

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
 Department of general and clinical pathological physiology

Syllabus of the academic discipline
 "Clinical pathophysiology"

Scope of the academic discipline	Total number of hours per discipline: 90 hours, 3 credits. Semesters: IX - X. 5th year of study.
Days, time, place of educational discipline	St. Olgiivska , 4a (Main Building of ONMedU), Department of General and Clinical Pathological Physiology named after V.V. Podvysotskyi. Days and times of classes: according to the schedule of the educational department
Teacher(s)	Prof. Vastyanov R.S. Prof. Kotyuzhynska S.G. Assoc. Pospelov O.M. Assoc. Lapshin D.E. Assoc. Babii V.P. Assistant _ Goncharova L.V. Assistant _ Ostapenko I.O. Assistant _ Kirchev V.V. Assistant _ Sarakhan V.M.
Contact Information	phone: 0976896486 consultations: According to the schedule posted on the information stand of the department E-mail: patfiz@onmedu.edu.ua , https://t.me/patfizonmedu , @patfiz.onmedu

COMMUNICATION

Communication with applicants will be conducted in the classroom .

During distance learning, communication is carried out through the Microsoft Teams platform , as well as through e-mail correspondence, through messengers Viber , Telegram, WhatsApp , Zoom .

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of general and clinical pathological physiology

ABSTRACT OF THE EDUCATIONAL DISCIPLINE

Subject the study of the discipline – the general regularities of the functioning of the body of a sick person, which arise at different levels of the organization of the living organism as a whole and determine the mechanisms of the occurrence, development of the disease, its termination and consequences.

Prerequisites : study discipline "Clinical pathophysiology" is based on previously studied basic principles and knowledge of human anatomy, histology, medical and biological physics, bioinorganic , bioorganic and biological chemistry, biology (general, molecular and medical), normal physiology, microbiology, integrates with these disciplines, as well as with pathomorphology and pharmacology.

Postrequisites : lays the foundations for the formation of knowledge in fundamental and clinical biomedical sciences, functional diagnostics, clinical pharmacology, anesthesiology, traumatology, urology, oncology, obstetrics and gynecology, and internal diseases. Provides fundamental training and acquisition of practical skills for the next professional activity of a doctor.

Purpose of the discipline: the purpose of studying the educational discipline "Clinical Pathophysiology" is the formation of higher education students of systemic knowledge and understanding of the conceptual foundations of the general patterns of the development of pathology; the ability to interpret the main concepts of general nosology, to interpret the causes, mechanisms of development and manifestations of typical pathological processes and the most common diseases, to analyze and draw conclusions about the causes and mechanisms of functional, metabolic, structural disorders of organs and body systems in diseases; provides fundamental training and acquisition of practical skills for the next professional activity of a doctor.

Tasks of the discipline:

1. Knowledge of the main etiological factors of human disease, their relationships with risk factors of human disease and the ability to interpret linear and spatial "wrong circles" of pathogenetic mechanisms in the development of inflammatory and dystrophic human diseases.
2. Basic knowledge of all issues related to etiology, pathogenetic and sanogenetic mechanisms of typical pathological processes and understanding of the main ways of their pharmacocorrection , taking into account the pathogenetic component of each disease.
3. Basic knowledge of the pathogenetic mechanisms of comorbid diseases in the human body under the conditions of immune dysfunction, understanding of primary and secondary breakdowns of the body's resistance of a sick person.
4. Formation of a certain amount of knowledge on the emergence and development of typical pathological processes and their modeling, understanding of the ways of

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of general and clinical pathological physiology

pharmacocorrection of the main human diseases and creating a base that determines the professional competence and general erudition of the doctor.

5. Apply theoretical knowledge of nosology, cell pathophysiology, typical metabolic disorders, typical pathological processes in the research of issues of etiology and pathogenesis, manifestations and consequences of functional system (organ) disorders and the most common human diseases.

Expected results:

As a result of studying the academic discipline, the applicant must:

Know:

- causes and mechanisms of development of typical pathological processes;
- causes and mechanisms of development of typical metabolic disorders;
- quantitative and qualitative changes in cells of the blood system;
- main disorders of the cardiovascular system, respiratory system, digestion, functioning of the liver and kidneys;
- causes and mechanisms of violations of the functioning of regulatory systems (endocrine and nervous);

Be able to :

- interpret the causes, mechanisms of development and manifestations of typical pathological processes and the most common diseases;
- analyze, draw conclusions about the causes and mechanisms of functional, metabolic, structural disorders of organs and systems of the body in diseases;
- identify signs of typical pathological processes in the patient, assess the state of functions of various organs and systems.

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of general and clinical pathological physiology

DESCRIPTION OF THE EDUCATIONAL DISCIPLINE

The discipline will be taught in the form of seminar classes (30 hours); organization of the applicant's independent work (60 hours).

