



Subject card

Subject name and code	, PG_00056100						
Field of study	Mechanical and Medical Engineering						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	6		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 hab. inż. Beata Świczko-Żurek				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	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 the selection of materials for dental implants and antibacterial coatings for an individual patient and the production of a specific material.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W04] he/she has skills in the field mechanical testing of materials used in engineering and mechanical-medical area		Has knowledge of dental materials and their production` technology.		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_W07] he/she is able to design, manufacture and utilize machine parts and technical devices, he/she can prepare a technical documentation		He can design a dental implant with a coating.		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_K01] he/she knows his/her proficiencies and his/her limitations in performing professional tasks, he/she is aware of needing to improve his/her skills through the whole life, he/she has entrepreneurship and innovation skills, he/she is aware of engineering skills from the society point of view		The student is able to use the acquired knowledge in the field of mechanical and medical engineering.		[SK3] Assessment of ability to organize work [SK5] Assessment of ability to solve problems that arise in practice [SK2] Assessment of progress of work		
	[K6_W13] he/she has knowledge related to application of engineering approaches in medicine or application of medical devices and rehabilitation devices		The student has knowledge of materials for dentistry.		[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		
	[K6_U07] he/she is able to identify the problem and list simple engineering tasks to solve this problem in practice, he/she is able to critically analyze the proposed technical solutions and conclude whether these solutions can be implemented to solve problems related to design of mechanical devices and mechanical-medical devices		The student is able to use the available tools and analyze the existing solution.		[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject		

Subject contents	Lecture: getting to know the materials used in dentistry, coatings used for dental implants.		
	Laboratory: creating and applying coatings on dental implants.		
Prerequisites and co-requisites	Completed material science course.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lecture, laboratory	70.0%	100.0%
Recommended reading	Basic literature	English-language articles.	
	Supplementary literature	-	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	1. Materials used for dental implants. 2. Antibacterial coatings		
Work placement	Not applicable		