



UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN
Faculty of Medicine

Course syllabus – part A

USOS Code: 48SJO-PATHOPH

ECTS: 6.00

Cycle: 2026

Pathophysiology Pathophysiology

SUBJECT MATTER CONTENT:

Classes – 1. Pathophysiology of nervous system diseases. 2. Water-electrolyte and acid-base balance. 3. Pathophysiology of haematopoietic system diseases. 4. Pathophysiology of cardiovascular diseases. 5. Pathophysiology of cardiovascular diseases – ECG. 6. Pathophysiology of respiratory diseases. 7. Pathophysiology of digestive diseases – gastrointestinal tract and pancreas. 8. Pathophysiology of the digestive system – liver. 9. Pathophysiology of diseases of the excretory system. 10. Pathophysiology of diseases of the endocrine system.

Lecture – 1. General pathophysiology, part 1. 2. General pathophysiology, part 2. 3. Pathophysiology of shock. 4. Pathophysiology of cancer. 5. Autoimmunity and autoimmune diseases. 6. Pathophysiology of cardiovascular diseases, part 1. 7. Pathophysiology of cardiovascular diseases, part 2. 8. Pathophysiology of respiratory diseases. 9. Pathophysiology of gastrointestinal diseases. 10. Pathophysiology of pain. 11. Pathophysiology of kidney diseases. 12. Pathophysiology of the ageing process. 13. Diseases of the endocrine system. 14. Metabolic disorders – carbohydrate metabolism disorders, obesity, metabolic syndrome.

Seminar – 1. Pathophysiology of bone diseases. Cytokine storm. Macrophage activation syndrome. 2. Pathophysiology of muscle diseases. 3. Pathophysiology of nervous system diseases. 4. Pathophysiology of haematopoietic system diseases. 5. Pathophysiology of cardiovascular diseases. 6. Pathophysiology of cardiovascular diseases – ECG. 7. Pathophysiology of respiratory diseases. 8. Pathophysiology of digestive diseases – gastrointestinal tract and pancreas. 9. Pathophysiology of digestive system diseases – liver. 10. Pathophysiology of excretory system diseases. 11. Pathophysiology of endocrine system diseases.

TEACHING OBJECTIVE:

Explanation and discussion of functional changes in disease, mechanisms of disease development and systemic consequences resulting from disease. Students should learn and use basic terms used in pathophysiology, know the basics of the etiopathogenesis of diseases of individual systems, know the pathomechanism of the consequences of disturbed organ and system function, and be able to apply 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

Legal acts specifying learning outcomes:
467/2024;

Discipline: Medicine

Course status: Obligatory

Group of courses: A - basic course

ISCED Code: 0912

Field of studies: Medicine

Field: Medicine

Learning profile: -

Form of studies: full-time

Level of studies: uniform master's studies

Year/Semester: 3rd year, Medicine in English

Classes types: Lecture; Seminar; Classes;

Classes: Lecture (28h); Seminar (27h); Classes (20h);

Language: ANG

Introductory subject: anatomy, physiology, cytophysiology, histology with embryology, biochemistry, immunology

Prerequisites: Achievement of learning outcomes in terms of knowledge, skills and competences from previous years of study.

Organized by the unit:

Coordinators responsible for the course:

Łukasz Jaśkiewicz,
lukasz.jaskiewicz@uwm.edu.pl

Additional notes:

Classes are held in groups of 10.

**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_KR++, M/NMA_P7S_UW+,
M/NMA_P7S_WG+++++++

Symbols for outcomes related to the field of study:

K.5+, K.7., K.8., KA7_KR1+, KA7_KR2+, C.U7., C.W20.,
C.W21., C.W23., C.W24., C.W26., C.W38., C.W39.,
C.W40., C.W42., C.W43.+

LEARNING OUTCOMES:

Knowledge (W1) – Graduates know and understand: processes: the impact of oxidative stress on cells and its significance in the pathogenesis of diseases and in the processes occurring during the ageing of the body; types of hypersensitivity reactions, types of immunodeficiency and the basics of immunomodulation; issues in the field of cancer immunology and immunological diseases, and the principles of immunotherapy; the clinical course of specific and non-specific inflammations and the processes of tissue and organ regeneration; the causes and consequences of poor nutrition, including long-term insufficient and excessive food consumption and an unbalanced diet, as well as digestive and absorption disorders; pathomechanisms and clinical forms of the most common diseases of individual systems and organs, metabolic diseases, and water-electrolyte, hormonal, and acid-base disorders; etiology, mechanisms and consequences of haemodynamic disorders; pathogenesis of diseases, including genetic and environmental factors; consequences of vitamin and mineral deficiency and excess; molecular basis of cancer and issues in cancer immunology.

