



Course syllabus - part A Pathophysiology

48SJ-PATH
ECTS: 5.00
CYCLE: 2023Z

SUBJECT MATTER CONTENT

LECTURE

1. Pathophysiology of shock. 2. Pathophysiology of diseases of the central nervous system. 3. Pathophysiology of neoplastic diseases. 4. Autoimmunity and autoimmune diseases. 5. Basics pathophysiology of the cardiovascular system - atherosclerosis. 6. Pathophysiology of cardiovascular diseases. 7. Pathophysiology of respiratory diseases. 8. Pathophysiology of gastrointestinal diseases. 9. Disturbances in the volume-pressure balance of the intracranial space. 10. Pathophysiology of pain. 11. Pathophysiology of kidney diseases. 12. Pathophysiology of the aging process. Metabolism and bone diseases. 13. Diseases of the endocrine system. 14. Metabolic disorders - disorders in metabolism of carbohydrate, obesity, metabolic syndrome.

SEMINAR

1. General pathophysiology part. 1: 1. Pathophysiology. 2. Health and disease. 3. Pathophysiology of cell. 4. Inflammation. 2. General pathophysiology part 2: 1. Effects of environmental factors. 2. Pathophysiology of edema. 3. Disorders of thermoregulation. 4. Pathophysiology of burns. 3. The role of cytokines in the development of inflammation. Pathophysiology of bone diseases.: 1. Pro-and anti-inflammatory cytokines. 2. Receptors cytokines. 3. Cytokine storm in the course of macrophage activation syndrome. 5. Bone metabolism. 6. The role and importance of vitamin D. 7. Osteopenia and osteoporosis. 8. Osteomalasia. 4. Pathophysiology of the endocrine system: 1. Nutrition and nutritional disorders. 2. Types of diabetes mellitus. 5. Pathophysiology of the cardiovascular system part. 1: 1. Arterial hypertension 2. Pulmonary hypertension. 3. The formation of murmurs. 6. Pathophysiology of the cardiovascular system - ECG part. 2: 1. Pathophysiology changes in the ECG recording. 7. Pathophysiology of the respiratory system: 1. Pathophysiology of the obstructive diseases in the respiratory system. 2. Pathophysiology of the restrictive diseases in the respiratory system. 3. Pathophysiology of interstitial diseases. 4. Respiratory failure. 8. Pathophysiology of the digestive system - part. 1 - liver: 1. Acute liver failure. 2. Fatty liver. 3. Cirrhosis of the liver. 4. Cholestasis. Jaundice. 5. Viral hepatitis. 6. Autoimmune diseases of the liver. 9. Pathophysiology of the digestive system - part 2 - digestive tract and pancreas: 1. Diarrhea. 2. Celiac disease. 3. Inflammatory bowel diseases. 4. Malnutritional disorders. 5. Chronic pancreatitis. 10. Pathophysiology of renal and bladder function: 1. Urinary tract infections, urinary system disorders. 2. Tumors and kidney cysts. 3. Chronic kidney disease. 4. Urolithiasis. 11. Pathophysiology of the hematopoietic system: 1. Diseases of the red blood cells. 2 Diseases of the white blood cells. 3. Hemostasis disorders.

CLASSES

1. Pathophysiology of the nervous system. 2. Pathophysiology of the endocrine system. 3. Pathophysiology of the cardiovascular system part. 1. 4. Pathophysiology of the cardiovascular system - ECG part. 2. 5. Pathophysiology of the system respiratory system. 6. Pathophysiology

Legal acts specifying learning outcomes: 672/2020, 3112022
Disciplines: medical sciences
Status of the course:Obligatoryjny
Group of courses:A - przedmioty podstawowe
Code: ISCED 0912
Field of study:Medicine, Medicine
Scope of education:
Profile of education: General academic
Form of studies: full-time
Level of studies: uniform master's studies
Year/semester: 3/5

Types of classes: Lecture, Seminar, Classes
Number of hours in semester:Lecture: 28.00, Seminar: 27.00, Classes: 20.00
Language of instruction:English
Introductory subject: anatomy, physiology, histology with cytophysiology and embryology, biochemistry, immunology
Prerequisites: Implementation of learning outcomes in the field of knowledge, skills and competences from previous years of study.

Name of the organisational unit conducting the course:Katedra Fizjologii i Patofizjologii Człowieka
Person responsible for the realization of the course:dr n. med. Łukasz Jaśkiewicz
e-mail: lukasz.jaskiewicz@uwm.edu.pl

Additional remarks: Classes are carried out in groups of 10 students.

digestive system - liver part 1. 7. Pathophysiology of the digestive system - digestive tract and pancreas part. 2. 8. Fluid and electrolyte homeostasis and imbalances. 9. Pathophysiology of renal and bladder function. 10. Pathophysiology of the hematopoietic system.

TEACHING OBJECTIVE

Explanation and discussion of functional changes in the disease state, mechanisms of disease development and systemic consequences resulting from the disease. Students should learn and use the basic terms used in the field of pathophysiology, know the basics of etiopathogenesis of diseases of individual systems; know the pathomechanism of the consequences of impaired function of organs and systems, and be able to use the acquired knowledge in practice.

DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY:

Symbols for outcomes related to the discipline:

M/NMA_P7S_KO+++ , M/NMA_P7S_WG+++ ,
M/NMA_P7S_UW++ , M/NMA_P7S_KR+++ ,
M/NM+++

Symbols for outcomes related to the field of study:

B.W17.+ , C.U12.+ , KA7_KR1+ , C.W.33.+ , K.5.+ ,
K.7.+ , C.U11.+ , C.W29.+ , C.W50.+ , C.W48.+ ,
C.W24.+ , KA7_KR2+ , C.W28.+ , M/NM_C.W23.+ ,
C.W27.+ , B.W.23.+ , B.W25.+ , C.W.34.+ ,
B.W18.+ , K.8.+

LEARNING OUTCOMES:

Knowledge:

W1 - The graduate knows and understands: the methods of intercellular communication and of the communication between the cell and the extracellular matrix, and the signal transduction pathways in cells, plus examples of disturbances in the processes leading to the growth of neoplasms and other diseases; the following processes: the cell cycle, proliferation, cell differentiation and ageing, apoptosis and necrosis, and their impact on the functioning of the organism; the mechanism of the organism ageing; the relationship between factors disturbing the balance of the biological processes, and physiological and pathophysiological changes; the types of hypersensitivity reactions, immunodeficiencies, and fundamentals of immunomodulation; the issues of immunology of tumours; the basic mechanisms of cell and tissue damage; the clinical course of specific and non-specific inflammations, and the tissue and organ regeneration processes; the definition and pathophysiology of shock and in particular differentiation of the causes of shock and multiple-organ failure; external and internal pathogens, modifiable and non-modifiable; the clinical forms of most frequent diseases of individual systems and organs, metabolic diseases, and the water-and-electrolyte, hormonal, and acid-base management disorders; the clinical forms of most frequent diseases of individual systems and organs, metabolic diseases, and the water-and-electrolyte, hormonal, and acid-base management disorders; the consequences of improper nutrition, including long starvation, excessively abundant meals, and imbalanced diet, plus digestive disorders and disturbed absorption of digestion products.

Skills:

U1 - The graduate can: link the images of tissue and organ damages to the clinical symptoms of the disease, the interview, and the results of laboratory tests; analyse the reactive, defensive, and adaptive

phenomena, and disturbed regulation triggered by an etiological factor.

Social competence:

K1 - The graduate is: perceive and recognize their own limitations and make a self-assessment of deficits and educational needs; use of objective sources of information; formulating conclusions from own measurements or observations; observe and apply the principles of academic and professional ethics as well as professional image, academic, social and professionalism; inspire, be a leader and cooperate in an interdisciplinary team, in particular during PBL (Problem Based Learning) classes.

TEACHING FORMS AND METHODS:

Lecture(W1;K1;):Lectures with presentations.

Seminar(W1;U1;K1;):A study of mechanisms in the field of general and clinical pathophysiology in groups of 20-30 people.

Classes(W1;U1;K1;):Analysis of pathophysiological mechanisms on the basis of 5 clinical cases, which students will have to develop in teams of 2, based on the received subjective and physical examination as well as additional examinations, and explain during classes on the basis of materials prepared by them (multimedia presentation, diagram, poster, etc.)).

FORM AND CONDITIONS OF VERIFYING LEARNING

OUTCOMES:

Lecture (Written exam) - The exam takes the form of a multiple choice test. The test consists of 120 questions with 4 answers, of which only 1 is correct. A minimum of 72 points (60%) is required to pass the exam. Students who pass lectures, seminars and exercises are admitted to the exam. -

Lecture (Esey) - Students who miss the lecture will write an additional essay from the lecture content. -

Seminar (Colloquium test) - The evaluation of the seminars will be based on the sum of points obtained from the tests. There are 3 tests during the semester in the form of a true-false test. The test consists of 15 questions with 5 answers, each of which must be assessed whether it is „true” or „false”. To pass, it is necessary to obtain minimum 60% of the points (135 points). -

Seminar (Part in the discussion) - Participation in the discussion on issues in the field of general and clinical pathophysiology. -

Classes (Written test) - Completion of the exercises is based on the number of points obtained from the "pre-test" (5 test or descriptive questions), carried out during each class and assessed on a scale of 2-5, the grades from the entrance tickets are converted into points. -

Classes (Presentation) - Preparation of a presentation and discussion of a given clinical case. -

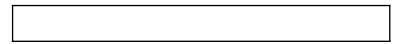
Classes (Evaluation of the work and cooperation in the group) - Team work on discussing assigned clinical cases. -

BASIC LITERATURE:

1. J. L. Banasik, L.-E. C. Copstead, „*Pathophysiology. Sixth edition.*”, Wyd. Elsevier, R. 2019
2. L. S. Lilly, „*Pathophysiology of herat disease. Sixth edition.*”, Wyd. Wolters Kluwer, R. 2016, s. 74-111
3. S. Silbernagl, F. Lang, „*Color Atlas of Pathophysiology. Third edition.*”, Wyd. Thieme, R. 2016

SUPPLEMENTARY LITERATURE:

1. L. Story, „*Pathophysiology a practical approach. Third ediotion.*”, Wyd. Jones Bartlett Learning, R. 2018
2. G. D. Hammer, S. J. McPhee, „*Pathophysiology of Disease: An Introduction to Clinical Medicine. Eight Edition.*”, Wyd. McGraw-Hill



Detailed description of ECTS credits awarded - part B

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ECTS: 5.00
CYCLE: 2023Z

Pathophysiology

The number of ECTS credits awarded consists of:

1. Contact hours with the academic teacher:

- participation in: Lecture	28.0 h
- participation in: Seminar	27.0 h
- participation in: Classes	20.0 h
- consultation	5.0
Total: 80.0 h.	

2. Independent work of a student:

preparation of cases	10.00 h
preparation for exam	17.00 h
preparation for tests	8.00 h
self-education	10.00 h

Total: 45.0 h

contact hours + independent work of a student Total: 125.0 h

1 ECTS credit = 25-30 h of an average student's work, number of ECTS credit = 125.0 h : 25.0 h/ECTS = 5.00 ECTS on average: 5.0 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher: 0,00 ECTS points,

- including the number of ECTS credits for hours of independent work of a student: