



Academic year 2019/2020														
Description of the course														
Module/Course	Chemical Calculations										Group of detailed education results			
											Group code	Group name		
											B	The scientific basis of medicine		
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 part-time													
Year of studies	1 st					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 <input type="checkbox"/> 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 – master studies (SCM)	Foreign Language Course (FLC)	Physical Education obligatory (PE)	Vocational Practice (VP)	Self-Study (Student's own work) (SS)	E-learning (EL)
Winter Semester:														
Summer Semester:														
Department of Chemistry and Immunochemistry			10											
TOTAL per year:														
Department of Chemistry and Immunochemistry			10											
Educational objectives (max. 6 items)														
C1. Mastering the ability to perform chemical calculations														
C2. Mastering concentration conversion skills														
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	Student who completes the module/course knows/is able to					Methods of verification of intended education			Form of didactic class				



	education result		results (forming and summarising)	<i>**enter the abbreviation</i>
K 01		He/she can calculate the concentrations of various substances (e.g. drugs) in aqueous solutions. Can calculate blood plasma pH and buffer capacity.	Individual evaluation of student's progress	AC
S 01		Calculates molar and percentage concentrations of compounds and concentrations of substances in aqueous solutions. Calculates pH and capacity of buffer	Individual evaluation of student's progress	AC
<p>** L - lecture; SE - seminar; AC – auditorium classes; MC – major classes (non-clinical); CC – clinical classes; LC – laboratory classes; SCM – specialist classes (master 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 .</p>				
<p>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</p>				
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 (please enter topic words of specific classes divided into their didactic form and remember how it is translated to intended educational effects)				
Lectures Not applicable				
Seminars Not applicable				
Classes 1. Units of measurement: mass, volume, density (conversion of units). 2. Mol, element and chemical compound (calculation of molecular mass, molar concentration) 3. Solutions. Calculating solutions concentration (percent composition by mass, percent composition by volume, percent composition by weight, molar concentration, using concentration to calculate mass or volume). 4. Calculating the pH of solutions (strong and weak acids and bases). 5. Calculating the pH of buffer and the buffer capacities (pH of blood).				
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				
Additional literature and other materials (no more than 3 items) 1. Handbook of chemistry: for students Faculty of Medicine and Faculty of Dentistry; ed. Iwona Kaźnik-Prastowska; Wrocław: Wrocław Medical University, 2012				
Didactic resources requirements (e.g. laboratory, multimedia projector, other...) multimedia projector, a white/black board				
Preliminary conditions				



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
Very Good (5.0)	Active participation in the course, preparation of individual above average presentation for the rest of group
Above Good (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
Sufficiently Good (3.5)	Active participation in the course
Sufficient (3.0)	Participation in the course

Name of unit teaching course:	Department of Chemistry and Immunochemistry
Address	M. Skłodowskiej-Curie 48, 50-369 Wrocław
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Person responsible for course:	Dr hab. Mirosława Ferens-Sieczkowska, prof. nadzw.
Phone	+48 71 328 26 95
E-mail	mirosława.ferens-sieczkowska@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>
Anna Lemańska-Perek	dr	Medical Chemistry	scientist/ academic teacher	laboratory classes
Dorota Krzyżanowska-Goląb	dr	Medical Chemistry	scientist/ academic teacher	laboratory classes
Anna Kałuża	mgr	Medical Chemistry	scientist/ academic teacher	laboratory classes

Date of Syllabus development

05.02.2019

Syllabus developed by

Signature of Head of teaching unit

KATEDRA ZACHOD CHEMII I IMMUNOCHEMII

WROCŁAW

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

Signature of Faculty Dean

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