



## Subject card

Subject name and code	Welding Technology, PG_00046530						
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	Part-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Ship Manufacturing Technology, Quality Systems and Materials Science -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Aleksandra Świerczyńska				
	Teachers		mgr inż. Dariusz Duda				
			dr inż. Aleksandra Świerczyńska				
			dr hab. inż. Dariusz Fydrych				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	20.0	0.0	0.0	30
	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	30		5.0		40.0	75
Subject objectives	Understanding the basic methods, technologies and equipment for joining and cutting metals, which have practical application in the implementation of steel engineering structures (in particular shipbuilding).						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems		Student has ordered knowledge about welding		[SW1] Assessment of factual knowledge		
	[K6_U05] can formulate a simple engineering task and its specification within the range of design, construction and operation of ocean technology objects and systems		Student can choose the method and welding tools  Student knows the processes technological on construction ships		[SU3] Assessment of ability to use knowledge gained from the subject		
Subject contents	Terminology applied in welding. Classification of joints in building of machines. Welded joints. Welding sources of heat, their properties and application. They stood the technology of welding shipping. The principles of assembly and welding of steel hulls. Welding of light alloys constructions in ship building. The defects of welded joints and quality. Technologies of brazing. Technologies of cutting. Technological documentation. Automation and mechanization of welding works. Quality control of welded joints of ship hull. Organization and control of welding processes in shipyards. Safety of welding processes in shipyards.						
Prerequisites and co-requisites	Strength of Materials Metallography Shipbuilding						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
			60.0%		100.0%		
Recommended reading	Basic literature		Poradnik Inżyniera – Spawalnictwo. WNT, 2003 L. M. Gouard: Podstawy technologii spawalniczych. WNT, 1997 A. Klimpel: Spawanie , zgrzewanie i cięcie metali; WNT, 1999 J. Pilarczyk, J. Pilarczyk: Spawanie i napawanie elektryczne. ŚWN, 1983 E. Dobaj: Maszyny i urządzenia spawalnicze. WNT, 1994 K. Ferenc, J. Ferenc: Konstrukcje spawane. WNT, 2000 A. Klimpel: Kontrola i zapewnienie jakości w spawalnictwie. Wyd. PŚ 1997 M. Myśliwiec: Spawalnictwo okrętowe. WM, 1971 N. Gawroniak: Podstawy spawalnictwa. SEP, 2004				

	Supplementary literature	Normy EN,PN,ISO , Publikacje Towarzystw Klasyfikacyjnych
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	