Appendix 5
to Resolution No. 1630
of Senate of Wroclaw Medical University
of 30 March 2016

Syllabus 2019/2020														
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 IV	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: 50													
Department of Microbiology	20			30									

Educational objectives (max. 6 items)

C1. Introduction to clinically important microorganisms.

C2. Learning about basic diagnostic procedures: proper sampling and transport of clinical samples, 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 (reservoirs and sources of infections, modes of transmission) and prophylaxis (vaccines, antisera, dezyfection, sterilization).

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 , fungi 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.K17**	Graduate knows and understands pathomechanism of iatrogenic infections, ways of their transmission, main clinical symptoms, and prophylaxis.	Oral response, test	L, LC
K.4	**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.5	**C.K19**	Graduate knows and understands the basis of sterilization and disinfection and sterile disposal.	Oral response, test	L, LC
K.6	**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.7	**C.K34**	Graduate can characterize groups of antimicrobials and their activity against bacteria, viruses and fungi.	Oral response, test	L, LC
K.8	**C.K39**	Graduate understands the problem of drug resistance, including multi-drug resistance.	Oral response, test	L, LC
S1.	**C.S6**	Graduate uses the basic methods to detect pathogenic microbiological agents.	Evaluation of self-made culture of biological material	L, LC
S2.	**C.S9**	Student is able to prepare slides and recognize bacteria under microscope.	Evaluation of the performance and interpretation of microscopic preparations in the immersion system	L, LC
S3.	**C.S10**	Graduate can interpret microbiological assays results.	Assessment of individual interpretation of test results on the basis of laboratory cultures	L, LC
S4.	**C.S15.**	Student can propose rationale antimicrobial therapy	Assessment of student individual ability to interpret antimicrobial susceptibilities tests of selected pathogens and resistance mechanisms	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
Social competences: 4

Student's amount of work (balance of ECTS points)	
Student's workload	Student Workload (h)

(class participation, activity, preparation, etc.)	
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. 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 Microbiology (1) (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 – each absence must be made up, including rector's days or dean's hours.
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 satisfactory grade (3.0)

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

Person responsible for course:	prof. dr hab. Beata Sobieszczańska, prof. nadzw.
Phone	Tel. 784 – 1 – 08
E-mail	beata.sobieszczanska@umed.wroc.pl

List of persons conducting specific classes:	*degree/scientific or professional title*	*Discipline*	*Performer profession*	*Form of classes*
Beata Sobieszczańska	**Prof. dr hab. n. Med.** professor	microbiology	specialist in microbiology	lectures, calsses
Ewa Dworniczek	**dr n. med.** assistant leader	microbiology	specialist in microbiology	classes
Jolanta Rusiecka-Ziółkowska	**dr med. lek. med.** assistant leader	microbiology ophthalmology	specialist in microbiology specialist in ophthalmology	classes
Urszula Walczuk	**dr med.** assistant leader	microbiology biotechnology	specialist in microbiology	lectures, calsses
Paweł Krzyżek	**mgr** assistant	microbiology	microbiology Ph.D student	classes
Marcin Choroszy	**lek. med.**	microbiology	Ph.D student	classes
Jerzy Maksymowicz	**lek. med.**	microbiology	Ph.D student	classes

UNIWERSYTET MEDYCZNY
IM. PIASTÓW ŚLĄSKICH WE WROCŁAWIU

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of 30 March 2016

Date of Syllabus development

29.05.2019

Uniwersytet Medyczny we Wrocławiu
KATEDRA I ZAKŁAD MIKROBIOLOGII
specjalista mikrobiolog
adiunkt
dr n. med. inż. Urszula Walczuk

Syllabus developed by

dr n. med. Urszula Walczuk

Signature of Head of teaching unit

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

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Signature of Faculty Dean

Wroclaw Medical University
FACULTY OF MEDICINE
VICE-DEAN FOR STUDIES IN ENGLISH
Prof. Andrzej Hendrich, PhD

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