University of Gdańsk

Subject card

Subject name and code	Scientific research at the Intercollegiate Faculty of Biotechnology UG&MUG, PG_00197321		
Field of study	Biotechnology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
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	1	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Andrea Lipińska	
	Teachers	dr hab. Andrea Lipińska	

Lesson types							
	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15	1.0	9.0	25

Subject objectives	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

- 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.

- 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.

- 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.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Written jusification	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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