

Subject card

Subject name and code	Bacterial diagnostic, PG_00154542						
Field of study	Medical Biology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group 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	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		3.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Laboratory of Molecular Evolution and Bioinformatics -> Department of Evolutionary Genetics and Biosystematics -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Agata Jurczak-Kurek				
	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		41.0	75
Subject objectives	To learn about the dangers of the new faces of pathogenic bacteria and the challenges facing microbiology today, importance of the physiological microbiota in maintaining homeostasis in the human body, the issues related to the epidemiology of infectious diseases, virulence factors of bacteria and mechanisms of pathogenesis, methods of isolation of bacteria from biological material and methods of their identification, used in a diagnostic laboratory, selected groups of microorganisms pathogenic for humans and their virulence factors and etiological factors causing selected systemic infections.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[BIOLMEDL3_W11] posiada zaawansowaną wiedzę dotyczącą metod oceny stanu zdrowia oraz objawów i przyczyn wybranych zaburzeń i zmian chorobowych oraz zna podstawy zdrowego trybu życia, potrafi je uzasadnić i promować		The student has advanced knowledge of methods of identifying bacteria and the lesions they cause		[SW4] test/exam - oral or written		
	[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		The student explains the theoretical basis of experimental methods and lists the most important techniques that can be applied to bacteriological diagnosis		[SW4] test/exam - oral or written		
	[BIOLMEDL3_W07] has advanced knowledge of medical biology and is familiar with the health sciences terminology		The student has advanced knowledge of methods of identifying bacteria and the lesions they cause		[SW4] test/exam - oral or written		

Subject contents	Microbiology in the past and today, problems and challenges facing microbiology today. Selected issues in epidemiology of infectious diseases. Physiological microbiota and its importance for the human body. Virulence factors of bacteria and their role in the mechanisms of pathogenesis. Review of selected groups of bacteria causing infectious diseases that are currently a significant medical problem. Methods of isolation and identification of bacterial etiological agent. Principles of collection of material for bacteriological studies and its storage and transport to the laboratory. Issues in the diagnosis of selected systemic infections. Selected issues related to nosocomial infections. Antibiotics and chemotherapeutics - mechanisms of their action and bacterial resistance.		
Prerequisites and co-requisites	Completed course in basic microbiology		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written test exam	51.0%	100.0%
Recommended reading	Basic literature	1. Szweczyk E.M. Diagnostyka bakteriologiczna. Wyd. Naukowe PWN, Warszawa 2020 2. Irving W., Boswell T., Ala'Aldeen D. Mikrobiologia medyczna. Wyd. Naukowe PWN, Warszawa 2012	
	Supplementary literature	1. Salyer A.A., Whitt D.D. Mikrobiologia. Wyd. Naukowe PWN, Warszawa 2005 2. Tille P.M. Bailey & Scott's diagnostic microbiology. Fourteenth edition. Elsevier 2017	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. The human physiological microbiota 2. Virulence factors of bacteria 3. Phenotypic and molecular methods of identifying bacteria pathogenic to humans		
Work placement	Not applicable		

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