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

Syllabus 2018/2019

Description of the course

Module/Course	Techniques in Molecular Medicine – optional course	Group of detailed education results	
		Group code B C	Group name Scientific Basics of Medicine Pre-clinical 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 X part-time		
Year of studies	I	Semester	☐ Winter X Summer
Type of course	☐ obligatory ☐ limited choice X 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														
						20								
TOTAL per year:														

					20								

Educational objectives (max. 6 items)

C1. Mastering the basic techniques of molecular medicine by the student
C2. Orientation in various issues and techniques of molecular medicine
C3. Learning basic techniques of genetic material visualization in agarose gel electrophoresis.

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*
W01	B.W13.	- knows the function of nucleotides in cell, I- and II- dary structures of DNA and RNA	Essay, discussion	LC, SK
	B.W14.	- knows the function of genome, transcriptome and proteome of human body and basic methods used for its study		
	C.W1.	- knows the basic concepts of genetic		
	C.W9.	- knows the basic methods for genomic mutation diagnosis		
U01	B.U9.	- uses basic laboratory techniques such as: qualitative analysis, nucleic acids electrophoresis	Essay, discussion	LC, SK
	B.U10.	- supports simple measuring instruments and evaluates the accuracy of measurements		
	B.U11.	uses databases, including web databases, and searches for the necessary information using the available tools		
	B.U14.	- plans and performs a simple research and interprets its results and draws conclusions.		

** 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: 5
Skills: 4

Student's amount of work (balance of ECTS points)

Student's workload (class participation, activity, preparation, etc.)	**Student Workload (h)**

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. 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 Treponema denticola detection (from gums smears).
Class V: PCR and RESTRICTION ENZYMES: Restriction enzymes in the example of hemochromatosis diagnosis.
Class VI: ELECTROPHORESIS: Agarose gel electrophoresis of TD and hemochromatosis PCR products. Seeing minimuseum of Molecular Techniques Unit.
Clas VII: Data bases (NCBI, USCS): where to find information about genes, what we can find, searching for the DNA, mRNA sequence.

Other

1.
2.
3.
etc. ...

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)

Genomes 3, T.A. Brown, Garland Science Publishing, 2007

Additional literature and other materials (no more than 3 items)

1.
2.
3.

Didactic resources requirements (e.g. laboratory, multimedia projector, other...)

Laboratory is equipped with a lot of the : thermocyclers, centrifuges , thermomixers and of course 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 (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 med 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.** 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 assay discussed the topic chosen by the student. Course is ended by one-choice test. The mark received at the end of course will be estimated based on number of positive answers as presented in 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)	

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List of persons conducting specific classes:	*degree/scientific or professional title*	*Discipline*	*Performer profession*	*Form of classes*
Dominika Pluta	mgr	Molecular biology	Phd student	Laboratory classes
Aneta Alama	mgr	Molecular biology	Phd student	Laboratory classes

Date of Syllabus development

15.07.2018

Syllabus developed by

Dr Małgorzata Małodobra-Mazur

Signature of Head of teaching unit

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ZAKŁAD TECHNIK MOLEKULARNYCH
kierownik
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Signature of Faculty Dean

Wroclaw Medical University
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