Syllabus for academic year: 2021/2022 Training cycle: 2019/2020-2023/2024			
Description of the course			
Course	Pathophysiology	Group of detailed education results Group code C	Group name Preclinical Sciences
Faculty	Dentistry		
Major	dentistry		
Level of studies	X uniform magister studies		
Form of studies	X full-time		
Year of studies	III	Semester:	X winter
Type of course	X obligatory		
Language of study	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:													
Department of Physiology and Pathophysiology, Department of pathophysiology													
Direct (contact) education[1]		10		25									
Distance learning[2]	10												

Educational objectives:
C1. Showing how knowledge in the field of basic science is applied in clinical practice.
C2. Understanding the mechanisms that disrupt the proper functioning of the body, leading to the onset of the disease.
C3. Knowing the clinical symptoms of diseases related to selected body organs and systems.
C4. Knowing the basic diagnostic methods used in the diagnosis of diseases.
C5. Knowing the most common diseases using clinical cases as examples.
C6. Interpretation of the results of laboratory tests in the field of electrocardiography, arterial blood gas analysis, blood counts and hormonal tests.

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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 *enter the abbreviation*
C.W12	The student understands the concepts of homeostasis, adaptation, resistance, immunity, predisposition, susceptibility, compensatory mechanisms, feedback and the "vicious circle" mechanism;	oral test, written test,	L,SE,MC
C.W13	The student knows the concept of health and disease, the mechanisms of onset and progression of a disease process at the molecular, cellular, tissue and systemic levels, the clinical symptoms of a disease, prognosis and complications of a disease;	oral test, written test,	L,SE,MC
C.W14.	The student knows and understands the mechanisms of inflammatory reaction and wound healing;	oral test, written test,	L,SE,MC
C.W15.	The student knows and understands the basic disorders of hormone secretion, water and electrolyte metabolism, acid–base homeostasis, renal and pulmonary function and the mechanisms of onset and consequences of cardiovascular disorders, including shock;	oral test, written test,	L,SE,MC
C.W16.	The student knows and understands the diagnostic methods used in anatomical pathology and the role of laboratory testing in prevention and diagnosis of organ and systemic disorders;	oral test, written test,	L,SE,MC
C.W30	The student understands the mechanisms which lead to organ and systemic pathologies, including infectious, invasive, autoimmune, immunodeficiency, metabolic and genetic diseases;	oral test, written test,	L,SE,MC
C.W31	The student knows the effects of physical, chemical and biological factors as well as avitaminosis and stress on the patient's body;	oral test, written test,	L,SE,MC
C.U4.	The student is able to predict and explain complex pathomechanisms of disorders that lead to the onset of diseases;	proper execution of the given task	L,SE,MC
C.U5.	The student is able to analyse the clinical course of diseases in pathological processes;	proper execution of the given task	L,SE,MC

* 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:	35
2. Number of hours of distance learning:	10
3. Number of hours of student's own work:	55
4. Number of hours of directed self-study	-
Total student's workload	100
ECTS points for course	4.0

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 (5 meetings– 2 didactic hours per meeting)

- Diseases of the cardiovascular system.
- Diseases of the cardiovascular system
- Hematological diseases
- Diseases of the respiratory system
- Disorders of water-electrolyte and acid-base balance

Seminars (5 meetings– 2 didactic hours per meeting)

- Pathophysiology of the nervous system.

Brain oedema - pathomechanism, causes, symptoms.
Consciousness disorders - types, causes, pathomechanism, symptoms.
Movement disorders. Dementia.

- Hormonal disorders.

Clinical and laboratory evaluation of endocrine disorders.
Pathophysiology and symptoms of pituitary, thyroid, parathyroid and adrenal diseases.

- Diabetes

Diabetes classification, etiology, diagnosis criteria, pathomechanism of symptoms, complications.

- Diseases of the exocrine pancreas.

Clinical and laboratory diagnosis of pancreatic diseases.
Acute and chronic pancreatitis.
Pancreatic cystic fibrosis.

- Diseases of the liver and bile ducts.

Clinical and laboratory evaluation of liver diseases.
Causes, pathophysiology and symptoms of selected liver and biliary diseases:
Inflammation of the liver. Cirrhosis. Bile circulation disorders.

Classes (8 x 3 hours and 2 x 2 hours)

- Introduction to pathophysiology. Inflammations.
  Understanding the mechanisms that disrupt the proper functioning of the body leading to the development of the disease.
  Types of inflammatory reactions (acute / chronic, specific / non-specific), symptoms and clinical course, diagnosis. Fever. Pain pathophysiology - types, causes, pain intensity assessment.
- Basics of EKG. Heart arythmia.
  Basics of performance, interpretation and principles of ECG description.
  Causes, classification of cardiac arrhythmias, clinical symptoms, hemodynamic consequences.
  Selected arrhythmias - interpretation of ECG records: sinus tachycardia and bradycardia, paroxysmal atrial tachycardia, atrial flutter and fibrillation, atrioventricular blocks, premature ventricular beats, ventricular tachycardia, ventricular fibrillation.