Teaching methods: explanations, conversations, multimedia presentations, problem solving, oral survey, testing, etc.

Content of the academic discipline

Topic 1. Inflammation. The main components of the inflammatory process. Features of vascular reaction, exudation and emigration of leukocytes. Pathological principles of anti-inflammatory therapy.

Topic 2. Allergy. General characteristics of allergic reactions. The nature of allergens. Principles of allergy detection. The role of allergies in transplantology . Types and mechanisms of desensitization. Principles and treatment of allergic reactions.

Topic 3. Typical metabolic disorders: mechanisms of hyper and dehydration . Principles of edema therapy. Characteristics of acidosis and alkalosis, main laboratory criteria and mechanisms of detected disorders in the patient's body.

Topic 4. Clinical pathophysiology of extreme conditions: shock, collapse, coma. Pathophysiological basis of prevention and therapy of shock. The role of homeostasis disorders in the pathogenesis of coma. Principles of coma therapy.

Topic 5. Clinical pathophysiology of red blood: changes in total volume, anemia and erythrocytosis . Pathogenetic characteristics of anemia classifications for the analysis of their manifestations. Principles of prevention and treatment of anemia.

Topic 6. Identify typical disorders in the white blood system: leukocytosis, leukopenia, hemoblastosis , leukemia. Analysis of the mechanism of development and causes of changes in the cellular composition of "white blood" and their clinical consequences; pathogenetic principles of leukemia diagnosis, features of the results of therapy and bone marrow transplantation.

Topic 7. Modern ideas about the mechanisms of damage to the gastrointestinal tract. Principles of prevention and treatment of peptic ulcer disease. Pathogenetic mechanisms of development of acute pancreatitis. Local and systemic changes in the pathogenesis of pancreatic shock and their rationale.

Topic 8. Modern concepts of pathogenetic mechanisms of nervous system disorders. Motor and sensory disorders, their etiological-pathogenetic features, basic principles of pathogenetically determined pharmacological correction. The concept of the determinant of the pathological process in the nervous system, the generator of pathologically enhanced excitation and system- anti-system regulation mechanisms in the formation of pathology of the nervous system.

List of recommended literature:

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of general and clinical pathological physiology

Main:

1. Pathophysiology: a textbook (University III-IV years) / M.N. Zaika , Yu.V. Byts, M.V. Crystal, etc.; under the editorship M.N. Zaika , Yu.V. Bytsia, M.V. Crystal . — 6th ed., revised . and added _ - 2017. - 736 c.
2. Pathophysiology: textbook / Yu.V. Byts, H.M. Butenko, A.I. Gozhenko and others; under the editorship M.N. Zaika , Yu.V. Bytsia, M.V. Crystal . - 5th ed., corrected . - K.: VSV "Medicine" - 2015. - 752 p.
3. Pathophysiology: in 2 vols. T1. General pathology: textbook for students . higher _ teach _ app . / O.V. Ataman - Vinnytsia: Nova kniga, 2012. - 592 p.
4. Pathophysiology: in 2 vols. T2. Pathophysiology of organs and systems / O.V. Ataman - Vinnytsia: Nova kniga, 2016. - 448 p.

Additional:

1. Pathophysiology: a textbook / edited by M.N. Zaika , Yu.V. Bytsia, M.V. Kryshtalya . - K.: Medicine - 2015. - 752 p.
2. Pathological physiology in questions and answers / A.V. Ataman .– Vinnytsia: New book - 2010. – 512 p.
3. Pathophysiology: textbook / NV Krishtal , VA Mikhnev , NN Zayko et al . — 3rd edition - K.: " Medicine " - 2019. - 656
4. Robbins Basic Pathology / V. Kumar , A. Abbas , J. Aster - 10th edition - Elsevier - 2017. - 952

Electronic information resources

1. [https://info.odmu.edu.ua/cha i r/pat_physiology/](https://info.odmu.edu.ua/cha_i_r/pat_physiology/) - information resource of the Department of General and Clinical Pathological Physiology
2. <http://moz.gov.ua> – Ministry of Health of Ukraine
3. www.who.int - World Health Organization
4. www.dec.gov.ua/mtd/home/ - State Expert Center of the Ministry of Health of Ukraine
5. <http://bma.org.uk> - British Medical Association

EVALUATION

Assessment is carried out by scientific and pedagogical workers who conducted practical, seminar, laboratory classes in an academic group or gave lectures on this educational component. Assessment takes place at the last lesson (during the last lesson) after the end of the lesson before the beginning of the examination session in the case of the tape system of learning, in the last lesson of the educational component - in the case of the cycle system of learning.

