



Subject card

Subject name and code	Concept Design in Nanotechnology, PG_00069340						
Field of study	Nanotechnology						
Date of commencement of studies	October 2025	Academic year of realisation of subject			2026/2027		
Education level	first-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Jakub Karczewski					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	30.0	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		3.0		17.0	50
Subject objectives	The aim of the course is to familiarize students with the principles of implementing team projects while taking into account various aspects of nanotechnology.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W71] has general knowledge in humanistic, social, economic or legal sciences		The student has general knowledge in the field of economic sciences.		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_U71] is able to apply knowledge from humanistic, social, economic or legal sciences in order to solve problems in a social environment		The student is able to apply knowledge of economic sciences to solve problems in the social environment.		[SU1] Assessment of task fulfilment		
	[K6_K04] can cooperate and work in a team, adopting different roles.		The student is able to cooperate and work in a group, assuming various roles.		[SK1] Assessment of group work skills		
Subject contents	<p>Course content – project</p> <p>An introductory lecture on the current state and prospects of civilizational development.</p> <p>Introduction to project management.</p> <p>Intellectual property protection. Patent protection for project elements.</p> <p>Project analysis: need and desirability, assessment of project implementation capacity.</p> <p>Selection of project topic, determination of team members and leaders.</p> <p>Development of the project concept and schedule (Gantt chart).</p> <p>Project monitoring, consultations on design element solutions, and reporting.</p> <p>Preparation of the project study.</p> <p>Project presentation.</p> <p>Project evaluation.</p>						
Prerequisites and co-requisites	Course: Introduction to Nanotechnology.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Evaluation of presentations and project documentation.		100.0%		100.0%		

Recommended reading	Basic literature	Springer Handbook of Nanotechnology. Bharat BhushanSpringer-Verlag Berlin and Heidelberg GmbH & Co. KG Introduction to Project Management. Javid Hamdard https://www.academia.edu/19956521/Introduction_to_Project_Management
	Supplementary literature	Springer Handbook of Nanotechnology. Bharat BhushanSpringer-Verlag Berlin and Heidelberg GmbH & Co. KG
	eResources addresses	
Example issues/ example questions/ tasks being completed	Suggested project topics: 1. Energy-efficient house using nanotechnology elements. 2. Application of nanomaterials in construction (facades, energy passivity). 3. Seawater purification and desalination system (for the Baltic Sea). 4. Thermal and antibacterial clothing. 5. Devices for people with disabilities. 6. Sports equipment (type to be determined). 7. Backpack using nanotechnology solutions. 8. Student-designed project.	
Practical activities within the subject	Not applicable	

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