



Educational objectives (max. 6 items)

- C1.** Learning students with most important microorganisms causing infections.
C2. Learning about basic diagnostic procedures: proper sampling and transport of clinical materials, isolation and identification of microorganisms.
C3. Learning about mechanisms of action of antimicrobials.
C4. Learning about mechanisms of bacterial resistance to antimicrobials.
C5. Preparing students to correct microbiological tests results interpretation and principles of rational treatment with antimicrobials.
C6. To familiarize students with epidemiology of infectious diseases (the sources of infection, modes of transmission) and prophylaxis (vaccines, antisera, patterns of treatment of infected persons).

Education result matrix for module/course in relation to verification methods of the intended education result and the type of class

Number of course education result	Number of major education result	Student who completes the module/course knows/is able to	Methods of verification of intended education results (forming and summarising)	Form of didactic class <i>**enter the abbreviation</i>
K.1	C.K12	Graduate is able to name and classify pathogenic microorganisms causing human's infections; knows the normal microflora and its influence on human's organism and on endogenous, and iatrogenic infections.	Oral response, test,	L, LC
K.2	C.K14	Graduate knows and understands the influence of bacteria and viruses on human's organism, knows pathomechanism of infection caused by these microorganisms, (virulence factors), ways of transmission among people, animals and external environment, as well as prophylaxis.	Oral response, test	L, LC
K.3	C.K15	Graduate knows and understands the influence of pathogenic fungi on human's organism, knows pathomechanism of infections caused by these microorganisms, (virulence factors, invasiveness), ways of transmission among people, animals and external environment, as well as prophylaxis.	Oral response, test,	L, LC
K.4	C.K17	Graduate knows and understands pathomechanism of iatrogenic infections, ways of their transmission, main clinical	Oral response, test	L, LC



		symptoms, and prophylaxis.		
K.5	C.K18	Graduate knows and understands diagnostic procedures of bacterial, viral and fungal infections, the biological material sampling, transport to the laboratory, and is able to interpret the results.	Oral response, test	L, LC
K.6	C.K19	Graduate knows and understands the basis of sterilization and disinfection and sterile disposal.	Oral response, test	L, LC
K.7	C.K33	Graduate is able to characterize clinical picture of most common systemic infections and etiologic agents responsible for the infections.	Oral response, test	L, LC
K.8	C.K34	Graduate can characterize groups of antimicrobials and their activity against bacteria, viruses and fungi.	Oral response, test	L, LC
K.9	C.K39	Graduate understands the problem of drug resistance, including multi-drug resistance	Oral response, test	L, LC
S1.	C.S8	Graduate is able to perform serological assays on the basis of antigen - antibody reaction	Oral response, test	L, LC
S3.	C.S9	Student is able to prepare slides and recognize bacteria under microscope.	Oral response, test	L, LC
S4.	C.S10	Graduate can interpret microbiological assays results.	Oral response, test	L, LC
S5.	C.S15.	Student can propose rationale antimicrobial therapy	Oral response, test	L, LC

** L - lecture; SE - seminar; AC – auditorium classes; MC – major classes (non-clinical); CC – clinical classes; LC – laboratory classes; SCM – specialist classes (magister studies); CSC – classes in simulated conditions; FLC – foreign language course; PCP practical classes with patient; PE – physical education (obligatory); VP – vocational practice; SS – self-study, EL – E-learning .

Please mark on scale 1-5 how the above effects place your classes in the following categories:
communication of knowledge, skills or forming attitudes:

