University of Gdańsk

Subject card

Subject name and code	Bacterial diagnostic, PG_00203397		
Field of study	Medical Biology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
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	2.0
Learning profile	academic	Assessment form	credit
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	0.0	0.0	30.0	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	6.0	14.0	50

Subject objectives

To learn the principles of work in a bacteriological laboratory. To familiarize students with the methods of isolation of bacteria and methods of identification of more important groups of bacteria and assessment of their drug susceptibility.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_W16] has an advanced knowledge of the experimental methods and 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	[SW1] oral statement/ conversation/discussion [SW3] text preparation/written work
[BIOLMEDL3_W11] has advanced knowledge of methods for assessing health status, as well as the symptoms and causes of selected disorders and pathological changes; understands the basics of a healthy lifestyle and is able to explain and promote them	The student has advanced knowledge of methods of identifying bacteria and the lesions caused by them	[SW1] oral statement/ conversation/discussion [SW3] text preparation/written work
[BIOLMEDL3_W07] has advanced knowledge of medical biology and is familiar with the health sciences terminology	The student has advanced knowledge of clinical microbiology and is familiar with its terminology	[SW1] oral statement/ conversation/discussion [SW3] text preparation/written work
[BIOLMEDL3_K05] jest odpowiedzialny za bezpieczeństwo pracy własnej i innych oraz potrafi rozpoznać sytuacje zagrożenia i podjąć odpowiednie działania	While working in the microbiology laboratory, the student is responsible for the safety of himself and others and is able to recognize risk situations and take appropriate action	[SK8] observation of student's independent or team work
[BIOLMEDL3_U03] performs simple tasks or research expertise typical of medical biology under the guidance of a supervisor	The student, under the guidance of a research supervisor, performs simple tasks and expertise research typical of medical microbiology	[SU5] implementation of a problem task [SU6] demonstration of practical skills [SU8] observation of student's independent or team work

Subject contents

Principles of health and safety in the microbiology laboratory. Sterilization techniques and principles of aseptics. Techniques of culture microorganisms, microbiological media. Methods of determining bacterial susceptibility to antibiotics and bacterial mechanisms of drug resistance. Antibiogram and its interpretation. Differentiation of selected bacteria constituting the physiological microbiota and bacteria pathogenic to humans using microscopic, biochemical, serological and molecular methods.

Prerequisites and co-requisites

Completed basic microbiology course.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Final grade based on: - partial grades (tests) (40%) - individual student work (practice) (60%)	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. What phenotypic methods identify coagulase-negative *Staphylococcu*s species?

2. Which species of pathogenic *Enterobacterales* show abnormal growth on solid media?

Work placement

Not applicable

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