Syllabus 2020/2021			
Description of the course			
Module/Course	**Proteins and macromolecules**	**Group of detailed education results**	
		Group code B	**Group name** The scientific basis of medicine
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 ☐ part-time		
Year of studies	1st	**Semester**	☐ Winter **X** Summer
Type of course	☐ obligatory ☐ limited choice **X** free choice / elective		
Course	☐ major ☐ basic		
Language of instruction	☐ Polish **X** English ☐ other		

* mark ☐ with an **X**

Amount 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														
			10										**3**	
TOTAL per year:														
			10										**3**	

Educational objectives (max. 6 items)

C1. Extending knowledge of the structure, properties and functions of proteins

C2. Extending the knowledge of the function of glycoconjugates in living matter

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 01	**B.W12**	Student knows the bonds and chemical interactions stabilizing the structure of proteins. Student describes the structure of globular, filamentous and membrane proteins. Student knows the function of glycoconjugates.	Individual evaluation of student's progress	AC
S 01	**B.U1**	Student describes the structure of proteins. He understands how environmental factors affect the physicochemical properties of the protein.	Individual evaluation of student's progress	AC

** 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: 5

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

Student's workload (class participation, activity, preparation, etc.)	**Student Workload (h)**
1. Contact hours:	10
2. Student's own work (self-study):	3
Total student's workload	13
ECTS points for module/course	0.5
Comments	

Content of classes

Not applicable

Lectures

Not applicable

Seminars

1. The levels of protein structure. Bonds and chemical interactions stabilizing the protein structure.
2. Protein architecture. Globular, filamentous and membrane proteins.
3. How the structure determines the function of proteins.

4. Solubility and physicochemical properties of proteins. The influence of environmental factors on the physicochemical properties of the protein.
5. Functions of glycoconjugates in living matter, adhesion of pathogens, reactions in the immune system.

Practical classes
Not applicable

Other
Not applicable

Basic literature (list according to importance, no more than 3 items)
1. Chemistry. An Introduction to General, Organic and Biological Chemistry. Timberlake KC, Benjamin Cummings, Pearson Education, Inc., 2017
2. Murray RK, Granner DK, Rodwell VW. Illustrated Harper's Biochemistry
3. Harvey R, Ferrier D. Lipincot's Illustrated Reviews: Biochemistry

Additional literature and other materials (no more than 3 items)
Not applicable

Didactic resources requirements (e.g. laboratory, multimedia projector, other...)
Multimedia equipment and a white/black board.

Preliminary conditions (minimum requirements to be met by the student before starting the module/course)
Not applicable

Conditions to receive credit for the course:
Student is obligated to be present at 100% of classes and each absence must be made up, including rector's days or dean's hours.
To receive credit for the course student is obligated to present the chosen topic on the group forum.
Positive evaluation of theoretical and practical skills based on the individual student's work at the workshop.

Grade:	**Criteria** (only for courses/modules ending with an examination)
Very Good (5.0)	Active participation in the course, preparation of individual above average presentation for the rest of group
Good Plus (4.5)	Active participation in the course, preparation of individual presentation for the rest of a group
Good (4.0)	Active participation in the course, preparation of presentation in a group
Satisfactory Plus (3.5)	Active participation in the course
Satisfactory (3.0)	Participation in the course

Name of unit teaching course:	**Department of Chemistry and Immunochemistry**
Address	**M. Skłodowskiej-Curie 48, 50-369 Wrocław**
Phone	**+48 607-604-848**
E-mail	**immunochemia@umed.wroc.pl**

Person responsible for	**Dr hab. Mirosława Ferens-Sieczkowska, prof. nadzw.**

course:	
Phone	**+48 607-604-848**
E-mail	**mirosława.ferens-sieczkowska@umed.wroc.pl**

List of persons conducting specific classes:	*degree/scientific or professional title*	*Discipline*	*Performer profession*	*Form of classes*
Mirosława Ferens-Sieczkowska	dr hab., prof. nadzw.	Medical Chemistry	scientist/ academic teacher	auditorium classes
Beata Olejnik	dr	Medical Chemistry	scientist/ academic teacher	auditorium classes

Date of Syllabus development

29.05.2020

Syllabus developed by

dr Anna Lemańska-Perek

Signature of Head of teaching unit

Uniwersytet Medyczny we Wrocławiu
KATEDRA I ZAKŁAD CHEMII I IMMUNOCHEMII
Kierownik

.....

dr hab. Mirosława Ferens-Sieczkowska, prof. nadzw.

Signature of Faculty Dean

Wrocław Medical University
Faculty of Pharmacy
Vice-Dean for Medical Affairs

.....

prof. Beata Sobieszczańska, PhD