



Syllabus for academic year: 2021/2022 Training cycle: 2019/2020 - 2024/2025, 2020/2021 - 2025/2026													
Description of the course													
Course	Autonomiczny Układ Nerwowy: Fizjologia, Ocena oraz Implikacje Kliniczne The Autonomic Nervous System: Physiology, Testing and Clinical Implications							Group of detailed education results					
								Group code B	Group name Scientific Basis of Medicine				
Faculty	Faculty of Medicine												
Major	medicine												
Level of studies	<input checked="" type="checkbox"/> X uniform magister studies <input type="checkbox"/> 1 st degree studies <input type="checkbox"/> 2 nd degree studies <input type="checkbox"/> 3 rd degree studies <input type="checkbox"/> postgraduate studies												
Form of studies	<input checked="" type="checkbox"/> X full-time <input type="checkbox"/> part-time												
Year of studies	II - III						Semester:	<input type="checkbox"/> winter <input checked="" type="checkbox"/> X summer					
Type of course	<input type="checkbox"/> obligatory <input type="checkbox"/> limited choice <input checked="" type="checkbox"/> X free choice / optional												
Language of study	<input type="checkbox"/> Polish <input checked="" type="checkbox"/> X English												
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)	Foreign language Course (FLC)	Physical Education (PE)	Vocational Practice (VP)	Directed Self-Study (DSS)	E-learning (EL)
Winter semester:													
..... (Dep. in charge of the course)													
Direct (contact) education ¹													
Distance learning ²													
Summer semester: 30 h													
Department of Physiology and Pathophysiology (Dep. in charge of the course)													

¹ Education conducted with direct participation of university teachers or other academics

² Education with applied methods and techniques for distance learning



Direct (contact) education		30											
Distance learning													
TOTAL per year: 30 h													
Department of Physiology and Pathophysiology (Dep. in charge of the course)													
Direct (contact) education		30											
Distance learning													
Educational objectives (max. 6 items) C1. To extend 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. C3. Development social competences needed to practice the medical profession, in accordance with graduate's profile.													
Education result for course in relation to verification methods of the intended education result and the type of class:													
Number of detailed education result	Student who completes the course knows/is able to		Methods of verification of intended education results		Form of didactic class <i>*enter the abbreviation</i>								
B.W17.	the ways in which cells communicate with each other and with the extracellular matrix, and the pathways for transmitting signals within the cell, and examples of disruption of these processes leading to cancer and other diseases;		Oral test, test MCQ		SE								
B.W21.	the function and regulation mechanisms of all organs and systems of the human body, including the cardiovascular system, the respiratory system, the digestive system, the urinary system and the skin, as well as the relationships existing between them;		Oral test, test MCQ		SE								
B.W25.	the relationship between factors disturbing the equilibrium state of biological processes and physiological and pathophysiological changes;		Oral test, test MCQ		SE								
B.W29.	the principles of scientific, observational and experimental research and in vitro studies for the development of medicine.		Oral test, test MCQ		SE								
* L- lecture; SE- seminar; AC- auditorium classes; MC- major classes (non-clinical); CC- clinical classes; LC- laboratory classes; CSC- classes in simulated conditions; PCP- practical classes with patient; FLC- foreign language course; PE- physical education; VP- vocational practice; DSS- directed self-study; EL- E-learning													
Student's amount of work (balance of ECTS points):													
Student's workload (class participation, activity, preparation, etc.)										Student Workload			
1. Number of hours of direct contact:										30			
2. Number of hours of distance learning:										0			
3. Number of hours of student's own work:										9			
4. Number of hours of directed self-study										n/a			
Total student's workload										39			
ECTS points for course										1.5			
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. Significance of the autonomic nervous system for maintaining homeostasis of the body – discussion of clinical cases.
2. Assessment of the function of the autonomic nervous system for diagnostic and scientific purposes – basic and advanced methods.
3. The arterial baroreflex: function, assessment and clinical implications.
4. The arterial chemoreflex: function, assessment and clinical implications.
5. Modulation of the sympathetic-parasympathetic balance with the electrostimulation techniques.
6. Renal sympathetic denervation for the treatment of refractory hypertension: physiological background, history of pre-clinical and clinical studies, and future perspectives.
7. Other methods for the modulation of the autonomic nervous system activity.

Classes: NA

Other: NA

Basic literature (list according to importance, no more than 3 items)

1. Cardinali Daniel Pedro. Autonomic Nervous System: Basic and Clinical Aspects. Edition 1. Springer, Cham, 2018, 385 pages. DOI: <https://doi.org/10.1007/978-3-319-57571-1>.

