

**Subject card**

<b>Subject name and code</b>	Specialisation lab - practical and theoretical preparation for diploma exam (Tutoring), PG_00196961						
<b>Field of study</b>	Biotechnology						
<b>Date of commencement of studies</b>	October 2026	<b>Academic year of realisation of subject</b>			2028/2029		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study Optional subject group 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>	3	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	6	<b>ECTS credits</b>			5.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			credit		
<b>Conducting unit</b>	Intercollegiate Faculty of Biotechnology UG-MUG -> Rector						
<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>	0.0	45.0	0.0	0.0	0.0	45
	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>	45		20.0		60.0	125
<b>Subject objectives</b>	The aim of the course is for students to master the knowledge of terms and concepts used in biotechnology in its broadest sense. During the course, the student will expand their knowledge of advanced techniques and research tools used in biotechnology. The course also aims to strengthen the students' readiness for continuous improvement, updating their knowledge and raising their professional qualifications. In the course, the student will combine the knowledge and skills learned so far to solve specific research problems.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOTECHL3_W09] The graduate possesses structured and advanced knowledge of the terminology and concepts used in biological and medical sciences and related disciplines.	The student knows specialized terminology in the field of biotechnology and biological and medical sciences used in laboratory work, understands the meaning and application of terms used in describing laboratory procedures and biological test results.	[SW1] oral statement/ conversation/discussion
	[BIOTECHL3_W07] The graduate has advanced knowledge of the rules of operation and the possibilities of using research techniques and tools used in biotechnology.	The student has advanced knowledge of research techniques and tools used in biotechnology, is able to list and characterize them and determine their applications and limitations.	[SW1] oral statement/ conversation/discussion
	[BIOTECHL3_K01] The graduate is aware of the scope of their own knowledge and skills; demonstrates a willingness to continuously update them and pursue professional development.	The student is aware of the level of his/her knowledge and practical skills in the field of laboratory techniques used in biotechnology and medical sciences, is ready to independently expand knowledge and improve skills related to the performance of laboratory procedures and the operation of research equipment, is able to identify areas requiring additional knowledge or skills during the implementation of experimental tasks.	[SK1] oral statement/conversation/ discussion
Subject contents	<p>The curriculum content covers topics in core courses and departmental research projects, including:</p> <ul style="list-style-type: none"> <li>- biochemistry and biotechnology of plant lipids</li> <li>- application of molecular biology tools in the diagnosis of human metabolic, cancer and infectious diseases</li> <li>- diagnostics and photodynamic therapy to combat bacterial infections and cancer</li> <li>- use of beneficial (antagonistic) bacteria, substances produced by them or bacteriophages in the protection of plants against bacterial pathogens</li> <li>- the search for biologically active compounds of plant origin and other compounds (synthetic peptides, nanoparticles, etc.) to combat human and plant pathogens</li> <li>- mechanisms determining the development of disease processes caused by bacteria on plants</li> </ul>		
Prerequisites and co-requisites	Knowledge and skills acquired during the completion of modules M01-M06		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Diploma exam	51.0%	100.0%
Recommended reading	Basic literature	Materials from Modules 01-06 Scientific publications and literature items indicated by the instructors of the courses delivered as part of the syllabus of the Modules 01-06 The latest published materials indicated by the lecturer	
	Supplementary literature	None	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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