SYLLABUS
REGARDING THE QUALIFICATION CYCLE FROM 2018 TO 2024

ACADEMIC YEAR 2019/2020

1. BASIC COURSE/MODULE INFORMATION

Course/Module title	**Pathophysiology**
Course/Module code *	**Pf/B**
Faculty (name of the unit offering the field of study)	**College of Medical Sciences, University of Rzeszów**
Name of the unit running the course	**Department of Human Physiology and Pathophysiology**
Field of study	**Medical Direction**
Qualification level	**Uniform Master's Studies**
Profile	**Practical**
Study mode	**Stationary**
Year and semester of studies	**Year II, Semester IV** **Year III, Semester V**
Course type	**Obligatory**
Language of instruction	**English**
Coordinator	**Prof. dr hab. n. med. Maciej Machaczka**
Course instructor	

** - According to the resolutions of Educational Unit*

1.1. Learning format – number of hours and ECTS credits

Lectures	Classes	Conversations	Lab Classes	Seminars	Z P	Praktical classes	Other	**ECTS credits**
60	45	-	-	15	-	-	-	11

1.2. Course delivery methods

☐ conducted in a traditional way

1.3. Course/Module assessment (exam, pass with a grade, pass without a grade)

2. PREREQUISITES

Knowledge of human anatomy, histology, human physiology, cell biology, genetics, immunology and biochemistry

3. OBJECTIVES, LEARNING OUTCOMES, COURSE CONTENT, AND INSTRUCTIONAL METHODS

3.1. Course/Module objectives

C1	The aim of this course is to familiarize the student with the knowledge of 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 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 their association with clinical training.

3.2. Course/Module learning outcomes (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	Student knows the consequences of improper nutrition including long-term starvation, over-abundant meals and application of an unbalanced diet	B.W19
EK_02	Student knows the consequences of deficiencies or excess of vitamins and minerals in the body	B.W20
EK_03	Student 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	Student knows dateiles information of the organ patology, macro- and microscopic images and the clinical course of pathomorphological changes in particular organs	B.W30
EK_05	Student describes changes in the functioning of the body in homeostatic imbalance especially determines its integrated response to physical exertion, exposure to high and low temperature, loss of blood or water, sudden upright positioning, transition from sleep to wakefulness	B.U07
EK_06	Student performs simple functional tests assessing the human body as a stable control system (load and stress tests); interprets data for basic physiological variables	B.U08

3.3. Course content (to be completed by the coordinator)

A. Lectures

Content Outline
Introduction to pathophysiology. Health and illness. The course of the illness. Disease prevention. Pathophysiological terminology.
Cell pathophysiology outline. Cell differentiation and proliferation disorders.
Inflammation, infection and tissue regeneration. Excessive inflammatory response of the body.
Basic symptoms of disease.
Genetic and developmental disorders. Immune Disorders.
Thermoregulation disorders. Fever. Hypothermia and hyperthermia
Cardiovascular pathophysiology.
Pathophysiology of the respiratory system. Allergic diseases.
Secretion and excretion disorders.
Disorders of acid-base, water-electrolyte, calcium- phosphate balance.

Disorders of hormonal regulation of calcium and phosphate metabolism. Sex hormone disorders.
Digestive system pathophysiology and eating disorders.
Hormonal and metabolism regulation disorders. Pathophysiology of the endocrine system.
Life-threatening conditions pathophysiology.
Stroke. Sudden a life-threatening situation caused by an injury.
Nerve conduction and sensory nerve functioning disorders.
Haemostatic, hematopoietic and lymphatic system disorders.
Hematopoietic stem cell transplantation and the use of CAR-T cell therapy.
Outline of the problem of rare diseases.
The impact of environmental factors on human body.
Cancers.
Pathophysiology of ageing.
Ventilation, diffusion and perfusion disorders.
Cell and organ transplantation.

