

**Subject card**

<b>Subject name and code</b>	Specialization laboratory III, PG_00203408						
<b>Field of study</b>	Medical Biology						
<b>Date of commencement of studies</b>	October 2026	<b>Academic year of realisation of subject</b>			2027/2028		
<b>Education level</b>	Master's studies	<b>Subject group</b>			Obligatory subject group in the field of study Optional subject group Specialty 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>	2	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	3	<b>ECTS credits</b>			13.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			credit		
<b>Conducting unit</b>	Department of Medical Biology and Genetics -> Faculty of Biology -> Rector						
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		prof. dr hab. Anna Herman-Antosiewicz				
	<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	0.0	150.0	0.0	0.0	150
	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>	150		50.0		125.0	325
<b>Subject objectives</b>	Acquiring the ability to use research techniques in scientific work; planning and conducting experiments in the laboratory or collecting materials in the field, recording and interpreting data; describing the goals and assumptions of the research project, analyzing the results of the conducted experiments and their discussions.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	<p>[BIOLMEDMU2_W06] knows ethical and legal considerations related to scientific, teaching and implementation activities</p> <p>[BIOLMEDMU2_W05] knows in-depth understanding the principles of practice based on scientific arguments</p> <p>[BIOLMEDMU2_W04] knows in-depth understanding the principles of planning research based on the achievements of biological and medical sciences, the principles of operation of equipment and apparatus used in medical biology research, and the principle of interpreting biological phenomena and processes based on empirical data in research work and practical activities</p> <p>[BIOLMEDMU2_U08] can independently plan and implement his own lifelong learning and guide others in doing so</p> <p>[BIOLMEDMU2_K02] is ready to recognize the importance of knowledge in solving cognitive and practical problems and to seek expert advice when having difficulty solving a problem on his own</p> <p>[BIOLMEDMU2_U06] knows and applies English-language specialized vocabulary of biological and medical sciences in daily professional/scientific activities</p> <p>[BIOLMEDMU2_U07] is able to show initiative and lead teamwork and cooperate in the planning and implementation of research tasks</p> <p>[BIOLMEDMU2_U02] is able to plan and conduct experiments and measurements based on advanced research techniques and tools, is able to interpret the obtained results and draw conclusions</p> <p>[BIOLMEDMU2_U03] is able to formulate and solve problems on the basis of the known laws and methods, including - using computer tools and statistical methods</p> <p>[BIOLMEDMU2_U04] is able to identify errors and omissions in practice</p> <p>[BIOLMEDMU2_K04] takes care of his own safety, the safety of his surroundings and co-workers of certain tasks</p>	<p>Knows the basic ethical and legal conditions related to scientific, teaching and implementation activities</p> <p>Knows the principles of practice based on scientific arguments</p> <p>Knows the principles of research planning based on the achievements of biological and medical sciences, the principles of operation of equipment and apparatus used in medical biology research and the principle of interpreting phenomena and processes of biological sciences based on empirical data in research and practical activities</p> <p>Can independently plan and implement his lifelong learning and guide others in this area</p> <p>Recognizes the importance of knowledge in solving cognitive and practical problems and seeks the opinion of experts in case of difficulties in solving the problem independently</p> <p>Knows and uses English-language specialist vocabulary in the field of biological and medical sciences in everyday professional/scientific activities</p> <p>Can show initiative and cooperate in planning and implementing research tasks in a team</p> <p>Can plan and carry out experiments and measurements based on advanced techniques and research tools, can interpret the obtained results and draw conclusions</p> <p>Is able to formulate and solve problems based on known laws and methods, including using IT tools and statistical methods</p> <p>Can identify errors and omissions in practice</p> <p>Cares about his/her own, surroundings and coworkers' safety</p>	<p>[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report</p> <p>[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report</p> <p>[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report</p> <p>[SU1] oral statement/conversation/ discussion [SU8] observation of student's independent or team work</p> <p>[SK1] oral statement/conversation/ discussion [SK8] observation of student's independent or team work</p> <p>[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU8] observation of student's independent or team work</p> <p>[SU5] implementation of a problem task [SU8] observation of student's independent or team work</p> <p>[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU5] implementation of a problem task [SU8] observation of student's independent or team work</p> <p>[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU5] implementation of a problem task [SU8] observation of student's independent or team work</p> <p>[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU8] observation of student's independent or team work</p> <p>[SK8] observation of student's independent or team work</p>
Subject contents	The content is related to the master's thesis topic and is individually selected. It addresses the issues and methodology of research conducted at the department		
Prerequisites and co-requisites			

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	The basis for grading is the completion of a final project: conducting research and properly processing the results (in the form of a report). Laboratory work (the student's systematic approach and commitment to the research) is also assessed.	51.0%	100.0%
Recommended reading	Basic literature	The literature is selected individually depending on the topic of the work and takes into account the scientific achievements of the supervisor and the team with which the student cooperates.	
	Supplementary literature	Additional literature is independently searched by the student in literature databases (including PubMed, BIOSIS, Science Direct, Scirus).	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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