*Attachment No. 2 to Rector’s ordinance No. 90 /2018*

**description of the course of study**

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| **Course code** | **0912-7LEK-B2.6-P** |
| **Name of the course in**  | Polish | **Patofizjologia** |
| English | **Pathophysiology** |

1. **LOCATION OF THE course OF STUDY within the system of studies**

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| **1.1. Field of study** | Medicine |
| **1.2. Mode of study** | Full-time |
| **1.3. Level of study** | Uniform Master’s studies |
| **1.4. Profile of study\*** | General academic |
| **1.5. Person preparing the course description** | Dr hab n. med. Anna Polewczyk, prof. UJK |
| **1.6. Contact** | Wnoz\_inm@ujk.edu.pl |

1. **General characteristicS of the course of study**

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| **2.1. Language of instruction** | English |
| **2.2. Prerequisites\*** | Anatomy, Histology, Physiology |

1. **DETAILED CHARACTERISTICS OF THE COURSE OF STUDY**

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| * 1. **Form of classes**
 | LECTURE 45, CLASSES 60,  |
| * 1. **Place of classes**
 | Courses in the teaching rooms of UJK |
| * 1. **Form of assessment**
 | LECTURE – E, CLASSES- Zo (credit with grade) |
| * 1. **Teaching methods**
 | Practical classes, conversational lecture, discussion |
| * 1. **Bibliography**
 |  **Required reading** | McPhee S.J., Hammer G.D: “Pathophysiology of Disease. An Introduction to Clinical Medicine” Lange Medical Books/Mc-Graw-Hill, 6th edition, 2010  |
|  **Further reading** | Copstead L-E., Banasik J.: Pathophysiology” Elsevier, 5th Edition, 2013Kumar V., Abbas A.K., Fausto N., Aster J.C. – “Robbins and Cotran Pathologic Basis of Disease” 8th ed. Saunders Elsevier 2010Carol Mattson Porth – “Pathophysiology Concepts of Altered Health States”, 7th ed. Lippincott & Wilkins 2006 |

1. **Objectives, syllabus CONTENT and intended LEARNING outcomes**

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| * 1. **Course objectives *(including form of classes)***

The aim of teaching pathophysiology is to explain to medical students the functional changes of the system in disease, mechanisms of diseases development as well as systemic consequences resulted from the disease. The students should be familiarized and able to use the terminology used in pathophysiology, know the basis of etiopathogenesis of individual systems diseases, knows patomechanism of the consequences of organs and systems dysfunction as well as using the acquired knowledge practically. **Classess**Practical assessment of pathophysiological phenomenon in particular organs and systems with ability to connectin individual patomechanisms accompanying different illnesses  |
| * 1. **Detailed syllabus *(including form of classes)***

**Interactive lectures, presentation of the cases****Semester I 15 hours Lectures 1-5**1.**Diseases of the heart and blood vessels**: atherosclerosis, ischaemic heart disease, acute coronary syndromes, arrhythmia 3h dr hab. prof. UJK Anna Polewczyk1. Heart defects, hypertension, pulmonary hypertension, cardiomyopathies, heart failure, oedema pulmonum, cardiogenic shock 3h dr hab. prof. UJK Anna Polewczyk
2. Pathophysiology of inflammatory heart diseases 3h dr hab. prof. UJK Anna Polewczyk
3. **Pathophysiology of selected central and peripheral nervous system diseases** 4 h lek Michał Bączek
4. **Pathophysiology of diseases of respiratory system** 2h dr Maciej Polewczyk

**Semester II 25 hours Lectures 6-12**1. **Pathophysiology of the digestive system: gastroesophageal diseases, stomach and duodenal diseases, intestinal diseases, malabsorption**. **Disorders of thermoregulation**. **Pathophysiology of metabolism of carbohydrates, protein and lipids** 4h dr Maciej Polewczyk
2. **Pathophysiology of renal diseases** 4h lek Michalina Zagańczyk-Bączek
3. **Hormonal disorders** – disorders of basal function of excretory system and hormonal disorders of hypothalamic – pituitary- adrenal axis and thyroid abnormalities 4h dr Iwona Pałyga
4. **Reproductive pathophysiology** - disorders of gender differentiation and genital development, sexual maturation disorders, psychosexual disorders in women and men, pathogenesis of impotence and sex cooling 4h dr Iwona Pałyga
5. **Pathophysiology of selected central and peripheral nervous system diseases** 3h lek Michał Bączek
6. **Pathophysiology of hematopoietic system and immunopathology** 4h lek Emilia Grochowska
7. **Pathogenesis of the neoplasmatic diseases**- 2h lek Emilia Grochowska

Classes**Semester I 25 hours Classes 1-5**1 Pathophysiology of circulatory system: ischaemic heart disease, acute coronary syndromes, arrhythmia. Pathogenesis of hypertension 6h dr Maciej Polewczyk2. Pathophysiology of circulatory system: defects of the heart, heart failure, acute cardiac conditions 6h dr Maciej Polewczyk 3. The pathophysiology of respiratory diseases 4h dr Maciej Polewczyk1. The pathophysiology of nervous system diseases 4h lek Michał Bączek
2. The pathophysiology of respiratory diseases 5h dr Maciej Polewczyk