- **Pathophysiology of the circulatory system.**
  Clinical and laboratory diagnosis and symptoms of cardiovascular diseases.
  Ischemic heart disease - pathophysiology, symptoms and complications.
- **Pathophysiology of the circulatory system.**
  Hypertension - causes, pathophysiology, symptoms, complications.
  Cardiomyopathies - causes, types, symptoms.
  Shock - causes, pathophysiology, organ consequences.
- **Blood pathophysiology.**
  Clinical and laboratory diagnosis of hematological diseases.
  Anemia - causes, types, symptoms.
  Myeloproliferative diseases: polycythemia, chronic myeloid leukemia.
  Chronic lymphocytic leukemia. Lymphomas.
  Haemostatic disorders: platelet, vascular and plasma blemishes, thrombosis.
- **Pathophysiology of the respiratory system.**
  Clinical and laboratory studies in lung diseases.
  Signs and symptoms of lung diseases.
  Obstructive pulmonary diseases: COPD and bronchial asthma - pathophysiology, symptoms.
  Restrictive lung diseases - pathophysiology, symptoms.
- **Pathophysiology of the respiratory system.**
  Pulmonary embolism - causes, symptoms, diagnosis.
  Pleural diseases: fluid in the pleural cavity and pneumothorax - causes, symptoms.
  Acute and chronic respiratory failure - pathophysiology, symptoms, compensation mechanisms.
- **Kidney pathophysiology.**
  Clinical and laboratory evaluation of kidney diseases.
  Causes, pathophysiology and symptoms of selected kidney diseases:
  Nephritic syndrome. Nephrotic syndrome. Acute and chronic renal failure.
- **Pathophysiology of the digestive system**
  Clinical and laboratory evaluation of gastrointestinal diseases.
  Causes, pathophysiology and symptoms of selected digestive system diseases:
  Acid reflux disease. Peptic ulcer disease. Inflammatory bowel diseases. Malabsorption syndromes. Consequences of improper nutrition. The causes and effects of vitamin deficiency and excess.

Basic literature:
1. Pathophysiology by I. Damjanov

Additional literature and other materials:
1. Recordings of examinations and printed results of clinical assessment eg. ECG, spirometry test etc.

Preliminary conditions:
(minimum requirements to be met by the student before starting the course).
Completed exams in anatomy (1st year) and human physiology (2nd year).

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

Conditions required for getting credit for classes:
- obtaining at least a satisfactory grade for each partial test
- obtaining at least a satisfactory grade for each semester, calculated from the average of all grades

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Criteria for the grades (2,0-5,0) for each form of the verification of the student's knowledge and/or skills:

Criteria for 5.0 (**ALL the requirements listed below must be met**):
- 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

Criteria for 4.5 (**ALL the requirements listed below must be met**):
- 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

Criteria for 4.0 (**ALL the requirements listed below must be met**):
- 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

Criteria for 3.5 (**ALL the requirements listed below must be met**):
- the answer is **mostly** adequate* to the content of the question/task
- the answer is **detailed****
- the answer contains **a few** substantive errors

Criteria for 3.0 (**ALL the requirements listed below must be met**):
- the answer is **mostly** adequate* to the content of the question/task
- the answer is **general****
- the answer contains **a few** 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).

2.0 is assigned when the answer is **inadequate** to the content of the question/task **OR** the answer contains **numerous** substantive errors.

Criteria for the tests:
5,0 – obtaining 94 % - 100 % of the maximal score
4,5 – obtaining 86 % - 93 % of the maximal score
4,0 – obtaining 78 % - 85 % of the maximal score
3,5 – obtaining 70 % - 77 % of the maximal score
3,0 – obtaining 61 % - 69 % of the maximal score

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

Conditions required for admitting the student to the final exam: in order to take the final exam, it is necessary to obtain a credit with at least a satisfactory grade.
In order to pass the final exam, the student is obliged to obtain at least a satisfactory grade according to the criteria listed below.

	Criteria for courses ending with a credit
Credit	- positive grade obtained for all partial tests - the average of all grades obtained in the semester is at least a satisfactory grade; Every absence from classes must be made up, including rector days and dean's hours .

Grade:	Criteria for exam[3] The answer must meet ALL the requirements listed for the particular grade:
Very Good (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
Good Above (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
Good (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
Satisfactory Plus (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
Satisfactory (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

* 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).

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Unit realizing the course:	Department of Physiology and Pathophysiology
Unit address:	ul. T. Chałubińskiego 10, 50-368 Wrocław
Telephone:	71 784 00 91, 71 784 14 22
E-Mail:	wl-42.2@umed.wroc.pl

Person responsible for the course:	prof. dr hab. Beata Ponikowska
Telephone:	71 784 14 22
E-Mail:	beata.ponikowska@umed.wroc.pl

List of persons conducting specific classes*:

Name and surname	Degree/scientific or professional title	Discipline	Performed profession	Form of classes
Małgorzata Poręba	dr hab.	Medical sciences	physician	L,SE,MC
Lech Kipiński	dr med.	Medical sciences	physician	L,SE,MC
Barbara Dziadkowiec	lek. med.	(PhD student)	physician	L,SE,MC

* this list is planned to be prolonged after the recruitment of new academic teachers.

Date of Syllabus development

07.07.2021

Syllabus developed by

Beata Ponikowska, Agnieszka Siennicka

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

Uniwersytet Medyczny we Wrocławiu
KATEDRA FIZJOLOGII I PATOFIZJOLOGII
kierownik

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

Dean's signature

prof. dr hab. Marcin Mikulewicz
WYDZIAŁ LEKARSKO-STOMATOLOGICZNY
DZIEKAN
Uniwersytet Medyczny we Wrocławiu
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