



Syllabus for academic year: 2021/2022 Training cycle: 2019/2020 - 2024/2025													
Description of the course													
Course	Pathophysiology						Group of detailed education results						
							Group code	Group name					
							C	PRECLINICAL SCIENCES					
Faculty	Faculty of Medicine												
Major	medicine												
Level of studies	<input checked="" type="checkbox"/> 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"/> full-time <input checked="" type="checkbox"/> part-time												
Year of studies	III					Semester:	<input checked="" type="checkbox"/> winter <input checked="" type="checkbox"/> summer						
Type of course	<input checked="" type="checkbox"/> obligatory <input type="checkbox"/> limited choice <input type="checkbox"/> free choice / optional												
Language of study	<input type="checkbox"/> Polish <input checked="" type="checkbox"/> 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				30									
Distance learning ²	10												

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

² Education with applied methods and techniques for distance learning



Summer semester:													
Department of Physiology and Pathophysiology. Department of Pathophysiology													
Direct (contact) education				30									
Distance learning	10												
TOTAL per year:													
Department of Physiology and Pathophysiology. Department of Pathophysiology													
Direct (contact) education				60									
Distance learning	20												
Educational objectives (max. 6 items) C1. Showing how knowledge in the field of basic sciences may be applied in clinical practice. C2. Understanding the mechanisms that disrupt the proper functioning of the body, leading to the development of the disease. C3. Knowing the clinical symptoms of diseases within individual organs as well as body systems. C4. Getting to know the basic diagnostic methods. C5. Getting to know the most common disease entities on the example of clinical cases. C6. Developing 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 student knows 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 answer, written answer, oral test, written test				L; MC					
B.W25.	The student knows the relationship between factors disturbing the equilibrium state of biological processes and physiological and pathophysiological changes;			oral answer, written answer, oral test, written test				L; MC					
C.W28.	The student knows the clinical course of specific and non-specific inflammations and tissue and organ regeneration processes;			oral answer, written answer, oral test, written test				L; MC					
C.W29	The student knows the definition and pathophysiology of shock, with particular reference to differentiation between causes of shock and multi-organ failure;			oral answer, written answer, oral test, written test				L; MC					



C.W30	The student knows the aetiology of haemodynamic disorders, retrograde changes and progressive changes;	oral answer, written answer,	L; MC
C.W33.	The student knows the external and internal pathogens, modifiable and non-modifiable;	oral test, written test	L; MC
C.W34.	The student knows the clinical forms of the most frequent diseases of individual systems and organs, metabolic diseases and disorders of water-mineral, hormonal and acid-base balance;	oral answer, written answer, oral test, written test	L; MC
C.W47.	The student knows the effect of oxidative stress on cells and its importance in disease pathogenesis and ageing processes;	oral answer, written answer, oral test, written test	L; MC
C.W48.	The student knows the consequences of vitamin or mineral deficiencies or their excess in the body;	oral answer, written answer, oral test, written test	L; MC
C.W50.	The student knows the consequences of poor nutrition, including prolonged starvation, excessive meals and unbalanced diets, and disturbances in digestion and absorption of digestive products;	oral answer, written answer, oral test, written test	L; MC
B.U7.	The student is able to perform simple functional tests assessing the human body as a system of stable regulation (stress tests, exercise tests) and interpret numerical data on basic physiological variables;	execution of the recommended task	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:	60
2. Number of hours of distance learning:	20
3. Number of hours of student's own work:	78
4. Number of hours of directed self-study	n/d
Total student's workload	158
ECTS points for course	5,5

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

Winter semester 5 x 2 hours

- Introduction to human pathophysiology
- Diseases of the cardiovascular system
- Diseases of the cardiovascular system
- Hematological diseases
- Diseases of the pancreas

Summer semester 5 x 2 hours

- Endocrine disorders
- Endocrine disorders
- Respiratory system diseases
- Kidney disease
- Diseases of the nervous system



Classes

Winter semester (30 hours)

