Appendix number 1.5 to The Rector UR Resolution No. 12/2019

SYLLABUS

concerning the cycle of education 2021-2027

(date range)

1.1. BASIC INFORMATION CONCERNING THIS SUBJECT / MODULE

Subject / Module	**Pathomorphology**
Course code / module *	**Pf/B**
Faculty of (name of the leading direction)	**Medical College of Rzeszów University**
Department Name	**Institute of Experimental and Clinical Medicine**
Field of study	**medical direction**
Level of education	**uniform master's studies**
Profile	**practical**
Form of study	**stationary / extramural**
Year and semester	**year III, semester V**
Type of course	**obligatory**
Coordinator	**Dr hab. n. med. Maciej Machaczka, prof. UR**
First and Last Name of the Teacher	**Dr med. Łukasz Błażowski, Dr med. Agnieszka Gala-Błądzińska, Dr med. Mariusz Dąbrowski, Dr med. Tomasz Stepek, Dr hab. med. Maciej Machaczka**

* - According to the resolutions of the Faculty of Medicine

1.2. Forms of classes, number of hours and ECTS

Lecture	Exercise	Conversation	Laboratory	Seminar	ZP	Practical	Self-learning	**Number of points ECTS**
30	25	-	-	6	-	-	-	5

1.3. The form of class activities

☒classes are in the traditional form

☐classes are implemented using methods and techniques of distance learning

1.4. Examination Forms / module (exam, **credit with grade** or credit without grade)

2. REQUIREMENTS

Knowledge of human physiology, anatomy, cell biology and biochemistry

3. OBJECTIVES, OUTCOMES, AND PROGRAM CONTENT USED IN TEACHING METHODS

3.1. Objectives of this course/module

C1	The aim of education is to familiarize the student with the knowledge on the relationship between the effects of pathogenic factors that cause homeostasis disorder and the development of the disease and its clinical symptoms. Explaining differences in the functions of the system in conditions of the disease, understanding the etiopathogenesis of the most important diseases and the pathophysiological basis of diagnostic and therapeutic procedures. The premise of teaching pathophysiology is to integrate basic medical disciplines and link them to clinical training.

3.2 OUTCOMES FOR THE COURSE / MODULE (TO BE COMPLETED BY THE COORDINATOR)

EK (the effect of education)	The content of the learning effect defined for the subject (module)	Reference to directional effects (KEK)
EK_01	knows the consequences of improper nutrition, including long-term starvation, over-abundant meals and the use of an unbalanced diet	B.W19
EK_02	knows the consequences of a deficiency of vitamins or minerals and their excess in the body	B.W20
EK_03	knows the basic quantitative parameters describing the efficiency of individual systems and organs, including: the scope of the norm and demographic factors affecting the value of these parameters	B.W29
EK_04	knows issues in the field of detailed organ pathology, macro and microscopic images and the clinical course of pathomorphological changes in particular organs	B.W30
EK_05	describes changes in the functioning of the body in a situation of homeostatic disorder, in particular, defines its integrated response to physical effort, exposure to high and low temperature, blood or water loss, sudden standing, transition from sleep to waking	B.U07
EK_06	performs simple functional tests assessing the human body as a stable regulation system (stress tests, stress tests); interprets numerical data on basic physiological variables	B.U08

3.3 CONTENT CURRICULUM (filled by the coordinator)

A. Lectures

Course contents
Introduction to pathophysiology
Outline of cell pathophysiology
Inflammation, infection and tissue regeneration

Basic disease symptoms
Genetic and developmental disorders
Immune disorders
Disorders of cell differentiation and proliferation
Disorders of nerve conduction and the functioning of the senses
Disturbances of acid-base, water-electrolyte and calcium-phosphate balance
Pathophysiology of life-threatening conditions
Pathophysiology of the circulatory system
Pathophysiology of the respiratory system

B. Exercises

Course contents
Pathophysiology of the digestive system, liver and pancreas
Pathophysiology of the central nervous system
Pathophysiology of the internal secretion system part 1 and part 2
Pathophysiology of the urinary system
Pathophysiology of connective tissue diseases
Pathophysiology of the hematopoietic system
Diabetes, metabolic syndrome, dyslipidemia, obesity
Pathophysiology of sensation and pain, thermoregulation, sensory organs

C. Seminars

Course contents
Pathophysiology of the digestive system.
Diabetes. Eating disorders

3.4 TEACHING METHODS

Lecture: lecture with multimedia presentation

Exercises: practical exercises in the laboratory, group work, literature analysis

Seminars: lecture with multimedia presentation, group work, literature analysis
Student's own work: work with a book, scientific article

4 METHODS AND EVALUATION CRITERIA

4.1 Methods of verification of learning outcomes

Symbol of effect	Methods of assessment of learning outcomes (Eg.: tests, oral exams, written exams, project reports, observations during classes)	Form of classes
EK_01-EK_04	Test	Lecture, Seminars
EK_05-EK_06	Practical pass	Exercises

4.2 Conditions for completing the course (evaluation criteria)

Lectures and seminars

Written or oral test

Knowledge assessment (EK_01-EK_04):

5.0 - has knowledge of each of the contents of education at the level of 90% -100%

4.5 - has knowledge of each of the content of education at the level of 84% -89%

4.0 - has knowledge of each of the content of education at the level of 77% -83%

3.5 - has knowledge of each of the content of education at the level of 70% -76%

3.0 - has knowledge of each of the content of education at the level of 60% -69%

2.0 - has knowledge of each of the contents of education below 60%

Exercises:

Skill assessment (EK_05, EK_06):

5.0 - the student actively participates in the classes, is well prepared, correctly interprets the dependencies and is able to draw the right conclusions, performs simple functional tests assessing the human body without errors

4.5 - the student actively participates in the classes, with little help from the teacher, correctly interprets the occurring phenomena, performs simple functional tests assessing the human body with a small teacher's help

4.0 - the student actively participates in classes, with more help from the teacher, is improved, not always able to solve the problem and perform simple functional tests assessing the human body

3.5 - the student participates in classes, his scope of preparation does not allow for a comprehensive presentation of the discussed problem, he draws incorrect conclusions without help and incorrectly performs simple functional tests assessing the human body

3.0 - the student participates in classes, formulates conclusions requiring correction from the teacher, but commits minor mistakes, not fully understanding the causal relationships and causality, often incorrectly performs simple functional tests assessing the human body

2.0 - the student passively participates in the classes, the statements are incorrectly substantive, he does not understand the problems and can not perform simple functional tests assessing the human body.

5. Total student workload required to achieve the desired result in hours and ECTS credits

Activity	Hours / student work
Hours of classes according to plan with the teacher	61
Preparation for classes	30
Participation in the consultations	-
The time to write a paper / essay	-
Preparation for tests	38
Participation in colloquia	1
Other (e-learning)	-
SUM OF HOURS	130
TOTAL NUMBER OF ECTS	**5**

6. TRAINING PRACTICES IN THE SUBJECT / MODUL

Number of hours	-
Rules and forms of apprenticeship	-

6. LITERATURE

READING:

1. Patofizjologia. Podręcznik dla studentów medycyny. Red. Maśliński S, Ryżewski J. Tom 1 i 2. PZWL, Warszawa, 2014.
2. Patofizjologia człowieka. Red. Badowska-Kozakiewicz AM. PZWL, Warszawa, 2013.
3. Patofizjologia. Ivan Damjanov. Elsevier Urban & Partner, Wrocław, 2009.
4. Atlas patofizjologii. Stefan Silbernagl, Florian Lang. MedPharm, Wrocław, 2011.
5. Patofizjologia człowieka w zarysie. Guzek JW. PZWL, Warszawa, 2002.

Additional literature:

1. Interna Szczeklika. Podręcznik chorób wewnętrznych 2016. Red. Gajewski P. Medycyna Praktyczna, Kraków, 2016.
2. Interna (tom 1-3). Red. Januszewicz W, Kokot F. PZWL, Warszawa, 2006.

3. Medycyna wewnętrzna. Repetytorium dla studentów medycyny i lekarzy. Red. Herold G. PZWL, Warszawa, 2008.

Acceptance Unit Manager or authorized person