



## Subject card

Subject name and code	Welding, Brazing and Soldering in Contemporary Technology, PG_00061838						
Field of study	Management and Production Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			English		
Semester of study	3	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Aleksandra Świerczyńska				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	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		0.0		0.0	30
Subject objectives	The aim of the course is to provide students with knowledge in the field of modern applications of welding technologies, the ability to recognize the needs of the industry in this area and the selection of appropriate technological solutions.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_W81] has knowledge of complex grammatical structures and diverse lexical resources needed to communicate in foreign language in terms of general and specialist language related to field of study	Student uses the foreign language correctly in general and in the field of welding techniques.	[SW1] Assessment of factual knowledge
	[K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language	Student is able to talk about the lecture with the teacher in a foreign language.	[SK4] Assessment of communication skills, including language correctness
	[K7_W01] knows and understands to a greater extent selected issues in the field of management and quality sciences and mechanical engineering, their location in the field of social sciences and engineering and technical sciences, as well as relationships with related disciplines, and sees the possibility of applying the knowledge in practice.	Student knows the contemporary applications of welding technologies, is able to recognize and select the appropriate technology.	[SW1] Assessment of factual knowledge
	[K7_W01] knows and understands to a greater extent selected issues in the field of management and quality sciences and mechanical engineering, their location in the field of social sciences and engineering and technical sciences, as well as relationships with related disciplines, and sees the possibility of applying the knowledge in practice.	Student knows the contemporary applications of welding technologies, is able to recognize and select the appropriate technology.	[SW1] Assessment of factual knowledge
	[K7_U82] is able to proficiently obtain and process information related to field of study and academic environment in foreign language at B2+ level of the Common European Framework of Reference for Languages (CEFR)	Student is able to find and use literature sources written in a foreign language.	[SU4] Assessment of ability to use methods and tools
[K7_K81] is able to cooperate in international team at her/his own university, during work placement and during study abroad	Student is able to conduct a conversation in a foreign language with other participants of the classes.	[SK4] Assessment of communication skills, including language correctness	
Subject contents	Classification of methods of joining materials. Principles of selecting the methods of joining materials. Selection of welding parameters for different welding methods. Design requirements in welding, brazing and soldering. Application of materials joining methods in selected branches of industry. Case analysis.		
Prerequisites and co-requisites	Knowledge of basic welding technologies.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final test	60.0%	100.0%
Recommended reading	Basic literature	Norrish, J. (1992). <i>Advanced welding processes</i> . Springer Science & Business Media. Humpston, G., & Jacobson, D. M. (Eds.). (2004). <i>Principles of soldering</i> . ASM international. Schwartz, M. M., & Aircraft, S. (1993). Introduction to brazing and soldering. <i>ASM International, ASM Handbook</i> , 6, 109-113.	
	Supplementary literature	Articles and subject standards	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Justify the use of the use of a given technology in the indicated application.		
Work placement	Not applicable		