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

1. Iwase Satoshi, Hayano Junichiro, Orimo Satoshi (Editors). Clinical Assessment of the Autonomic Nervous System. Edition 1. Springer, Tokyo, 2017, 317 pages. DOI: <https://doi.org/10.1007/978-4-431-56012-8>.
2. Hall John, Hall Michael. Guyton and Hall Textbook of Medical Physiology. Edition 14. Elsevier, 2020, 1152 pages.

Preliminary conditions: (minimum requirements to be met by the student before starting the course)

Credit of the course: Physiology (1st semester)

Conditions to receive credit for the course:

1. Receiving at least satisfactory grade (3.0) from oral answer (at least once during the course; criteria for the oral answer are provided below).
2. Receiving at least satisfactory grade (3.0) from MCQ test (held at the last seminar; criteria for the MCQ test are provided below).
3. Receiving at least satisfactory grade (3.0) calculated as the average of all grades obtained during the course; criteria for the average grade are provided below).

Credit for the course takes place in direct contact with the teacher. In justified cases, by the Rector's decision, it may be remote.

Every absence from classes must be made up, including rector days and dean's hours.

Criteria for oral test:

5.0 - the answer is fully adequate* to the content of the question/task; the answer is detailed**; the answer contains no substantive errors; the answer is consistent and contains no factual/terminological mistakes

4.5 - the answer is fully adequate* to the content of the question/task; the answer is detailed**; the answer contains no substantive errors; the answer is mostly consistent and/or contains minor factual/terminological mistakes

4.0 - the answer is mostly adequate* to the content of the question/task; the answer is detailed**; the answer contains a few substantive errors; the answer is mostly consistent and/or contains minor factual/terminological mistakes

3.5 - the answer is mostly adequate* to the content of the question/task; the answer is detailed**; the answer contains a few substantive errors
 3.0 - the answer is mostly adequate* to the content of the question/task; the answer is general**; the answer contains a few substantive errors
 2.0 - the answer is inadequate to the content of the question/task OR the answer contains numerous substantive errors.

* A fully adequate answer is focused on the content of the question/task (without unnecessary mentions of secondary aspects, and not exceeding the substantive scope of the question/task). A mostly adequate answer to some extent deviates from the content of the question/task (through unnecessary digressions, recalling content not related to the question/task, etc.) An inadequate answer is off-topic answer (mostly unrelated to the content of the question/task).

** A detailed answer thoroughly explains the majority of substantive aspects of the question/task. In a general answer, the majority of substantive aspects is discussed in a superficial, cursory manner (or they are omitted).

Final exam takes place in direct contact with the teacher. In justified cases, by the Rector's decision, it may be remote.

Criteria for the MCQ test:

Very Good (5.0)	90 – 100% correct answers
Good (4.5)	80 – 89% correct answers
Good (4.0)	70 – 79% correct answers
Satisfactory Plus (3.5)	60 – 69% correct answers
Satisfactory (3.0)	50 – 59% correct answers

Grade:	Criteria for courses ending with a grade ³
Very Good (5.0)	Average grade: 4.76 – 5.00
Good Above (4.5)	Average grade: 4.26 – 4.75
Good (4.0)	Average grade: 3.76 – 4.25
Satisfactory Plus (3.5)	Average grade: 3.26 – 3.75
Satisfactory (3.0)	Average grade: 3.00 – 3.25

Department in charge of the course:	Department of Physiology and Pathophysiology
Department address:	Chałubińskiego 10, 50-368 Wrocław
Telephone:	71 784 14 22
E-Mail:	wl-42.1@umed.wroc.pl

Person in charge for the course:	Bartłomiej Paleczny
Telephone:	721 140 899
E-Mail:	bartlomiej.paleczny@umed.wroc.pl

List of persons conducting specific classes:

Name and surname	Degree/scientific or professional title	Discipline	Performed profession	Form of classes
Bartłomiej Paleczny	PhD	Medicine-	Academic teacher	SE

³ The verification must cover all education results, which are realized in all form of classes within the course



		Physiology		

Date of Syllabus development


08.07.2021

Syllabus developed by

Bartłomiej Paleczny

Dean's signature

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



Signature of Head(s) of teaching unit(s)

Uniwersytet Medyczny we Wrocławiu
KATEDRA FIZJOLOGII I PATOFIZJOLOGII
kierownik

.....
prof. dr hab. Beata Ponikowska

