

**Subject card**

<b>Subject name and code</b>	Scientific research at the Intercollegiate Faculty of Biotechnology UG&MUG, PG_00197321						
<b>Field of study</b>	Biotechnology						
<b>Date of commencement of studies</b>	October 2026	<b>Academic year of realisation of subject</b>			2026/2027		
<b>Education level</b>	Master's studies	<b>Subject group</b>			Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	1	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	1	<b>ECTS credits</b>			1.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			credit		
<b>Conducting unit</b>							
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. Andrea Lipińska				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	15		1.0		9.0	25
<b>Subject objectives</b>	The aim of the course is to acquaint students with research projects carried out at the Faculty which will allow them to select research group, in which they will develop their scientific interests and realize their future Masters project.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOTECHMU2_K01] The graduate consciously combines knowledge acquired in previous stages of education with knowledge acquired on an ongoing basis to solve problems in the field of biotechnology; consciously deepens and updates knowledge and improves qualifications related to biotechnology in the field of exact and natural sciences and medical and health sciences.	The student integrates knowledge from various areas of biological, chemical and medical sciences in order to formulate a preliminary research problem related to the planned master's thesis, critically analyzes scientific publications on the selected area of biotechnology and identifies current research directions, justifies the choice of master's laboratory and research topic by referring to the current state of knowledge and the importance of the problem for the development of biotechnology, indicates opportunities for further deepening knowledge and developing research competences in the selected area of biotechnology.	[SK3] text preparation/written work
	[BIOTECHMU2_W04] The graduate has in-depth knowledge of selected biotechnology problems currently discussed in the literature.	The student has in-depth knowledge of selected biotechnology problems related to scientific research at MWB.	[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.	The student organizes his/her own research work, preparing a preliminary schedule for the implementation of the master's thesis, cooperates with the academic supervisor and the research team, consults on research ideas and receives constructive feedback, presents and justifies the choice of the master's laboratory and the preliminary research concept in the form of a short presentation or project description.	[SU3] text preparation/written work
[BIOTECHMU2_K03] The graduate effectively plans and organizes own work, especially laboratory work; plans an individual professional career.	The student identifies research areas carried out in available laboratories and conducts a preliminary analysis of them in terms of his/her own scientific interests, plans his/her own research path, defining the initial topic of the master's thesis, research goals and possible methods of research implementation.	[SK3] text preparation/written work	
Subject contents	<p>- To deepen knowledge of the biochemistry and biotechnology of plant lipids. In particular, concerning the genes related to lipid metabolism; determining their expression, determining the biochemical and physiological function of the proteins they encode, determining the effect of their overexpression and exclusion, etc.</p> <p>- To gain additional insights into the application of molecular biology tools in the diagnosis of human metabolic, cancer and infectious diseases, and projects related to the diagnosis and photodynamic therapy of bacterial infections and cancer.</p> <p>- Developing research on the use of beneficial (antagonistic) bacteria or substances produced by them in the protection of plants against bacterial pathogens. Search for bacteria antagonistic to Dickey's and Pectobacterium pathogens and characterisation of the factors determining this antagonism.</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written justification	100.0%	50.0%
	Attendance	100.0%	50.0%
Recommended reading	Basic literature	None	
	Supplementary literature	None	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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