



Educational objectives (max. 6 items)				
C1. To extend the students' knowledge on the physiology of the autonomic nervous system including the selected clinical aspects.				
C2. To familiarize students with basic and advanced methods for the assessment of the autonomic nervous system activity.				
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 01	B.W21.	knows the ways of communication between the cells, and between the cell and the extracellular matrix and the pathways of signal transduction inside the cell and the examples of disorders in these processes leading to the development of tumors and other diseases	oral response, solving problems using a group, presentation, report from the practical exercises;	MC, SE
K 02	B.W24.	knows the basics of excitation and conduction in the nervous system and the higher brain functions, and also the physiology of smooth and striated muscle and the functions of the blood	oral response, solving problems using a group, presentation, report from the practical exercises;	MC, SE
K 03	B.W25.	knows function and regulatory mechanisms of all the organs and systems of the human body, including: circulatory system, respiratory system, digestive system, urinary system, integumentary system and understands the relations existing between them	oral response, solving problems using a group, presentation, report from the practical exercises;	MC, SE
K 04	B.W34.	knows the rules of the scientific research, observational and experimental studies and in vitro studies serving Medicine development	oral response, solving problems using a group, presentation, report from the practical exercises;	MC, SE
S 01	B.U7.	describes changes in the body functioning in the case of homeostasis disruption, in particular, Student describes the body's integrated response to physical effort, exposure to high and low temperature, loss of blood or water, orthostatic stress, transition from sleep state to awake state	oral response, solving problems using a group, presentation, report from the practical exercises;	MC, SE
S 02	B.U8.	conducts simple functional tests assessing the human body as the regulated system (exercise stress tests); interprets quantitative data regarding basic physiological variables	oral response, solving problems using a group, presentation, report from the practical exercises;	MC, SE
S 03	B.U11.	uses databases, including online databases, and searches for the needed information using the available tools	oral response, solving problems using a group, presentation, report from the practical exercises;	MC, SE
S 04	B.U14.	designs and conducts simple scientific research, interprets the results and draws the conclusions	oral response, solving problems using a group, presentation, report	MC, SE



			from the practical exercises;	
<p>** 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 .</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: 4</p>				
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: --				
Seminars				
1. and 2. Clinical aspects of the autonomic nervous system – Students' presentations.				
Practical classes				
1. Introduction to the autonomic nervous system physiology.				
2. Heart rate variability analysis for a non-invasive assessment of the sympathovagal balance in the cardiovascular system.				
3. Baroreflex sensitivity: measurement and clinical implications.				
4. Central and peripheral chemoreflex sensitivity: measurement and clinical implications.				
5. Sympathetic microneurography.				
Other: --				
Basic literature (list according to importance, no more than 3 items)				
1. Guyton AC, Hall JE. Guyton and Hall Textbook of Medical Physiology. Ed. 11, Elsevier, 1116 pages. [selected chapters]				
2. Primer on the Autonomic Nervous System. Robertson D, Biaggioni I, Burnstock G, Low PA, Paton JFR (ed.). ed. 3, Academic Press, 469 pages. [selected chapters, provided by the teacher]				
Additional literature and other materials (no more than 3 items)				
1. Selected publications from English-language journals. [provided by the teacher]				
Didactic resources requirements (e.g. laboratory, multimedia projector, other...)				
Computer / notebook, multimedia projector, scientific-educational equipment and software (available at the Department of Physiology WMU)				
Preliminary conditions (minimum requirements to be met by the student before starting the module/course)				
Credit for the Physiology course (at least 1 semester)				



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 met by the student to pass it and criteria for specific grades).

Conditions of receiving credit:

1. Attendance on classes and seminars. Student may be absent from one class or one seminar – the absence must be made up (teacher chooses the way of making up missed class / seminar).
2. Student has to collect credit points to get at least a satisfactory grade, according to the criteria given below. The credit points are granted based on: the score in written test (up to 5 points), active participation in the classes / seminars (up to 5 points) and the oral presentation on the seminar (up to 10 points). The maximum score possible in the course is 20 points.

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

Grade:	Criteria for course
Very Good (5.0)	19-20 credit points
Good Plus (4.5)	17-18 credit points
Good (4.0)	15-16 credit points
Satisfactory Plus (3.5)	13-14 credit points
Satisfactory (3.0)	11-12 credit points

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:	Department of Physiology
Address	10 Chałubińskiego Str., 50-368 Wrocław
Phone	71 784 00 91, 71 784 14 22, 71784 14 23
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Person responsible for course:	Bartłomiej Paleczny
Phone	71 784 14 32
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<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>
Bartłomiej Paleczny	PhD	Medicine - Physiology	Biologist - Physiologist	MC, SE
Rafał Sereżyński	MSc.	Biology – Molecular biology / Microbiology	Biologist - Physiologist	MC, SE

Date of Syllabus development

Syllabus developed by

03.07.2019

Bartłomiej Paleczny

Signature of Head of teaching unit

Uniwersytet Medyczny we Wrocławiu
KATEDRA I ZAKŁAD FIZJOLOGII
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[Signature]
prof. dr hab. Beata Pohikowska

Signature of Faculty Dean

Wrocław Medical University
FACULTY OF MEDICINE
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Prof. Andrzej Hendrich, PhD