

**Subject card**

<b>Subject name and code</b>	General microbiology, PG_00198299						
<b>Field of study</b>	Genetics and Experimental Biology						
<b>Date of commencement of studies</b>	October 2026	<b>Academic year of realisation of subject</b>			2026/2027		
<b>Education level</b>	Bachelor'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>	2	<b>ECTS credits</b>			3.0		
<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. Magdalena Plotka				
	<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	30.0	0.0	0.0	30
	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>	30		8.0		37.0	75
<b>Subject objectives</b>	Understanding the relationship between the structure and function of bacteria. Understanding the relationships between basic metabolic processes. Understanding the mechanisms regulating bacterial metabolism. Understanding the factors determining the virulence of bacteria and viruses. Learning about methods of preventing and combating infections.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GBEL3_K05] The graduate is prepared to: responsibility for their own and others' safety at work	uses basic equipment and research tools when performing activities in a microbiology laboratory and maintains his/her own and others' safety	[SK8] observation of student's independent or team work
	[GBEL3_U01] The graduate is able to: independently perform practical tasks in the biological and related sciences, formulate research problems, analyse their results and draw conclusions.	is able to carry out simple experiments in the field of microbiology, interpret the obtained results and draw conclusions	[SU6] demonstration of practical skills [SU8] observation of student's independent or team work
	[GBEL3_U07] The graduate is able to: work as part of a team and organise work in accordance with the principles of occupational health and safety and ergonomics.	is able to work in a team to analyze biological problems related to the topics of the classes	[SU8] observation of student's independent or team work
	[GBEL3_W01] A graduate has an advanced knowledge and understanding of: the structure and properties of the main types of biological macromolecules; the molecular mechanisms of basic metabolic pathways and genetic information flow; the sources of genetic variation in organisms and the mechanisms of evolution. They can explain the principles of inheritance, the differences in structure and function between prokaryotic and eukaryotic cells, as well as the structure and functional relationships at the cellular and tissue levels.	characterizes the basic components and explains the differences in the functioning of prokaryotic and eukaryotic cells	[SW4] test/exam - oral or written
	[GBEL3_W03] A graduate has an advanced knowledge and understanding of: molecular mechanisms of genetic information transfer and gene expression and the molecular and genetic basis of human physiology and disease, including infectious diseases.	understands the basic physiological processes in bacteria and their relationship to causing infectious diseases in humans and animals	[SW4] test/exam - oral or written
	[GBEL3_W06] A graduate has an advanced knowledge and understanding of: the development and current state of knowledge and the latest trends in molecular genetics and related fields; indicates their relationship to other disciplines in the life sciences or medical sciences and their potential for use in practice	is familiar with the current state of knowledge and the latest trends in microbiology, indicates their relationship with other disciplines of natural or medical sciences	[SW4] test/exam - oral or written
Subject contents	Issues of laboratory work. Learning about research techniques and methods used in microbiology. Learning about the principles of safe work in a microbiology laboratory. Review of selected groups of bacteria.		
Prerequisites and co-requisites	Completed organic chemistry course		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written test	51.0%	100.0%

Recommended reading	Basic literature	A. Literature required for final crediting of classes:A.1. used during classesKunicki-Goldfinger W. J. H. 1998. Life of bacteria. PWN, Warsaw.Markiewicz Z. 1993. Structure and functions of bacterial envelopes. PWN, Warsaw.Eligia M. Szewczyk: Bacteriological diagnostics PWN 2006A.2. studied independently by the studentBaj, J. Markiewicz, Z.: Molecular biology of bacteria, Warsaw, 2006Streyer, L.: Biochemistry, PWN 1997
	Supplementary literature	Jawetz E., Melnick J., Adelberg E. 1991. Review of medical microbiology. PZWL, Warsaw.Piekarowicz : Fundamentals of molecular virology, PWN 2004Wons E, Mruk I, Kaczorowski T. Relaxed specificity of prokaryotic DNAmethyltransferases results in DNA site-specific modification of RNA/DNAheteroduplexes. J Appl Genet. 2015 Nov; 56(4):539-546
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>1.The Enterobacteriaceae family includes:a) <i>Vibrio</i>, <i>Bacillus</i>, <i>Clostridium</i>b) <i>Citrobacter</i>, <i>Klebsiella</i>, <i>Escherichiac</i>) <i>Neisseria</i>, <i>Vibrio</i>, <i>Staphylococcus</i>d) <i>Aeromonas</i>, <i>Candida</i>, <i>Serratia</i></p> <p>2. What diseases do the following bacteria cause:</p> <p><i>Mycobacterium tuberculosis</i> <i>Vibrio cholerae</i></p>	
Work placement	Not applicable	

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