

## Subject card

Subject name and code	Seminar, PG_00103638						
Field of study	Environmental Protection						
Date of commencement of studies	October 2025		Academic year of realisation of subject			2025/2026	
Education level	Master's studies		Subject group			Obligatory subject group in the field of study 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	1		Language of instruction			Polish	
Semester of study	2		ECTS credits			4.0	
Learning profile	academic		Assessment form			credit	
Conducting unit	Faculty of Chemistry -> Rector						
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	0.0	0.0	30.0	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		5.0		65.0	100
Subject objectives	Education and improvement of the ability to prepare substantively and technically correct scientific multimedia presentations,  Developing and improving the skills of critical evaluation of the presented scientific content,  Acquisition of the ability to conduct a scientific discussion,  Acquisition of the ability to creatively discuss problems and scientific results  Preparation for the master's thesis						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[OŚMU2_U05] Searches, selects and analyses the literature achievements of environmental sciences, including scientific journals and databases, reading and understanding scientific texts in her/his native language and in English.	-Student independently uses literature databases and critically selects source texts. - Student is aware of the consequences of disregarding intellectual property and the abuse of artificial intelligence tools in scientific, research and teaching work.	[SU2] presentation/project/paper/report
	[OŚMU2_K05] Critically assesses her/his own knowledge and the knowledge of the teams in which s/he works, can critically assess the content received.	- Student is critical in expressing opinions and is open to the opinions of co-discussants. The student independently uses literature databases and critically selects source texts. The student is aware of the consequences of disregarding intellectual property and the abuse of artificial intelligence tools in scientific and research work	[SK3] text preparation/written work [SK5] implementation of a problem task
	[OŚMU2_K10] Has a need for continuous professional development.	Student: verifies the level of his knowledge and skills; understands the need for continuous professional training and taking care of personal development  demonstrates creativity in independent and team work; is characterized by perseverance in taking up personal and professional challenges  able to work in a group, assuming different roles in it  is responsible for the safety of his own and others' work; knows how to act in emergency situations, is careful in handling chemical substances, is prudent in handling measuring equipment; understands the need to comply with the rules of professional ethics	[SK1] oral statement/conversation/discussion
	[OŚMU2_U07] Has advanced skills in presenting the results of own research, discussions based on literature data and public speaking, including leading a debate.	Student:  demonstrates the ability to conduct experiments related to the master's thesis; uses simple and advanced methods, techniques and tools to achieve the intended goals fluently searches for information in the literature on the subject (Polish and English)  demonstrates the ability to write a master's thesis in Polish and a short scientific report in a foreign language based on their own research  is able to give a presentation on issues in the field of environmental protection, taking into account the latest scientific achievements and the results of his own research work  talks about issues related to the master's thesis in an understandable language;  is able to define their interests and develop them within the selected specialization and the subject of the master's thesis; carries out the process of self-education and future career planning	[SU2] presentation/project/paper/report

	Course outcome	Subject outcome	Method of verification
	[OŚMU2_K06] Recognises the importance of knowledge in solving encountered cognitive and practical problems and consults experts in the event of difficulties in solving a problem on her/his own.	<ul style="list-style-type: none"> <li>- By reading scientific texts, student learns to analyze and synthesize information, extract key concepts and understand complex chemical issues.</li> <li>- Student develops the ability to think critically and assess the quality of information regarding the research context and evaluate the results, also based on the opinion of experts.</li> <li>- Student is aware of the need to critically analyze his or her own work.</li> </ul>	[SK1] oral statement/conversation/discussion
	[OŚMU2_W10] Applies the appropriate methodology to prepare and write scientific paper, taking into account empirical data as well as legal and ethical conditions.	<p>Student:</p> <ul style="list-style-type: none"> <li>knows complex phenomena and processes occurring in nature, including those related to the spread of anthropogenic pollution;</li> <li>explains and explains the phenomena observed during the research carried out as part of the master's thesis</li> <li>recognizes and characterizes methods, techniques and research tools used in environmental protection; selects the appropriate research methods to complete the master's thesis characterizes the directions of development and knows the latest discoveries in the field of research carried out as part of the master's thesis</li> <li>knows how to prepare and write a master's thesis; remembers about legal and ethical conditions during its creation</li> </ul>	[SW2] presentation/project/paper/report
	[OŚMU2_U06] Defines her/his interests and develops them within the chosen specialisation and themes of her/his master's thesis while implementing the process of self-education and planning of own future career.	<ul style="list-style-type: none"> <li>- Student uses his knowledge in practice. He works on projects, experiments and is creative.</li> <li>- The student knows his or her strengths.</li> <li>- Student knows his or her strengths. Knows how to conduct professional exploration in the future. Is able to regularly assess his progress and adapt his actions to new challenges</li> </ul>	[SU5] implementation of a problem task
Subject contents	Basic and advanced issues related to the subject of the master's thesis selected individually for the needs of a given master's thesis		
Prerequisites and co-requisites	<p>Completion of first-cycle studies in chemistry, environmental protection, chemical engineering or related fields.</p> <p>Knowledge of basic issues in the field of environmental protection and/or related scientific fields</p>		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Preparation and presentation of several multimedia presentations related to the research topics of the department	100.0%	100.0%

Recommended reading	Basic literature	<p>A. Literature required for the final completion of the course (passing the exam):</p> <p>A.1. used during classes</p> <p>Books and scientific articles related to the subject of the master's thesis</p> <p>A.2. studied by the student alone</p> <p>Books and scientific articles related to the subject of the master's thesis</p>
	Supplementary literature	<p>B. Supplementary Literature</p> <p>Books and scientific articles related to the subject of the master's thesis</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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