

Subject card

Subject name and code	MSc thesis laboratory, PG_00153648						
Field of study	Biotechnology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Master's studies		Subject group		Optional 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		15.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Intercollegiate Faculty of Biotechnology UG-MUG -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Mariusz Grinholc				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	400.0	0.0	0.0	400
	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	400		0.0		0.0	400
Subject objectives	The student improves the ability to collect and interpret the obtained experimental data, independently uses methods and computer tools. He/she acquires the ability to independently formulate conclusions based on experimental and literature data. The student implements himself/herself in laboratory work, organising his/ her own time in the laboratory. He/she learns to plan experiments, prepare research material for experiments, and learns to organise his/her time and responsibility for the tasks performed.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOTECHMU2_W06] The graduate knows and understands the risks associated with conducting laboratory works, including those resulting from working with infectious material, GMOs and GMMs.	Knows the risks associated with conducting laboratory research; including those arising from working with infectious material, GMOs and GMMs	[SW3] text preparation/written work
	[BIOTECHMU2_U08] The graduate is able to learn independently, effectively plan and organize work independently or as part of a team.	Learns independently, plans effectively and organises work independently or as part of a team	[SU8] observation of student's independent or team work
	[BIOTECHMU2_U06] The graduate is able to prepare, in a targeted manner in Polish and / or English, a written study, a scientific publication in the field of biotechnology using scientific language, including specialist terminology and conceptual apparatus.	Can prepare in a targeted manner, in Polish and/or English, a written scientific publication on biotechnology using scientific language including specialised terminology and terminology.	[SU3] text preparation/written work
	[BIOTECHMU2_U04] The graduate possesses the ability to proficiently use scientific information, including English, regarding biotechnology; critically analyses and selects information; uses electronic sources; has the ability to use appropriate databases.	Is proficient in the use of scientific information, including English-language information on biotechnology; critically analyses and selects information; uses electronic sources; has the ability to use appropriate databases	[SU3] text preparation/written work
	[BIOTECHMU2_U02] The graduate is able to collect and interpret empirical data; use statistical methods and IT tools in data analysis; formulate conclusions based on empirical data	Collects and interprets empirical data; uses statistical methods and IT tools in data analysis; draws conclusions based on empirical data	[SU3] text preparation/written work [SU5] implementation of a problem task [SU8] observation of student's independent or team work
	[BIOTECHMU2_U01] The graduate possesses the skills necessary for laboratory work; is able to plan and conduct an experiment; documents activities and results; uses complex research techniques and tools in laboratory work under the supervision of a supervisor; has the ability to operate laboratory equipment; applies occupational health and safety principles; understands the risks associated with laboratory work.	Has the skills necessary for laboratory work; is able to plan and carry out an experiment; documents activities and results; uses complex research techniques and tools in laboratory work under the guidance of a mentor; is able to operate laboratory equipment; applies occupational health and safety principles; understands the risks of working in a laboratory	[SU3] text preparation/written work [SU5] implementation of a problem task [SU8] observation of student's independent or team work
[BIOTECHMU2_K03] The graduate effectively plans and organizes own work, especially laboratory work; plans an individual professional career.	Effectively plans, organises own work, in particular laboratory work; plans individual career	[SK8] observation of student's independent or team work	
Subject contents	Depending on the research topic of the thesis supervisor, the content of the course may include: analysis of protein structure and function using advanced spectroscopic, biophysical and biochemical techniques; deepening knowledge of the biochemistry and biotechnology of plant lipids; application of molecular biology methods in the construction of new-generation antiviral vaccines; analysis of the structure and function of viral proteins; analysis of the molecular mechanism of aggressive cancer cell behaviour and the search for markers for the diagnosis and therapy of these diseases.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Master's thesis	0.0%	100.0%
Recommended reading	Basic literature	Scientific publications (in Polish and in English) related to the topic of the master's project, including scientific publications of the supervisor of the project of the master's project.	
	Supplementary literature	None	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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