B. Classes, tutorials/seminars, colloquia, laboratories, practical classes

Content Outline
Cardiovascular pathophysiology.
Pathophysiology of the digestive system, liver and pancreas.
Central nervous system pathophysiology.
Pathophysiology of the endocrine system.
Pathophysiology of the respiratory system.
Pathophysiology of the immune system and allergic diseases.
Pathophysiology of the urinary system.
Pathophysiology of connective tissue diseases.
Pathophysiology of the hematopoietic system and coagulation disorders.
Acid-base and water-electrolyte imbalance.
Diabetes, metabolic syndrome, protein metabolism disorders, dyslipidemia. Obesity and other eating disorders.
Medical emergencies.
Organ transplantation.
Pathophysiology of hemostasis disorders.

C. Seminars

Content Outline
Selected reproductive system disorders. Pregnancy, delivery and puerperium.
Peripheral nervous system, thermoregulation, sensory organs.
Digestive system pathophysiology.
Emergencies in cardiology.
Diabetes. Eating disorders.
Pathophysiology of the heart and circulatory system. Atherosclerosis.
Pathophysiology of the respiratory, immune and allergic diseases.

3.4. Methods of Instruction

Lectures: lecture with multimedia presentation
Laboratory classes: practical exercises in the laboratory, group work, a literature review
Seminars: lecture with multimedia presentation, group work, a literature review
Student's own work: work with a book and scientific article

4. ASSESSMENT TECHNIQUES AND CRITERIA

4.1. Methods of evaluating learning outcomes

Learning outcome	Methods of assessment of learning outcomes (e.g. test, oral exam, written exam, project, report, observation during classes)	Learning format (lectures, classes,…)
EK_01-EK_04	Colloquium	Lecture, Seminar
EK_05-EK_06	Practical credit	Laboratory classes

4.2. Course assessment criteria

All informations about the course are contained in the course credit regulation. Students have the responsibility to read this before the start of the course. Students receive credit based on the point system which is reflected in the grades scale.

Student**'s** attendance is obligatory.

Lectures and seminars

Written or oral credit.

Knowledge assessment (EK_01-EK_04):

5.0 - student shows knowledge of education content at the level of 93% -100%
4.5 - student shows knowledge of education content at the level of 85% -92%
4.0 - student shows knowledge of education content at the level of 77% -84%
3.5 - student shows knowledge of education content at the level of 69% -76%
3.0 - student shows knowledge of education content at 60% -69%
2.0 - sudent shows knowledge of education content below 60%

Laboratory classes:

Skill assessment (EK_05, EK_06):

5.0 – student actively participates in classes, is well prepared to classes, correctly interprets relationships and draws the right conclusions, he flawlessly performs simple functional tests assessing the human body

4.5 – student actively participates in classes, with a little help of the teacher, he correctly interprets occurring phenomena, performs simple functional tests assessing the human body with a little help of the teacher

4.0 – student actively participates in classes, with greater help of the teacher, is corrected by the teacher, he is not always able to solve the problem by himself and perform simple functional tests assessing the human body

3.5 – student participates in classes, his knowledge does not allow for a holistic presentation of the discussed problem, without the help of the teacher draws wrong conclusions and incorrectly

performs simple functional tests assessing the human body 3.0 – student participates in classes, he formulates conclusions that require correction by the teacher, he makes minor mistakes and does not fully understand the cause-and-effect relationships, often incorrectly performs simple functional tests assessing the human body 2.0 – student passively participates in classes, his his statements are substantive incorrect, he does not understand the problems and cannot perform simple functional tests assessing the human body

5. TOTAL STUDENT WORKLOAD NEEDED TO ACHIEVE THE INTENDED LEARNING OUTCOMES NUMBER OF HOURS AND ECTS CREDITS

Activity	**Number of hours/ student workload**
Scheduled course contact hours involving the teacher	122
Preparation for classes	126
Participation in the consultations	-
The time to write a paper/essay	-
Preparation for tests	80
Participation in colloquia	2
TOTAL NUMBER OF HOURS	330
TOTAL NUMBER OF ECTS CREDITS	11

6. INTERNSHIPS RELATED TO THE COURSE/MODULE

Number of hours	-
Internship regulations and procedures	-

7. Instructional materials

COMPULSORY LITERATURE:

1.

COMPLEMENTARY LITERATURE:

1.

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Approved by the Head of the Department or an authorised person