Basic literature	1. Bruce, George J.; Eyres, David J., Ship Construction (7th Edition), ISBN: 978-0-08-097239-8, Elsevier 2012 2. J. Doerffer: Technologia budowy kadłubów okrętowych, 3. J. Doerffer: 0rganizacja produkcji w stoczni. 4. L. Palasik: "Monter kadłubowy"
	Supplementary literature	1. Mathers G., The welding of aluminium and its alloys. ISBN-10: 1855735679 | ISBN-13: 9781855735675 2. Norrish J., Norrish J. , Advanced Welding Processes (New Manufacturing Processes & Materials), ISBN-10: 0852743254, ISBN-13: 978-0852743256, Springer; 1993 3 Publications of Classification Societies.
	eResources addresses	Adresy na platformie eNauczanie: Podstawy inżynierii wytwarzania PG_00060535; PG_00060585; PG_00060641 - Moodle ID: 41659 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=41659
Example issues/ example questions/ tasks being completed	General characteristics of the technological process of shipbuilding and basic methods of assembly of ship hulls. Diagram of the manufacturing process of a ship. Steels for the construction of ship hulls, strength and technological requirements, mechanical properties, weldability. Storage of metallurgical materials, warehouses of plates and profiles. Prefabrication sequence of plates and profiles. Prefabrication of structural components, completion. Sectional and block division of the hull. Prefabrication of lobe flat sections and curved sections. Assembly of spatial sections and blocks. Assembly of a hull on a slipway. Launching the hull of a ship from a longitudinal and transverse slipway.	
Work placement	Not applicable	

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