University of Gdańsk

Subject card

Subject name and code	Graduate laboratory course, PG_00117804						
Field of study	Chemistry						
Date of commencement of studies	October 2024		Academic year of realisation of subject	2024/2025			
Education level	postgraduate studies		Subject group	Obligatory subject group in the field of study Optional subject group			
Mode of study	full-time studies		Mode of delivery	at the university			
Year of study	1		Language of instruction	English			
Semester of study	2		ECTS credits	12.0			
Learning profile	academic		Assessment form				
Conducting unit	Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Joanna Makowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	180.0	0.0	0.0	180
	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	180		30.0	90.0	300	
Subject objectives	Substantive and / or practical preparation for the performance of the experimental part in the field of the master thesis						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[CHEMMU2_W12] Knows the principles of occupational health and safety to the extent that allows independent work on a research and/or measurement position.	Student understands the need to exercise due caution when using laboratory equipment and working with chemical reagents; - Student knows the applicable regulations and guidelines regarding occupational health and safety in his field. He is aware of how to prevent accidents and knows the appropriate equipment for his workstation.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[CHEMMU2_W05] Has extended knowledge in the field of the specialisation studied.	- Student is able to analyze and synthesize information, extract key concepts and understand complex chemical issues at an advanced level - Student has the ability to think critically in the context of explaining the assumptions of his or her research problem in the field of the studied specialization.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[CHEMMU2_U10] Reads with understanding scientific and popular science chemical texts in English.	Student: performs scheduled experiments, makes observations analyzes the obtained results and compares them with available literature data draws conclusions from the conducted tests and proves their correctness in based on available literature data presents the same content in a different language convention systematically collects and prepares documentation of her/his research work.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
[CHEMMU2_W10] Uses knowledge of the principles of operation of the basic scientific and research apparatus used in chemistry.	Student: names and describes methods of analysis and/or methods of computer theoretical calculations used during realization of master project distinguishes and characterizes individual experimental/ IT techniques used during realization of research project identifies scientific and research apparatuses used during realization of research project and explains the principles of their operations.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[CHEMMU2_K05] Understands the need for independent search of information in scientific literature and popular science magazines.	Student: works independently correctly defines priorities necessary for realization of her/his own aims cares for safety during own-self realization of chemical experiments takes into account the made arrangements for realization of experiments.	[SK8] observation of student's independent or team work
[CHEMMU2_W03] Demonstrates extended knowledge in the field of modern measuring techniques used in chemical analysis.	- Student is able to operate the research equipment used to carry out the project and then correctly interpret the obtained results - Student is able to use basic computational and experimental methods in the field of modern measurement techniques used in chemical analysis.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report

	Course outcome	Subject outcome	Method of verification
	[CHEMMU2_W02] Has extended and in-depth knowledge in the field of basic chemistry.	-Student is able to discuss specialized topics both in Polish and English, correctly arguing his or her conclusions in the field of chemistry at an advanced level in the research topic in which he or she is involved. - Student knows how to correctly interpret and analyze related information related to basic chemical laws and issues.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
	[CHEMMU2_U02] Critically assesses the results of conducted, performed observations and theoretical calculations and discusses errors.	- Student is critical in expressing opinions on the results obtained during research and is open to the opinions of co-discussants. - Student critically selects source texts to conduct a reliable analysis of his or her own data.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
Subject contents	The program content is varied and depends on the scope of the topic of the master thesis		
Prerequisites and co-requisites	Knowledge of general, inorganic, and organic chemistry, biochemistry, and mathematics at the first-cycle education. Knowledge of basic issues in the field of quantum chemistry, chemometrics and/or related scientific fields.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Implementation of the planned research project in practice; presenting a report on the results	100.0%	100.0%
Recommended reading	Basic literature	Literature required to pass the course A.1. Literature used during classes: Specialist literature in the scope of realized master thesis. The scope of literature is corrected and still adopted to conducted master research topics A.2. Literature for individual studies: Specialist literature in the scope of realized master thesis. The scope of literature is corrected and still adopted to conducted master research topics	
	Supplementary literature	Specialist literature in the scope of realized master thesis. The scope of literature is corrected and still adopted to conducted master research topics	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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