GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Diploma laboratory, PG_00063669		
Field of study	Nanotechnology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Optional subject group 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	4	Language of instruction	Polish
Semester of study	7	ECTS credits	5.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Agnieszka Witkowska	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	90.0	0.0	0.0	90

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	90	10.0	25.0	125

Subject objectives

The aim of the course is to acquire knowledge and practical skills necessary for the correct implementation of the tasks set in the diploma project - planning experiments, learning the principles of research methods and their practical carrying out, principles and methods of analysis of results and their presentation.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U09] can design and conduct the process of producing nanostructured materials.	The student, appropriate to the subject of the engineering project being carried out, has the ability to design, manufacture and analyze the properties of nanostructured systems and materials.	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools
[K6_U02] can analyze and solve simple scientific and technical problems based on possessed knowledge, applying analytical, numerical, simulation and experimental methods.	The student is able to analyze and solve a simple scientific and/or technical problem posed in the thesis of an engineering project based on the acquired knowledge and using the skills to apply analytical and/or numerical and/or simulation and/or experimental methods appropriate to the project topic.	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools
[K6_U04] can plan and conduct experiments, critically analyze their results, draw conclusions and formulate opinions. Has laboratory experience.	The student is able to plan and conduct an experiment related to the diploma project, has the ability to process the obtained data and critically analyze the results, as well as draw appropriate conclusions.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information
[K6_W09] Has knowledge of the structure and operation of scientific instruments, measuring and test equipment and in the field of planning and conducting a physical experiment and critical analysis of its results.	The student understands the structure and operation of physical instruments and measuring equipment and is able to plan an experiment to achieve the thesis goal. He or she possesses the knowledge to describe and justify the use of physical, chemical, and mechanical research methods.	[SW3] Assessment of knowledge contained in written work and projects

<table>
<tr><td>Subject contents</td><td colspan="3">The program includes elements of the student's individual work with the supervisor of the diploma project, as well as with a research team as part of the diploma thesis subject.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Evaluation of the results obtained during the project implementation</td><td>50.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Textbooks and publications agreed with the teacher taking care of the diploma project.</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Textbooks and publications agreed with the teacher taking care of the diploma project.</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">Issues and tasks consistent with the implemented engineering diploma project..</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
</table>

Document generated electronically. Does not require a seal or signature.