

SDAŃSK UNIVERSITY 的 OF TECHNOLOGY

Subject card

Subject name and code	Environmental threats in medical engineering, PG_00055772							
Field of study	Mechanical and Medical Engineering							
Date of commencement of studies	October 2021		Academic year of realisation of subject			2024/2025		
Education level	first-cycle studies		Subject group			Obligatory subject group in the field of study		
Mode of study	Full-time studies		Mode of delivery			at the university		
Year of study	4		Language of instruction			Polish		
Semester of study	7		ECTS credits			1.0		
Learning profile	general academic profile		Assessment form			assessment		
Conducting unit	Department of Energy and Industrial Apparatus -> Faculty of Mechanical Engineering and S				ering and Ship	Technology		
Name and surname	Subject supervisor		dr inż. Bartosz Dawidowicz					
of lecturer (lecturers)	Teachers							
Lesson types and methods	Lesson type Lecture		Tutorial Laboratory Proiec			t	Seminar	SUM
of instruction	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 classes includ plan	n didactic ed in study	^o articipation in consultation hours		Self-study		SUM
	Number of study hours	15		1.0		9.0		25
Subject objectives	Presentation of basic knowledge about the essence of an environmental risks associated with biomedical engineering. Presentation methods to counteract these threats, and to present selected examples neutralization and elimination of those risks.							
Learning outcomes	Course outcome		Subject outcome Method of verif				fication	
	[K6_K02] he/she is aware of importance of professional dealing and to fulfill ethics obligations, he/ she understands other (non- technical) abilities of mechanical engineering professional, their influence on the society and security of environment, he/she is aware of importance of social cooperation		He is able to solve technical problems in accordance with the rules and professional ethics, he knows what the consequences are. Can work with other teams to solve the problem.			[SK5] Assessment of ability to solve problems that arise in practice		
	[K6_U06] he/she has skills to work in industry and follow the rules of safety regulations, he/she is able to analyze basic economics problems to delineate the direction of solution by using engineering methods		Solves technical problems in the field of medical engineering in accordance with the applicable rules, and performs economic analyzes in this area.			[SU3] Assessment of ability to use knowledge gained from the subject		
	[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 [K6_W12] he/she has basic knowledge in the field of		He can search and obtain the necessary information on the most modern technical solutions. Knows how to use the acquired information in the development and implementation of innovative technical solutions. He knows his competences and the value of engineering knowledge. Has theoretical knowledge of the construction and operation of			[SK5] Assessment of ability to solve problems that arise in practice [SW1] Assessment of factual knowledge		
	fundamental medical sciences, human body anatomy, and physiology, salvage service		medical equipment and the principles of its use.					

Subject contents	Lecture: Hazards - basic concepts. The types of hazards. Sources, causes and origin of hazards. The influence of hazards of an environmental. Protection against hazards, personal protection, protection of equipment and facilities. Methods and apparatus for removal and neutralization of the effects of hazards. Measurement and monitoring of environmental pollution.						
Prerequisites and co-requisites	Knowledge of physics, mechanics, thermodynamics and materials science. Basic knowledge of biology and chemistry.						
Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade				
and criteria	Test	56.0%	100.0%				
Recommended reading	Basic literature Supplementary literature	 Romanowska-Słomka I.: Zagrożenie biologiczne w służbie zdrowia. Wykazy. Charakterystyka. OSPIP, 2006. Ranecki J.: Ratownictwo chemiczno- ekologiczne, SA PSP- Poznań, 1998. Wojnarowski A, Obolewicz-Pietrusiak A.: Podstawy Ratownictwa Chemicznego, Warszawa 2001r. Tomasz W. Grausz: Zagrożenia Czynnikami Chemicznymi w Miejscu Pracy, Państwowa Inspekcja Pracy Główny Inspektorat Pracy, Warszawa 2013. Izabela Waga: Zagrożenia czynnikami biologicznymi w miejscu pracy, Państwowa Inspekcja Pracy Główny Inspektorat Pracy, Warszawa 2013. Izabela Waga: Zagrożenia czynnikami biologicznymi w miejscu pracy, Państwowa Inspekcja Pracy Główny Inspektorat Pracy, Warszawa 2013. M. Janiak, A. Wójcik: Medycyna zagrożeń i urazów radiacyjnych, Wydawnictwo Lekarskie PZWL, Warszawa 2005. Professional journals: Inżynieria Biomedyczna - http://www.inzynieria-biomedyczna.com Zakażenia - http://mavipuro.pl/czasopisma/zakazenia-xxi-wieku Nowiny Lekarskie - https://jms.ump.edu.pl/nowiny/authors.php? Iang=pl 					
		 Promotor BHP - https://promotor.elamed.pl and other 					
	eResources addresses						
		Adresy na platformie eNauczanie:					
Example issues/ example questions/ tasks being completed	Factors causing threat.						
Ŭ I	Examples of threats.						
	Methods of reducing the sources of danger						
	Measures to protect against threats.						
Work placement	Not applicable						