**Semester II 25 hours Classes 6-11** 6. The pathophysiology of the digestive system: gastroesophageal reflux disease, stomach and duodenal disease, intestinal diseases, malabsorption. Disorders of carbohydrate, protein and lipid metabolism 5h dr Maciej Polewczyk7. The pathogenesis of excretory system diseases 4h lek Michalina Zagańczyk-Bączek8. Water-electrolyte imbalance and the disorders of Acid-Base Balance 5h lek Michalina Zagańczyk-Bączek9. Disturbances in the functioning of the endocrine system 5h dr Iwona Pałyga10. The pathophysiology of the hematopoietic system with particular emphasis on hemostasis disorders. 4h lek Emilia Grochowska11. Immunopathology 2h lek Emilia Grochowska |

**4.3 Intended learning outcomes**

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| **Code** | **A student, who passed the course** | **Relation to learning outcomes** |
| within the scope of **knowledge** the graduate knows and understands **:** |
| W1 | knows the consequences of inadequate nutrition, including long-term starvation, taking too large meals and the use of unbalanced diet; | B.W19. |
| W2. | knows the consequences of vitamins or minerals deficiency and their excess in the body; | B.W20. |
| W3. | knows the mechanism of hormones’ functioning and the consequences of disorders of hormonal regulation; | B.W26. |
| W4. | the mechanisms of aging; | B.W23. |
| W5. | the relationship between the factors that disrupt the equilibrium of biological processes and physiological and pathophysiological changes; | B.W25. |
| within the scope of **ABILITIES** the graduate knows how to: |
| U1. | make connection between images of tissue and organ damage and clinical symptoms of the disease, medical history and the results of laboratory determinations; | C.U11. |

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| * 1. **Methods of assessment of the intended learning outcomes**
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| **Teaching** **outcomes*****(code)*** | **Method of assessment (+/-)** |
| **Exam oral/written\*** | **Test\*** | **Project\*** | **Effort** **in class\*** | **Self-study\*** | **Group work\***  | **Others\*** |
| ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** | ***Form of classes*** |
| *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* | *L* | *C* | *...* |
| W01 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W02 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W03 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W04 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W05 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W06 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W07 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W08 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W09 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| W10 | ***+*** |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  | ***+*** |  |  |  |  |  |  |  |  |
| U01 |  |  |  |  | ***+*** |  |  |  |  |  | ***+*** |  |  | ***+*** |  |  | ***+*** |  |  |  |  |

***\*delete as appropriate***

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| * 1. **Criteria of assessment of the intended learning outcomes**
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| **Form of classes** | **Grade** | **Criterion of assessment** |
|  **lecture (L)** | **3** | 61%-68% Learning programme content on the basic level, replies chaotic, leading questions necessary.  |
| **3,5** | 69%-76% Learning programme content on the basic level, answers systematized, requires assistance from the teacher.  |
| **4** | 77%-84%Learning programme content on the basic level, answers systematized, independent.Solving of problems in typical situations.  |
| **4,5** | 85%-92%The scope of presented knowledge exceeds the basic level based on the supplementary literature provided. Solving of problems in new complex situations |
| **5** | 93%-100% The scope of presented knowledge exceeds the basic level based on independently acquired scientific sources of information.  |
| **classes (C)\*** | **3** | 61%-68%Learning programme content on the basic level, replies chaotic, leading questions necessary |
| **3,5** | 69%-76%Learning programme content on the basic level, answers systematized, requires assistance from the teacher.  |
| **4** | 77%-84%Learning programme content on the basic level, answers systematized, independent.Solving of problems in typical situations.  |
| **4,5** | 85%-92%The scope of presented knowledge exceeds the basic level based on the supplementary literature provided. Solving of problems in new complex situations |
| **5** | 93%-100%The scope of presented knowledge exceeds the basic level based on independently acquired scientific sources of information.  |

1. **BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT**

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| **Category** | **Student's workload** |
| **Full-time****studies** |
| *NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/* | **90** |
| *Participation in lectures\** | **40** |
| *Participation in classes, seminars, laboratories\** | **50** |
| *Preparation in the exam/ final test\** |  |
| *Others\** |  |
| *INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/* |  |
| *Preparation for the lecture\** | **85** |
| *Preparation for the classes, seminars, laboratories\** | **20** |
| *Preparation for the exam/test\** | **50** |
| *Gathering materials for the project/Internet query\** | **15** |
| *Preparation of multimedia presentation* |  |
| *Others (please specify e.g. e-learning)\** |  |
| *TOTAL NUMBER OF HOURS* | **175** |
| ECTS credits for the course of study | **7** |

***\*delete as appropriate***

***Accepted for execution*** *(date and legible signatures of the teachers running the course in the given academic year)*

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