



Subject card

Subject name and code	Implants and Artificial Organs, PG_00047778						
Field of study	Biomedical Engineering, Biomedical Engineering, Biomedical Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2022/2023		
Education level	second-cycle studies	Subject group			Obligatory subject group in the field of study 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	1	Language of instruction			Polish		
Semester of study	1	ECTS credits			1.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Biomedical Engineering -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Piotr Jasiński				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15	2.0		8.0		25
Subject objectives	The aim of the course is to familiarize students with the construction and use of artificial organs and implants. In particular, the construction and functions of replacement systems will be discussed.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W51] Knows and understands, to an increased extent, selected aspects of chemistry and biochemistry constituting general knowledge in the field of biomedical engineering.						
	[K7_W52] Knows and understands, to an increased extent, selected aspects of materials science and biomaterials, constituting general knowledge in the field of biomedical engineering						
Subject contents	Introduction. Pacemakers. Fake heart. Artificial kidney. Artificial Pancreas. Blood oxygenators. Imitation leather. Electronic Hearing Fake eye Implant supply. Summary of classes. Examination.						
Prerequisites and co-requisites	There are no entry requirements						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Test		50.0%		100.0%		
Recommended reading	Basic literature		Biocybernetyka i inżynieria biomedyczna 2000. Tom 3. Sztuczne narządy, pod red. M. Nałęcz. Akademicka Oficyna Wydawnicza EXIT, Warszawa 2001 L. Hench, J.R. Jones. Biomaterials, artificial organs and tissue engineering, CRC, Cambridge 2005				
	Supplementary literature		Publications from the Journal of Artificial Organs. Publications from the Artificial Organs				
	eResources addresses						
Example issues/example questions/tasks being completed							
Work placement	Not applicable						