



## Subject card

Subject name and code	Methods of Design of Experiments, PG_00039756						
Field of study	Materials Engineering, Materials Engineering, Materials Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2023/2024		
Education level	first-cycle studies		Subject group		Optional 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	Zakład nowych materiałów funkcjonalnych do konwersji energii -> Instytut Nanotechnologii i Inżynierii Materiałowej -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Bogusław Kusz				
	Teachers		prof. dr hab. inż. Bogusław Kusz				
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						
	Additional information: Lecture and practical learning in the laboratory.						
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	<p>The aim is</p> <p>learning the correct (scientific) approach to problems,</p> <p>deepening the ability to find information and evaluate it critically,</p> <p>learning how to describe research activities and results well,</p> <p>and checking the possibility of working in a team.</p>						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K6_U06	The student draws conclusions and formulates and justifies opinions.	[SU5] Assessment of ability to present the results of task
	K6_K02	The student is able to cooperate in a team, taking on various roles.	[SK5] Assessment of ability to solve problems that arise in practice
	K6_W04	The student knows the basic aspects of the construction and operation of scientific equipment in the field of materials engineering.	[SW3] Assessment of knowledge contained in written work and projects
	K6_K01	The student is aware of his own limitations and knows when to turn to experts, and is able to properly define priorities for the implementation of his own or other tasks.	[SK3] Assessment of ability to organize work
	K6_W06	The student knows the basic methods, techniques, tools and materials used to solve simple engineering tasks.	[SW1] Assessment of factual knowledge
Subject contents	Planning experiments. Performing experiments. Performance evaluation.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	lecture	49.0%	49.0%
	laboratory	51.0%	51.0%
Recommended reading	Basic literature	Internet	
	Supplementary literature	Internet	
	eResources addresses	Podstawowe <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37363">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37363</a> - e-course Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Plan an experiment to optimize the length of carbon nanotubes grown from acetylene		
Work placement	Not applicable		