University of Gdańsk

Subject card

Subject name and code	Microbiology, PG_00154242		
Field of study	Medical Biology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	undergraduate studies	Subject group	Obligatory subject group 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	2	ECTS credits	4.0
Learning profile	academic	Assessment form	
Conducting unit	Katedra Mikrobiologii -> Faculty of Biology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Magdalena Płotka	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	0.0	0.0	30

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	30	4.0	66.0	100

Subject objectives

Understanding the relationship between structure and function in relation to microorganisms, the relationship between basic metabolic processes, the mechanisms regulating bacterial metabolism, the factors determining the virulence of bacteria and viruses, and methods of preventing and combating infections.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_W16] explains the theoretical basis of experimental methods and lists the most important techniques of biological sciences that can be applied to medical biology and diagnostics	Explains the theoretical basis of experimental methods and lists the most important techniques in microbiology that can be used in medical biology and diagnostics.	[SW4] test/exam - oral or written
[BIOLMEDL3_W04] presents the characteristics, systematics and evolution of selected groups of organisms including molecular basis and describes the basic concepts and mechanisms of evolution	Characterization, systematics, and evolution of selected groups of microorganisms, considering the molecular foundations and fundamental concepts and mechanisms of evolution.	[SW4] test/exam - oral or written
[BIOLMEDL3_W01] explains the differences in the structure and function of a prokaryotic and eukaryotic cell	Components and explains the differences in the structure and functioning of prokaryotic and eukaryotic cells.	[SW4] test/exam - oral or written

Subject contents

Functional anatomy of bacteria, basic metabolic processes of bacteria, conditions of bacterial growth, regulation of bacterial metabolism, control of bacterial growth, genetics of bacteria and viruses, mutagenesis and mutational variability of bacteria, fundamentals of virology, microbiological mechanisms of pathogenesis, pathogenic microorganisms, and use of microorganisms in biotechnology.

Prerequisites and co-requisites

Completed organic chemistry course.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test exam	51.0%	100.0%

Recommended reading

Basic literature	Madigan, M.T., Martinko, J.M., Dunlap, P.V. and Clark,D.P.: Brock Biology of Microorganisms, Pearson

	Supplementary literature	Murphy, K.: Janeway's Immunobiology, Garland Science
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	1. Lipid A is a component of: a) lipopolysaccharide of enterobacteria b) Brown's lipoprotein of *Escherichia coli* c) cytoplasmic membrane phospholipids of Gram-negative bacteria d) lipids associated with murein of Gram-positive bacteria 2. This bacterium produces a strong neurotoxin that affects peripheral nerves. This refers to: a) *Staphylococcus aureus* b) *Bacillus anthracis* c) *Bordetella pertussis* d) *Clostridium botulinum*	
Work placement	Not applicable	

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