Appendix 5
to Resolution No. 15630
of Senate of Wroclaw Medical University
of 30 March 2016

Syllabus 2017/2018			
Description of the course			
Module/Course	**MICROBIOLOGY (1)**	Group of detailed education results	
		Group code C	Group name **Preclinical sciences**
Faculty	Medicine		
Major	medicine		
Specialties	Not applicable		
Level of studies	Uniform magister studies X * 1st degree studies ☐ 2nd degree studies ☐ 3rd degree studies ☐ postgraduate studies ☐		
Form of studies	X full-time		
Year of studies	II	Semester	X Summer
Type of course	X obligatory ☐ limited choice ☐ free choice / elective		
Course	☐ major X basic		
Language of instruction	☐ Polish X English ☐ other		
* mark ☐ with an X			

Number of hours

Form of education

Unit teaching the course:	Lectures (L)	Seminars (SE)	Auditorium classes (AC)	Major Classes – not clinical (MC)	Clinical Classes (CC)	Laboratory Classes (LC)	Classes in Simulated Conditions (CSC)	Practical Classes with Patient (PCP)	Specialist Classes – magister studies (SCM)	Foreign language Course (FLC)	Physical Education obligatory (PE)	Vocational Practice (VP)	Self-Study (Student's own work)	E-learning (EL)
Winter Semester														
Summer Semester														
Department of Microbiology	20			30										

TOTAL per year:													
Department of Microbiology	20		30										

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 ***enter the abbreviation*
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,	Oral response, test,	L, LC

		animals and external environment, as well as prophylaxis.		
K.4	**C.K17**	Graduate knows and understands pathomechanism of iatrogenic infections, ways of their transmission, main clinical symptoms, and prophylaxis.	Oral response, test	L, LC
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	2,5
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)

Lectures

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

Practical classes

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.

Basic literature (list according to importance, no more than 3 items)

1. Medical Microbiology. 4th ed. Murray P.R., Pfaller M.A., Rosenthal K.S.
2. Microbiology. 3rd ed. Harvey R., Cornelissen C., Fisher B.

Additional literature and other materials (no more than 3 items)
1. 1. Medical Microbiology. 4th ed. Baron S.
2. Medical Microbiology. 2nd ed. Sherris JC.3.

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 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 med by the student to pass it and criteria for specific grades)

1. Attendance on classes and lectures – student is allowed to leave 10% of class hours or lectures
2. Passed all class tests. Criteria for passing tests are the same as for passing the final exam i.e. 60% of correct answers for grade satisfactory (3.0)
3. Passed practical exam reviewing the student's knowledge and ability to self-analyze the results of microbiological examinations.
4. Passed final written theoretical exam

4

Grade:	**Criteria** (only for courses/modules ending with an examination)
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

Name and address of module/course teaching unit, contact: telephone and e-mail address

University of Medicine, Department of Microbiology, Chałubińskiego 4 Street, 50 – 346 Wrocław,
Tel. /071/ 784-12-75; Fax: /071/ 784-01-17; e-mail: wl-13@am.wroc.pl

Coordinator / Person responsible for module/course, contact: telephone and e-mail address

Prof. dr hab. Beata Sobieszczańska, prof. nadzw.
Tel. 784 – 1 – 08; mail: beata.sobieszczanska@umed.wroc.pl

List of persons conducting specific classes: full name, degree/scientific or professional title,

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discipline, performed profession, form of classes.

Prof. dr hab. n. med. Beata Sobieszczańska, prof. nadzw.; professor; specialist in microbiology
dr n. med. Urszula Kasprzykowska; assistant leader
dr med. Jolanta Rusiecka-Ziółkowska; assistant leader;
mgr Paweł Krzyżek; Ph.D student

Lecturers:

dr hab. n. med. Beata Sobieszczańska, prof. nadzw.; professor; specialist in microbiology
dr n. med. Urszula Kasprzykowska; assistant leader; biotechnologist

Date of Syllabus development

23.06.2017

Syllabus developed by

dr n. med. Urszula Kasprzykowska..

Signature of Head of teaching unit

Uniwersytet Medyczny we Wrocławiu
KATEDRA I ZAKŁAD MIKROBIOLOGII
kierownik
prof. dr hab. Grażyna Gościniak

Signature of Faculty Dean

WYDZIAŁ LEKARSKI
Prodziekan ds. Studiów
prof. dr hab. Andrzej Hendrich