



## Subject card

Subject name and code	, PG_00066255						
Field of study	Mechanical and Medical Engineering						
Date of commencement of studies	February 2024	Academic year of realisation of subject			2024/2025		
Education level	second-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			7.0		
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. Magdalena Jażdżewska					
	Teachers	dr inż. Magdalena Jażdżewska					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	80.0	0.0	0.0	80
	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	80		0.0		0.0	80
Subject objectives	Getting to know the methods of producing surface layers and coatings on implants						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W03] He/she knows methods, techniques and tools applied to solve engineering problems in the scope of the field of study of mechanical-medical engineering	The student has knowledge of techniques, tools and methods of testing coatings in the area of mechanical and medical engineering.			[SW1] Assessment of factual knowledge		
	[K7_W05] He/she has in-depth knowledge related to the methods and techniques used in medicine	The student has knowledge of specialized technical technologies and research methods of coatings used in medicine.			[SW3] Assessment of knowledge contained in written work and projects		
	[K7_W07] He/she in-depth knowledge related to engineering materials and technologies used in mechanical-medical engineering	The student has knowledge of methods for obtaining coatings, properties and basic research methods.			[SW1] Assessment of factual knowledge		
Subject contents	Safety at work in a biomaterials laboratory.Surface-modified materials for medical applications.Selected methods of implant modification.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Report on the work performed.	60.0%			100.0%		

Recommended reading	Basic literature	<p>1. Kula P.: Inżynieria warstwy wierzchniej. Wyd. Politechniki Łódzkiej, Łódź 2000.</p> <p>2. Burakowski T., Wierzchoń T.: Inżynieria powierzchni metali. WNT Warszawa 1995.</p> <p>3. Kula P.: Inżynieria warstwy wierzchniej. Wyd. Politechniki Łódzkiej, Łódź 2000.</p> <p>4. Głowacka M., Łabanowski J.: Inżynieria Powierzchni Wybrane Zagadnienia, WPWSZ Elbląg 2014</p>
	Supplementary literature	Current, English-language scientific publications on the surface modification of implants.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<p>Selected methods of implant surface modification.</p> <p>Types of layers and coatings used on implants.</p> <p>Production of ceramic coatings on titanium alloy substrates.</p>	
Work placement	Not applicable	

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