



Syllabus 2017/2018

Description of the course

Module/Course	Molecular biotechnology in medicine	Group of detailed education results	
		Group code B, C, E	Group name pre-clinical and non-surgical sciences, introduction to medical sciences
Faculty	Medicine		
Major	Medicine		
Specialties	Not applicable		
Level of studies	Uniform magister studies X* 1 st degree studies 2 nd degree studies 3 rd degree studies postgraduate studies		
Form of studies	X full-time Xpart-time		
Year of studies	IV-V	Semester	o Winter X Summer
Type of course	<input checked="" type="checkbox"/> obligatory <input checked="" type="checkbox"/> limited choice Xfree choice / elective		
Course	<input checked="" type="checkbox"/> major X basic		
Language of instruction	<input checked="" type="checkbox"/> Polish X English <input checked="" type="checkbox"/> other		

* mark with an X

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)	Specialist Classes - magister studies	Foreign language Course (FLC)	Physical Education obligatory (PE)	Vocational Practice (VP)	Self-Study (Student's own work)	E-learning (EL)
	0												

Summer Semester



Department and Clinic of Internal , Occupational Diseases Hypertension and Clinical oncology		30																

TOTAL per year:

		30																

Educational objectives (max. 6 items)

C1. Gaining the general knowledge in the field of molecular biotechnology, molecular and genetic basis of selected diseases, their diagnostics as well as the knowledge on new methods of production of drugs and recombinant vaccines.

C2. The development of appropriate attitudes related to disease prevention and demonstration of the needs for the use of individualized therapy.

C3. The development of the needs of the self-studying motivated with the understanding of the nature and effectiveness of new treatment methods.

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 <i>**enter the abbreviation</i>
K	K 1.	defines the concept of stem cells and knows their application in medical science	oral presentation	SE
K	K2	knows the molecular and genetic basis of selected diseases		
S	C U4.	describes the use of monoclonal antibodies in medicine		
S	C.U11.	knows the basic concepts of biotechnology, genetic engineering, molecular medicine		
S	C.U2.	defines the concepts such as molecular biotechnology, pharmacogenetics, immunogenetics		
S	E.U1.	uses the knowledge of immuno- and pharmacogenetics and solves problems related to the individualization of therapy	oral presentation	SE
S	B.U14.	interprets the results of experimental therapy and draws conclusions		
S	C.U3.	can decide on the need to perform additional genetic testing (cytogenetic analysis of DNA)		
S	B.U11.	estimates the probability of the disease, based on genetic (inherited diseases and genetic) and environmental factors		



K01		willingly shares his/her knowledge, has ability of working in a group, firmly argues the validity of his/her claims		
** 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: 1 Social competences: 2				
Student's amount of work (balance of ECTS points)				
Student's workload (class participation, activity, preparation, etc.)			Student Workload (h)	
1. Contact hours:			30	
2. Student's own work (self-study):			9	
Total student's workload			39	
ECTS points for module/course			1,5	
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 N/A				
Seminars 1. Molecular biotechnology – introduction; Genetic engineering – methodology and application in medicine and pharmaceuticals 2. Molecular biology techniques in the study of human genome; Forensic medicine 3. Gene therapy; Stem cells in human clinic 4. Immunogenetics - immunogenetic markers and their associations with disease susceptibility; Patient genotype and the efficacy and safety of treatment - pharmacogenetics and its clinical significance 5. Molecular diagnostics of infectious and cancer diseases 6. Technologies of vaccines development; Preparation and use of monoclonal antibodies				
Practical classes N/A				
Other N/A				
Basic literature (list according to importance, no more than 3 items) 1. Brown T.A. Gene cloning and DNA analysis, 6th edition, Blackwell Science Ltd; 2010.				
Didactic resources requirements (e.g. laboratory, multimedia projector, other...) Multimedia projector, computer				

Preliminary conditions (minimum requirements to be met by the student before starting the module/course) theoretical knowledge and basic practical skills acquired in the course of study									
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 met by the student to pass it and criteria for specific grades) attendance, preparing and giving of oral presentation									
<table border="1"> <thead> <tr> <th>Grade:</th> <th>Criteria (only for courses/modules ending with an examination)</th> </tr> </thead> <tbody> <tr> <td>Very Good (5.0)</td> <td rowspan="5">N/A</td> </tr> <tr> <td>Good Plus (4.5)</td> </tr> <tr> <td>Good (4.0)</td> </tr> <tr> <td>Satisfactory Plus (3.5)</td> </tr> <tr> <td>Satisfactory (3.0)</td> </tr> </tbody> </table>		Grade:	Criteria (only for courses/modules ending with an examination)	Very Good (5.0)	N/A	Good Plus (4.5)	Good (4.0)	Satisfactory Plus (3.5)	Satisfactory (3.0)
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Very Good (5.0)	N/A								
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Good (4.0)									
Satisfactory Plus (3.5)									
Satisfactory (3.0)									

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

Department of Internal Medicine, Occupational Diseases, Hypertension and Clinical Oncology
 50-556 Borowska 213 Wrocław, 71- 7364000 Email: kcz@usk.wroc.pl

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

Prof. Grzegorz Mazur MD, PhD
 Katarzyna Bogunia-Kubik Assoc. Prof., PhD
 tel.: 71- 7364000 email: kcz@usk.wroc.pl

List of persons conducting specific classes: full name, degree/scientific or professional title, discipline, performed profession, form of classes.

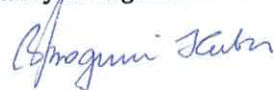
Katarzyna Bogunia-Kubik Assoc. Prof., PhD, biotechnologist, (immunology, immunogenetics, molecular biology); seminar

Date of Syllabus development

05.06.2017.....

Syllabus developed by

Katarzyna Bogunia-Kubik



Signature of Head of teaching unit

Signature of Faculty Dean


 Wrocław Medical University
 FACULTY OF MEDICINE
 VICE-DEAN / DEPUTY DEAN IN ENGLISH
 Prof. Andrzej Hendrich, PhD


 Uniwersytet Medyczny we Wrocławiu
 KATEDRA KLINICZNEJ ONKOLOGII I
 ZAWODOWYCH CHOROBY WEWNETRZNYCH
 I ONKOLOGII KLINICZNEJ
 Kierownik
 Prof. dr hab. Grzegorz Mazur