- **Introduction to pathophysiology. Inflammations.**
Understanding the mechanisms that disrupt the proper functioning of the body leading to disease development.
Types of inflammatory reactions (acute / chronic, specific / non-specific), symptoms and clinical course, diagnosis.
- **Basics of EKG**
Basics of performance, interpretation and principles of ECG description.
- **Heart arrhythmia.**
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.**
Atherosclerosis, arterial hypertension - pathophysiology, symptoms, complications.
Cardiomyopathies - causes, types, symptoms.
- **Pathophysiology of the circulatory system.**
Shock - causes, pathophysiology, organ consequences.
- **Blood pathophysiology.**
Clinical and laboratory diagnosis of hematological diseases.
Anemia - causes, types, symptoms.
- **Blood pathophysiology.**
Causes, pathophysiology and symptoms of selected blood diseases:
Myeloproliferative diseases: polycythemia, chronic myeloid leukemia.
Chronic lymphocytic leukemia. Lymphomas.
Stem cells and their application in medicine.
- **Blood pathophysiology.**
Haemostatic disorders: platelet, vascular and plasma blemishes, thrombosis.
- **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 deficiency and excess of vitamins and minerals in the body
- **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.
- **The exocrine pancreas.**
Clinical and laboratory evaluation of pancreatic diseases. Acute and chronic pancreatitis. Cystic fibrosis of the pancreas.

Summer semester (30 hours)

- **Hormonal disorders.**
Clinical and laboratory evaluation of endocrine disorders.
Pathophysiology and symptoms of pituitary, thyroid and parathyroid diseases.



- **Hormonal disorders.**
Pathophysiology and symptoms of adrenal cortex and medulla diseases.
- **Hormonal disorders.**
Gonadal dysfunction.
- **Diabetes.**
Diabetes classification, etiology, diagnosis criteria, pathomechanism of symptoms, complications.
- **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: pleural fluid and pneumothorax - causes, symptoms.
Acute and chronic respiratory failure - pathophysiology, symptoms, compensation mechanisms.
- **Kidney pathophysiology.**
Clinical and laboratory evaluation of kidney diseases.
Nephritic syndrome. Nephrotic syndrome. Acute and chronic renal failure.
- **Disorders of the acid-base balance. Interpretation of blood gas.**
- **Water and electrolyte disturbances.**
- **Pathophysiology of the nervous system and muscles.**
Disorders of neuromuscular transmission - causes, symptoms. Myasthenia gravis.
Diseases of the motor unit - causes, symptoms. Amyotrophic lateral sclerosis.
Skeletal muscle diseases - causes, symptoms. Duchenne muscular dystrophy.
Autonomic dysfunction - causes, symptoms.
- **Pathophysiology of the nervous system.**
Brain oedema - pathomechanism, causes, symptoms.
Consciousness disorders - types, causes, pathomechanism, symptoms.
- **Pathophysiology of the nervous system.**
Movement disorders. Dementia diseases.
Addiction pathomechanism. Alcoholism. Nicotinism.

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

1. Pathophysiology by I. Damjanov

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

1. Recordings of examinations and printed results of clinical assessment such as ECG, spirometry test etc.

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

Completed physiology and anatomy exams.

Conditions to receive credit for the course: (specify the form and conditions of receiving credit for classes included in the 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)

Attention! Attendance can not be a condition for passing 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:

- getting credit for each class
- 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 in the semester

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



Criteria for oral/written 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).

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 for each semester with at least a satisfactory grade.

Form of the final exam: oral or written final exam

In order to pass the final exam, the student is obliged to obtain at least a satisfactory grade according to the criteria listed below.



Grade:	Criteria for courses ending with a grade ³
Very Good (5.0)	the average grade obtained in the semester is in the range of 4.76 - 5.00
Good Above (4.5)	the average grade obtained in the semester is in the range of 4.26 - 4.75
Good (4.0)	the average grade obtained in the semester is in the range of 3.76 - 4.25
Satisfactory Plus (3.5)	the average grade obtained in the semester is in the range of 3.26 - 3.75
Satisfactory (3.0)	the average grade obtained in the semester is in the range of 3.00 - 3.25

Grade:	Criteria for oral/written exam ³
Very Good (5.0)	<ul style="list-style-type: none">- 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)	<ul style="list-style-type: none">- 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)	<ul style="list-style-type: none">- 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)	<ul style="list-style-type: none">- 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)	<ul style="list-style-type: none">- the answer is mostly adequate* to the content of the question/task- the answer is general**- the answer contains a few substantive errors

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



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Person in charge for the course:	prof. dr hab. Beata Ponikowska
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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.		physician	L,SE,MC

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

Date of Syllabus development

08.07.2021

Syllabus developed by

Agnieszka Siennicka, Beata Ponikowska

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

Dean's signature

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