UNIWERSYTET MEDYCZNY
IM. PIASTÓW ŚLĄSKICH WE WROCŁAWIU

Appendix No.3
to Resolution No. 2303
of Senate of Wroclaw Medical University
of 28 April 2021

Syllabus for academic year: 2021/2022
Training cycle: 2020/2021 - 2025/2026

Description of the course

Course	Microbiology (1)	Group of detailed education results: Group **code C**	Group name **preclinical sciences**
Faculty	Faculty of Medicine		
Major	medicine		
Level of studies	**X** uniform magister studies ☐ 1st degree studies ☐ 2nd degree studies ☐ 3rd degree studies ☐ postgraduate studies		
Form of studies	**X** full-time ☐ part-time		
Year of studies	**II**	**Semester: IV**	☐ winter **X** summer
Type of course	**X** obligatory ☐ limited choice ☐ free choice / optional		
Language of study	☐ Polish X English		

Number of hours

Form of education

	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)	Foreign language Course (FLC)	Physical Education (PE)	Vocational Practice (VP)	Directed Self-Study (DSS)	E-learning (EL)
Winter semester: 0 h													
Direct (contact) education[1]													
Distance learning[2]													
Summer semester: 50 h													
Department of Microbiology						**30**							

[1] Education conducted with direct participation of university teachers or other academics
[2] Education with applied methods and techniques for distance learning

Direct (contact) education													
Distance learning	**20**												
TOTAL per year: 50 h													
Department of Microbiology													
Direct (contact) education						**30**							
Distance learning	**20**												

Educational objectives

C1. Introduction to clinically important microorganisms of natural flora and pathogens.
C2. Learning about basic diagnostic procedures: slides form bacterial cultures, isolation and identification of microorganisms, bacterial and fungal culture conditions.
C3. To introduce students to methods of determining bacterial susceptibility to antibiotics and chemotherapeutics.
C4. To introduce students to the mechanisms of bacterial resistance to antibiotics and ways of detecting them.
C5. To introduce the students to the options of prevention and control of infections (disinfection, sterilization, aseptics, antibiotic therapy, vaccination).
C6. Development social competences needed to practice the medical profession, in accordance with graduate's profile.

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

Number of detailed education result	Student who completes the course knows/is able to	Methods of verification of intended education results	Form of didactic class **enter the abbreviation*
C.W11	the genetic mechanisms for the acquisition of drug resistance by micro-organisms and cancer cells	oral response, tests	L, LC
C.W12	microorganisms, including pathogenic and those present in the physiological flora		
C.W13	the epidemiology of viral and bacterial infections, as well as fungal and parasitic infections, taking into account their geographical distribution		
C.W14	the influence of abiotic and biotic (viruses, bacteria) environmental factors on the human body and human populations and the pathways of their entry into the human body;		
C.W18	the symptoms of iatrogenic infections, the routes of their spread and the pathogens causing lesions in the various organs;		
C.W19	the basics of microbiological and parasitological diagnostics		
C.W20	the basics of disinfection, sterilisation and aseptic techniques		
C.W33	the external and internal pathogens, modifiable and non modifiable		
C.W40	the problem of drug resistance, including multi-drug resistance		

A.U1	operate an optical microscope, including the use of immersion;	Evaluation of the performance and interpretation of microscopic preparations in the immersion system	LC
C.U9	make preparations and recognise pathogens under the microscope		
* L- lecture; LC- laboratory classes;			

Appendix No.3
to Resolution No. 2303
of Senate of Wroclaw Medical University
of 28 April 2021

Student's amount of work (balance of ECTS points):	
Student's workload (class participation, activity, preparation, etc.)	**Student Workload**
1. Number of hours of direct contact:	30
2. Number of hours of distance learning:	20
3. Number of hours of student's own work:	15
4. Number of hours of directed self-study	n/a
Total student's workload	65
ECTS points for course	**2,5**

Content of classes:

Lectures (10 weeks x 90 min) online Microsoft Teams platform

1. Introduction to microbiology. Pathogenic potential of microorganisms related to cell structure and their metabolic properties (bacterial toxins, enzymes).
2. Gram – positive cocci: staphylococci and streptococci
3. Gram – positive bacteria: clostridia and corynebacteria.
4. Tuberculosis , actinomycosis, nocardiosis.
5. Gram – negative fermentative and non – fermentative rods. Anaerobes.
6. Gram – negative small coccobacilli. Neisseria, Moraxella and zoonoses.
7. Atypical and spiral bacteria.
8. Antimicrobials.
9. Bacterial resistance to antimicrobials
10. Fungal infections

Classes (15 weeks x 90 min) direct contact/online

1. Bacterial morphology. Staining techniques. Bacterial culture methods.
2. Gram – positive cocci: staphylococci and streptococci.
3. Gram – positive bacilli.
4. Mycobacterium, Actinomyces and Nocardia.
5. Corynebacteria and other Gram – positive bacteria.
6. Gram – negative fermentative and non – fermentative rods
7. Obligatory anaerobic gram – negative rods
8. Gram – negative small rods and coccobacilli.
9. Atypical bacteria
10. Spiral bacteria (*Treponema, Borrelia, Leptospira, Helicobacter, Campylobacter*).
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. 9th 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. 7th ed. Sherris JC.

Preliminary conditions: Credit of the first year.

Conditions to receive credit for the course:

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: 60% of correct answers for satisfactory grade (3.0)

Grade:	Criteria for courses ending with a grade[3]
Very Good (5.0)	average grade from course Microbiology (1) ≥ 4.8
Good Above (4.5)	average grade from course Microbiology (1) 4,3 - 4,79
Good (4.0)	average grade from course Microbiology (1) 3.8 – 4,29
Satisfactory Plus (3.5)	average grade from course Microbiology (1) 3,3 – 3,79
Satisfactory (3.0)	average grade from course Microbiology (1) 2,8 – 3,29

Department in charge of the course:	Department of Microbiology
Department address:	Chałubińskiego 4 Street, 50 – 346 Wrocław
Telephone:	Tel. /071/ 784-12-75; Fax: /071/ 784-01-17
E-Mail:	katarzyna.dygas-surma@umed.wroc.pl

Person in charge for the course:	prof. dr hab. Beata Sobieszczańska
Telephone:	Tel. 784 – 13 – 08
E-Mail:	beata.sobieszczanska@umed.wroc.pl

List of persons conducting specific classes:

Name and surname	Degree/scientific or professional title	Discipline	Performed profession	Form of classes
Beata Sobieszczańska	prof. dr hab. n. med. professor	medical science	Academic teacher	lectures, classes
Urszula Walczuk	dr med. assistant leader	medical science	Academic teacher	lectures, classes
Paweł Krzyżek	dr med. assistant	medical science	Academic teacher	classes

Date of Syllabus development

29.06.2021

Syllabus developed by

prof. dr hab. n. med. B. Sobieszczańska

[3] The verification must cover all education results, which are realize in all form of classes within the course

UNIWERSYTET MEDYCZNY
IM. PIASTÓW ŚLĄSKICH WE WROCŁAWIU

Appendix No.3
to Resolution No. 2303
of Senate of Wroclaw Medical University
of 28 April 2021

dr n. med. U. Walczuk.

Signature of Head(s) of teaching unit(s)

KATEDRA I ZAKŁAD MIKROBIOLOGII
kierownik
.....
prof. dr hab. Grażyna Gościniak

Dean's signature

Wroclaw Medical University
Faculty of Medicine
for English Studies
.....PhD