Skills (U1) – Graduates are able to: correlate images of tissue and organ damage with clinical symptoms of disease, medical history and laboratory test results in order to establish a diagnosis for the most common diseases in adults and children.

Social competences (K1) – Graduates are prepared to: recognise and acknowledge their own limitations and self-assess their educational deficits and needs; use objective sources of information; formulate conclusions from their own measurements or observations; observe and apply the principles of academic and professional ethics and professional image, academic, social and professional professionalism; inspire, lead and collaborate in an interdisciplinary team, in particular during PBL (Problem Based Learning) classes.

Symbols for outcomes related to the field of study:

Classes – ['K1', 'U1', 'W1'] – Analysis of pathophysiological mechanisms based on five clinical cases, which students will have to work on in teams of two based on the subjective and objective examination received, as well as additional tests, and explain during the class.

Lecture – ['K1', 'W1'] – Lecture with multimedia presentation.

Seminar – ['K1', 'U1', 'W1'] – Study of mechanisms in general and clinical pathophysiology.

FORM AND CONDITIONS OF VERIFYING LEARNING OUTCOMES:

Seminar (Part in the discussion) – ['K1', 'U1', 'W1'] – Participation in discussions on issues related to general and clinical pathophysiology.

Classes (Evaluation of the work and cooperation in the group) – ['K1', 'U1', 'W1'] – Teamwork on discussing assigned clinical cases.

Lecture (Esey) – ['U1', 'W1'] – Students who miss the lecture will have to write an additional essay on the lecture content.

Classes (Write-up) – ['U1', 'W1'] – Preparation of a clinical case study in teams of two based on the subjective and objective examination results and additional tests, and discussion of the case based on the Student's Worksheet.

Classes (Written test) – ['U1', 'W1'] – Passing the course is based on the number of points obtained from 'short-tests' (5 test or descriptive questions), conducted during each class and graded on a scale of 2-5. 'Short-test' grades are converted into points in accordance with the Course Regulations.

Seminar (Colloquium test) – ['U1', 'W1'] – The seminar will be graded based on the total number of points obtained from the tests. There will be three true/false tests during the semester. Each test consists of 16 questions with five answers. A minimum of 168 points is required to pass the seminar. The final grade is based on the total number of points obtained from the three tests, in accordance with the Course Regulations. The time allowed for the test is 70 minutes, including the time needed to transfer your answers to the answer sheet.

Lecture (Written exam) – ['U1', 'W1'] – The examination takes the form of a single-choice test. The test consists of 120 questions with 5 answers, only 1 of which is correct. A minimum of 72 points (60%) is required to pass the examination. Students who have passed lectures, seminars and practical classes are admitted to the examination. The time allowed for the exam is 120 minutes, including the time needed to transfer your answers to the answer sheet.

REQUIRED LITERATURE:

1. „Pathophysiology of herat disease. Sixth edition.”,
L. S. Lilly; Wolters Kluwer; 2025; Pages: 79-117; Tome: ;
2. „Color Atlas of Pathophysiology. Third edition.”
S. Silbernagl, F. Lang; Thieme; 2016; Pages: ; Tome: ;
3. „Pathophysiology. Seveth edition.”
J. L. Banasik; Elsevier; 2021; Pages: ; Tome: ;

COMPLIMENTARY LITERATURE:

1. "Pathophysiology a practical approach. Third ediotion."

L. Story; Jones & Bartlett Learning; 2018; Pages: ;
Tome: ;

2. **„Pathophysiology of Disease: An Introduction to
Clinical Medicine. Eight Edition.“**

G. D. Hammer, S. J. McPhee; McGraw-Hill Education;
2019; Pages: ; Tome: ;



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Detailed description of ECTS credits awarded - part B

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ECTS: 6.00

Cycle: 2026

Pathophysiology

Pathophysiology

1. Contact hours with the academic teacher:

- participation in: Lecture	28 h
- participation in: Seminar	27 h
- participation in: Classes	20 h
- consultation	4 h
Total:	79 h

Independent work of a student:

- preparation for tests	17.00 h
- self-education	17.00 h
- preparation for classes	12.00 h
- preparation for the final exam	25.00 h
Total:	71.00 h

contact hours + independent work of a student Total: 150.00 h

1 ECTS credit = 25-30 h of an average student's work, number of ECTS

ECTS Points = 150.00 h : 25 h/ECTS = 6.00 ECTS

Average: 6.00 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher -
3.16 ECTS pts

- including the number of ECTS credits for hours of independent work of a student - 2.84 ECTS pts