

DESCRIPTION OF THE COURSE OF STUDY

Course code	0511-2BIO-D03-MM	
Name of the course in	Polish	Mikrobiologia medyczna
	English	Medical microbiology

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	Biology
1.2. Mode of study	Full-time studies
1.3. Level of study	Biology
1.4. Profile of study*	second-degree studies
1.5. Person/s preparing the course description	Paulina Żarnowiec, Katarzyna Durlik-Popińska
1.6. Contact	Paulina.zarnowiec@ujk.edu.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites*	Fundamentals of general microbiology. Possessing the ability to seed bacteria and cultivate microorganisms.

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	lecture/laboratory	
3.2. Place of classes	English	
3.3. Form of assessment	Lecture exam/laboratory credit with grades	
3.4. Teaching methods	Lecture, discussion, independent experiments	
3.5. Bibliography	Required reading	Irving W., Boswell T., Dlawer A., Mikrobiologia medyczna, Wydawnictwo Naukowe PWN, 2008
	Further reading	Szewczyk E.M. Diagnostyka mikrobiologiczna. Wydawnictwo Naukowe PWN, 2013 Zaremba M.L., Borowski J. Mikrobiologia lekarska. Wydawnictwo Lekarskie PZWL, 2004

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

<p>4.1. Course objectives (<i>including form of classes</i>)</p> <p>Lecture:</p> <p><i>C1 Understanding the mechanisms of antimicrobial defense</i></p> <p><i>C2 Understanding the basic definitions related to infections</i></p> <p><i>C3 Understanding the basic factors of pathogenicity of microorganisms</i></p> <p><i>C4 To present the general characteristics and clinical significance of the key groups of pathogenic bacteria</i></p> <p><i>C5 Fundamentals of diagnosis and therapy of infections</i></p> <p>Lab:</p> <p><i>C1 recognition of etiological factors and mechanisms of pathogenesis of infections caused by microorganisms,</i></p> <p><i>C2 selection of microbiological / serological tests depending on the type of infection and potential etiological factors</i></p> <p><i>C3 practical knowledge of the rules of collecting, storing and sending material for microbiological tests,</i></p> <p><i>C4 acquisition of the ability to interpret the results of microbiological and serological tests</i></p> <p><i>C5 the acquisition of the practical skills of proper hand disinfection</i></p>
<p>4.2. Detailed syllabus (<i>including form of classes</i>)</p> <p>Lecture:</p> <p><i>1.etiopathogenesis and epidemiology of infections (sources of infections, routes of transmission, susceptible population, risk factors)</i></p> <p><i>2. detailed microbiology</i></p> <p><i>3. microbiological diagnostics</i></p> <p><i>4. basic groups of antimicrobial drugs - mechanism of action</i></p> <p><i>5. clinically important mechanisms of microbial resistance to antibiotics</i></p> <p>Lab:</p> <p><i>1. disinfection, sterilization and aseptic treatment</i></p>

2. *microbiological diagnostics*
3. *antibiogram*

4.3 Intended learning outcomes

Code	A student, who passed the course	Relation to learning outcomes
within the scope of KNOWLEDGE:		
W01	Student performs a multifaceted comparative analysis of the molecular, cellular and physiological mechanisms of the functioning of bacterial organisms	BIO2A_W03
W02	Student recognizes that the growth of antibiotic resistance is the most important research problem in medical microbiology, and both breeding methods and molecular biology methods are involved in assessing this process. Understanding and counteracting the increase in antibiotic resistance requires an interdisciplinary approach, taking into account both the structure of microorganisms, but also education of the society, availability of antibiotics or antibiotic policy in the world.	BIO2A_W01
within the scope of ABILITIES:		
U01	Student can analyze and verify the results of scientific research and distinguish between diagnostic parameters based on known methods	BIO2A_U03
U02	Student can properly select sources, critically evaluate the results of experiments, control and diagnostic observations, as well as calculate and discuss measurement errors	BIO2A_U05
within the scope of SOCIAL COMPETENCE:		
K01	Student is ready to critically evaluate the received content on antibiotic policy and recognize the importance of knowledge in medical microbiology to verify this content	BIO2A_K01
K02	Student is ready to fulfill social obligations, inspire and educate the public to counter disinformation about antibiotic resistance	BIO2A_K02

4.4. Methods of assessment of the intended learning outcomes

Teaching outcomes (code)	Method of assessment (+/-)																				
	Exam oral/written*			Test*			Project*			Effort in class*			Self-study*			Group work*			Others* e.g. standardized test used in e-learning		
	Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes		
	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...
W01	+																				
W02	+																				
U01																					
U02																					
K01																					
K02																					

*delete as appropriate

4.5. Criteria of assessment of the intended learning outcomes

Form of classes	Grade	Criterion of assessment
lecture (L) (including e-learning)	3	51-60% of the maximum number of points in the test
	3,5	61-70% of the maximum number of points in the test
	4	71-80% of the maximum number of points in the test
	4,5	81-90% of the maximum number of points in the test
	5	91-100% of the maximum number of points in the test
classes (C)* (including e-learning)	3	51-60% of the maximum number of points in the test
	3,5	61-70% of the maximum number of points in the test
	4	71-80% of the maximum number of points in the test
	4,5	81-90% of the maximum number of points in the test
	5	91-100% of the maximum number of points in the test

5. BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT

Category	Student's workload	
	Full-time studies	Extramural studies
<i>NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/</i>	30	
<i>Participation in lectures*</i>	15	
<i>Participation in classes, seminars, laboratories*</i>	15	
<i>INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/</i>	20	
<i>Preparation for the classes, seminars, laboratories*</i>	10	
<i>Preparation for the exam/test*</i>	10	
TOTAL NUMBER OF HOURS	50	
ECTS credits for the course of study	2	

**delete as appropriate*

Accepted for execution (date and legible signatures of the teachers running the course in the given academic year)

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