



Subject card

Subject name and code	Nanotechnology and human environment, PG_00055428						
Field of study	Nanotechnology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	second-cycle studies		Subject group		Obligatory subject group in the field of study Humanistic-social 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	4		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Solid State Physics -> Faculty of Applied Physics and Mathematics -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Marek Chmielewski				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	15.0	15.0	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		2.0		18.0	50
Subject objectives	The aim of the course is a general presentation of the ethical issues in the field of scientific research, in addition, during the course, allowing students to express their opinions on the ethical and humanistic subjects. Presented are current and analyzed existing codes in the area in the various fields of research.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W07] has extended knowledge concerning potential negative biological and ecological effects resulting from using nanostructures and relevant safety rules.		The student learns the issue of ethics in scientific research and is able to effectively verify their validity and can apply them in practice. Student will be able to enforce ethical standards in the research work.		[SW1] Assessment of factual knowledge		
	[K7_K09] is aware of the importance and understands non-technical aspects and results of engineering work, including its influence on the environment, and the related responsibility for decisions made.		Students will analyze the impact of the development of technology and new scientific content on the environment, they will be able to determine the scope of safe use of advanced technical solutions. He or she can assess the importance of maintaining balance in the field of technological progress.		[SK5] Assessment of ability to solve problems that arise in practice		
	[K7_W03] has general knowledge on current development directions and discoveries in physics, chemistry, technology and applications of nanostructures.		The student will know a variety of research techniques used in the field of measurement of the structure, the chemical composition, the atomic structure, student learns and classifies physical phenomena used the technic of measurement of the properties of the materials.		[SW1] Assessment of factual knowledge		
Subject contents	The seminar will present issues contained in ethical codes applicable in science and discuss the impact of humans on the natural environment. Issues related to threats to the human environment will be presented and ways of avoiding them will be discussed. The project involves preparing issues that can be used in the process of determining the level of knowledge about nanotechnology in society. Course participants will be tasked with creating at least three closed questions that can potentially be used in a survey testing knowledge about nanotechnology and its impact on the natural environment.						

Prerequisites and co-requisites	not required		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Preparing questions for the survey	100.0%	50.0%
	Seminar preparation	100.0%	50.0%
Recommended reading	Basic literature	Kodeks Etyki Pracownika Naukowego PAN	
		Internet sources	
	Supplementary literature	not required	
	eResources addresses		
Example issues/ example questions/ tasks being completed	The human impact on the environment.		
	Technology in the hands of man		
Work placement	Not applicable		

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