Knowledge: 4

Skills: 2



Student's amount of work (balance of ECTS points)	
Student's workload (class participation, activity, preparation, etc.)	Student Workload (h)
1. Contact hours:	50
2. Student's own work (self-study):	15
Total student's workload	65
ECTS points for module/course	2
Comments	
Content of classes (please enter topic words of specific classes divided into their didactic form and remember how it is translated to intended educational effects)	
<p>Lectures</p> <ol style="list-style-type: none"> 1. Introduction to microbiology. Bacterial cell structure. 2. Gram – positive cocci: staphylococci and streptococci. 3. Gram – positive bacteria: clostridia and corynebacteria. 4. Tuberculosis – pathogenesis, epidemiology and prophylaxis. Actinomyces, Nocardia. 5. Gram – negative fermentative and non – fermentative rods. Anaerobes. 6. Gram – negative small coccobacilli. Neisseria, Moraxella. 7. Atypical and spiral bacteria. 8. Antimicrobials. 9. Bacterial resistance to antimicrobials. 10. Fungal infections. 	
Seminars	
<p>Practical classes</p> <ol style="list-style-type: none"> 1. Bacterial morphology. Staining techniques. 2. Gram – positive cocci: staphylococci and streptococci. 3. Gram – positive bacilli 4. Actinomyces, Nocardia and Mycobacterium. 5. Corynebacteria and other Gram – positive bacteria. 6. Gram – negative fermentative and non – fermentative rods 7. Obligate anaerobic gram – negative rods 8. Gram – negative small rods and coccobacilli. 9. Atypical bacteria. 10. Spiral bacteria. 11. Antimicrobials . 12. Antimicrobials II. 13. Principles of diagnostic procedures in fungal infections. 14. Sterilization and disinfection. 15. Normal microbial flora of human body. 	
Other	
<p>Basic literature (list according to importance, no more than 3 items)</p> <ol style="list-style-type: none"> 1. Medical Microbiology. 4th ed. Murray P.R., Tenenbaum M.A., Tenenbaum K.S. 2. Microbiology. 3rd ed. Harvey R., Cornilissen C., Fisher B. 	
<p>Additional literature and other materials (no more than 3 items)</p> <ol style="list-style-type: none"> 1. Medical Microbiology. 4th ed. Baron S. 2. Medical Microbiology. 2nd ed. Sherris J.C. 	



Didactic resources requirements (e.g. laboratory, multimedia projector, other...)	
Microbial laboratory with full equipment, multimedia projector.	
Preliminary conditions (minimum requirements to be met by the student before starting the module/course) Credit of the first year.	
Conditions to receive credit for the course (specify the form, criteria and conditions of receiving credit for classes included in the module/course, admission terms to final theoretical or practical examination, its form and requirements to be met by the student to pass it and criteria for specific grades).	
Each absence must be made up, including rector's days or dean's hours.	
<ol style="list-style-type: none"> Attendance on classes and lectures – student is allowed to leave 10% of class hours or lectures Passed all class tests. Criteria for passing each test is 60% of correct answers for grade satisfactory (3.0) 	
Grade:	Criteria for course
Very Good (5.0)	92-100% positive answers
Good Plus (4.5)	84-91% positive answers
Good (4.0)	76-83% positive answers
Satisfactory Plus (3.5)	68-75% positive answers
Satisfactory (3.0)	60-67% positive answers
Grade:	Criteria for exam (if applicable)
Very Good (5.0)	
Good Plus (4.5)	
Good (4.0)	
Satisfactory Plus (3.5)	
Satisfactory (3.0)	

Name of unit teaching course:	Department of Microbiology University of Medicine
Address	Chałubińskiego 4 Street, 50 – 346 Wrocław
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E-mail	wl-13@am.wroc.pl



Person responsible for course:	Prof. dr hab. n. med. Beata Sobieszczęńska; professor; specialist in microbiology
Phone	071/784 – 13 – 08
E-mail	beata.sobieszczanska@umed.wroc.pl

<i>List of persons conducting specific classes:</i>	<i>degree/scientific or professional title</i>	<i>Discipline</i>	<i>Performer profession</i>	<i>Form of classes</i>
Ewa Dworniczek	dr; specialist in microbiology	Microbiology	microbiologist, academic tutor	major classes
Urszula Kasprzykowska	dr inż. specialist in microbiology	Microbiology	microbiologist, biotechnologist, academic tutor	major classes s
Paweł Krzyżek	PhD student	Microbiology	microbiologist	major classes
Jolanta Rusiecka-Ziółkowska	dr; specialist in microbiology; doctor - specialist in ophthalmology	Microbiology	doctor; microbiologist, academic tutor	major classes

Date of Syllabus development

19.06.2018

Syllabus developed by

dr Urszula Kasprzykowska..

Signature of Head of teaching unit

Uniwersytet Medyczny we Wrocławiu
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kierownik

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