



Syllabus 2020/2021														
Description of the course														
Module/Course	Techniques in Molecular Medicine – optional course										Group of detailed education results			
											Group code	Group name		
											B	Scientific Basics of Medicine		
											C	Pre-clinical sciences		
Faculty	Medicine													
Major	Medicine													
Specialties	Not applicable													
Level of studies	Uniform magister studies X * 1 st degree studies <input type="checkbox"/> 2 nd degree studies <input type="checkbox"/> 3 rd degree studies <input type="checkbox"/> postgraduate studies <input type="checkbox"/>													
Form of studies	X full-time <input type="checkbox"/> part-time													
Year of studies	I						Semester		<input type="checkbox"/> Winter X Summer					
Type of course	<input type="checkbox"/> obligatory <input type="checkbox"/> limited choice X free choice / elective													
Course	<input type="checkbox"/> major X basic													
Language of instruction	<input type="checkbox"/> Polish X English <input type="checkbox"/> other													
* mark <input type="checkbox"/> 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														
Molecular Techniques Unit						20							6	
TOTAL per year:														



1. Contact hours:	20
2. Student's own work (self-study):	6
Total student's workload	26
ECTS points for module/course	1
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. 2. 3.	
Seminars 1. 2. 3.	
Practical classes Class I: Taking a blood sample. Separation of lymphocytes from whole blood by Gradisol gradient. Collection and storage of isolated cells. Preparing of stains from saliva on the tissue papers. Class II: Isolation of DNA from lymphocytes using phenol-based method. DNA extraction from bloodstain using a Chelex method. Class III: Total RNA isolation on-column method. The reaction of reverse transcription. Class IV: PCR and its application in the example of detection of polymorphisms in the <i>CCR5</i> gene. Class V: RFLP that is PCR and RESTRICTION ENZYMES: Restriction enzymes in the example of hemochromatosis diagnosis. Class VI: ELECTROPHORESIS: Agarose gel electrophoresis of products obtained in during previous exercises. Databases (NCBI, USCS): where to find information about genes, what we can find, searching for the DNA, mRNA sequence. Class VII: Introduction into gene therapy.	
Other	
Basic literature (list according to importance, no more than 3 items) 1. McLennan, AG, Bates, AD, Turner, PC, White, MRH Instant Notes in Molecular Biology. Published by Springer-Verlag (1997-09-01) 2. Genomes, T.A. Brown, Garland Science Publishing, 2007	
Additional literature and other materials (no more than 3 items)	
Didactic resources requirements (e.g. laboratory, multimedia projector, other...) The laboratory equipped with a basic laboratory devices: thermocyclers, centrifuges, thermomixer, automated pipettes, the multimedia projector.	
Preliminary conditions (minimum requirements to be met by the student before starting the module/course) Sign up for the list. Basic knowledge of genetic	



Conditions to receive credit for the course:

Each absence must be made up, including rector's days or dean's hours.

To receive credit for the course student is obligated to be present at 100% of classes or any absence must be made up by preparing essay discussing the topic chosen by the student.

The course is ended by a one-choice test. The mark received at the end of the course will be estimated based on a number of positive answers as presented in the table below.

Grade:	Criteria for course
Very Good (5.0)	100%-93%
Good Plus (4.5)	92,9%-85%
Good (4.0)	87,9%-78%
Satisfactory Plus (3.5)	77,9%-70%
Satisfactory (3.0)	69,9%-60%
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:	Molecular Techniques Unit
Address	Ul. M. Skłodowskiej-Curie 52
Phone	71 478-15-88
E-mail	anna.karpiewska@umed.wroc.pl

Person responsible for course:	Dr Małgorzata Małodobra-Mazur
Phone	71 784-15-95
E-mail	malgorzata.malodobra-mazur@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>
Aneta Cierzniaak	Mgr	Molecular biology	Medicine laboratory	Laboratory classes

Date of Syllabus development

22.05.2020

Syllabus developed by

Dr Małgorzata Małodobra-Mazur

Signature of Faculty Dean

Wrocław Medical University
Faculty of Medicine
Vice-Dean for English Studies
prof. Beata S. Szczyńska, PhD

Uniwersytet Medyczny we Wrocławiu
Signature of Head of teaching unit
ZAKŁAD TECHNIK MOLEKULARNYCH
p.o. KIEROWNIKA
dr med. Małgorzata Małodobra-Mazur