



## Subject card

Subject name and code	Organization of welding works, PG_00055260						
Field of study	Management and Production Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2023/2024		
Education level	first-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	3		Language of instruction		Polish None		
Semester of study	6		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Grzegorz Rogalski				
	Teachers		dr hab. inż. Grzegorz Rogalski				
			dr inż. Aleksandra Świerczyńska				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	15.0	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		3.0		27.0	75
Subject objectives	The aim of the course is to familiarize students with the organization of welding work in a production plant. The elements that determine the profitability of the enterprise will be presented.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U03] is able to communicate using various techniques in the professional environment and other environments, has language skills enabling free communication in the field of technical sciences related thematically to management and production engineering		The student knows the proper nomenclature related to quality management systems and is able to clearly formulate his statements. Uses the technical nomenclature related to the field of study.		[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_U02] has the ability of self-learning and expanding knowledge in a specialized field of engineering production		The student is able to analyze the costs associated with the functioning of the enterprise in the field of welding processes and related elements.		[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools		
	[K6_W08] has basic management knowledge, including process and product quality management, and detailed knowledge of integrated and standardized quality, environmental, health and safety management systems		The student is able to determine the organizational structure of the company with particular emphasis on areas related to welding processes. His knowledge is based on the requirements of subject standards.		[SW2] Assessment of knowledge contained in presentation		
	[K6_K02] is able to interact and work in a group, assuming different roles, can inspire and organize the learning process of others, properly identifies priorities for realization of a task specified by themselves or others		The student is able to solve organizational problems and perform cost calculation in the field of welding processes		[SK3] Assessment of ability to organize work		

Subject contents	As part of the course, students learn about the issues related to the structure of the plant using welding processes, methods of calculating welding costs, the structure of certification costs in the field of welding processes, methods of increasing welding efficiency, health and safety regulations and the principles of selecting additional materials for bonding		
Prerequisites and co-requisites	Not require		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lecture	56.0%	50.0%
	Project	56.0%	50.0%
Recommended reading	Basic literature	Klimpel A.: Kontrola i zapewnienie jakości w spawalnictwie. Tom 1, Wydawnictwo Politechniki Śląskiej  Szymański A. Kontrola i zapewnienie jakości w spawalnictwie. Tom 2, Wydawnictwo Politechniki Śląskiej  Czuchryj J., Świergoł S.: Podstawy organizacji kontroli jakości w spawalnictwie, Instytut Spawalnictwa Gliwice, 2003  Pilarczyk J.: Poradnik inżyniera Spawalnictwo Tom 1, Tom 2 Wydanie II, Wydawnictwo: Naukowe PWN, 2017  Tomasz Chmielewski: Projektowanie procesów technologicznych spawalnictwo, Oficyna Wydawnicza Politechniki Warszawskiej, 2013  Edward Dobaj: Maszyny i urządzenia spawalnicze, WNT Wydawnictwa Naukowo-Techniczne, 2014  Matczak W., Gromiec J.: Zasady oceny narażenia spawaczy na dymy i gazy. Instytut Medycyny Pracy w Łodzi 2003	
	Supplementary literature	Not require	
	eResources addresses	Adresy na platformie eNauczanie: Organizacja prac spawalniczych, W, P, ZIP, Sem.6, Lato 2023/2024 - Moodle ID: 36537 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36537">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36537</a>	
Example issues/ example questions/ tasks being completed	1. Explain the structure of welding costs taking into account the available standards 2. What is the preparation and completion time 3. List possible methods of increasing welding efficiency 4. Explain the rules for the selection of welding consumables on the example of austenitic stainless steel type 321 5. Give a typical structure of a production plant using welding processes 6. Present the main hazards of welding work, refer to the relevant regulations		
Work placement	Not applicable		