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of general and clinical pathological physiology

If the academic discipline ends with credit, only the average score of the current performance is calculated, that is, the arithmetic average of all received grades on a traditional scale, rounded to two decimal places, which is converted into a 200-point scale. At the same time, the average current score, a score on a 200-point scale and an assessment on a 2-point scale: "passed" or "not passed" are displayed in the relevant documentation.

Forms and methods of current control: oral survey, testing, solution of situational clinical tasks, assessment of activity in class.

Current control: oral survey, testing, solution of situational clinical tasks, assessment of activity in class.

Final control : credit

Evaluation of the current educational activity in a practical session

1. Evaluation of theoretical knowledge on the subject of the lesson:
 - methods: survey, solving a situational clinical problem
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2 .

The grade for one practical session is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Current evaluation criteria in practical training

Rating	Evaluation criteria
Perfectly "5"	It is presented in the case when the applicant knows the program in its entirety, illustrating the answers with various examples; gives exhaustively accurate and clear answers without any leading questions; teaches the material without errors and inaccuracies ; performs practical tasks of varying degrees of complexity;
Fine "4"	It is issued on the condition that the applicant knows the entire program and understands it well, answers the questions correctly, consistently and systematically, but they are not exhaustive, although the applicant answers additional questions without errors; performs practical tasks, experiencing difficulties only in the most difficult cases;

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
 Department of general and clinical pathological physiology

Satisfactorily "3"	It is given to the applicant on the basis of his knowledge of the entire scope of the program on the subject and a satisfactory level of understanding of it. The applicant is able to solve simplified tasks with the help of leading questions; performs practical skills, experiencing difficulties in simple cases; is not able to give a systematic answer on his own, but answers directly to directly asked questions correctly
Unsatisfactorily "2"	It is issued in cases where the applicant's knowledge and skills do not meet the requirements of a "satisfactory" assessment (does not know any of the above questions, or knows less than 50% of the questions).

Credit is given to the applicant who completed all tasks of the work program of the academic discipline, took an active part in practical classes, completed and defended an individual assignment and has an average current grade of at least 3.0 and has no academic debt.

Test is carried out: at the last lesson before the beginning of the examination session - at ribbon system teaching, on to the last occupation - with a cyclical system of education. The credit score is the arithmetic mean of all components on a traditional four-point scale and has a value that is rounded using the statistical method with two decimal places after the decimal point.

Distribution of points received by higher education applicants

The obtained average score for the academic discipline for applicants who have successfully mastered the work program of the academic discipline is converted from a traditional four-point scale to points on a 200-point scale, as shown in the table:

Conversion table of a traditional assessment into a multi-point scale

Traditional four-point scale	Multipoint 200-point scale
Excellent ("5")	185 - 200
Good ("4")	151 - 184
Satisfactory ("3")	120-150
Unsatisfactory ("2")	Below 120

Multi-point scale (200-point scale) characterizes the actual success rate of each applicant in mastering the educational component. The conversion of the traditional grade

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of general and clinical pathological physiology

(average score for the academic discipline) into a 200-point grade is performed by the information and technical department of the University.

According to the obtained points on a 200-point scale, the achievements of the applicants are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows you to evaluate the achievements of students from the educational component who are studying in the same course of the same specialty, according to the points they received.

The ECTS scale is a relative-comparative rating, which establishes the applicant's belonging to the group of better or worse among the reference group of fellow students (faculty, specialty). An "A" grade on the ECTS scale cannot be equal to an "excellent" grade, a "B" grade to a "good" grade, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" according to the ECTS scale do not coincide with the limits of grades "5", "4", "3" according to the traditional scale. Getters who have received grades "FX" and "F" ("2") are not included in the list of ranked getters. The grade "FX" is awarded to students who have obtained the minimum number of points for the current learning activity, but who have not passed the final examination. A grade of "F" is given to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

Applicants who study in one course (one specialty), based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Conversion of the traditional grade from the discipline and the sum of points on the ECTS scale

Evaluation on the ECTS scale	Statistical indicator
AND	Top 10% achievers
IN	The next 25% of earners
WITH	The next 30% of earners
D	The next 25% of earners
IS	The next 10% of earners

Credit is awarded to a student who has completed all the tasks of the work program of the academic discipline, actively participated in seminar classes, has an average current grade of at least 3.0 and has no academic debt.

INDEPENDENT WORK OF STUDENTS OF HIGHER EDUCATION

Independent work with recommended basic and additional literature, with electronic information resources, preparation for seminar classes, preparation of reports;
The independent work of the applicants consists in processing the material, as well

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of general and clinical pathological physiology

as in preparing for the execution and defense of practical works, preparation for current and final control, performance of training tests, searching for information from literary sources and the Internet.

POLICY OF EDUCATIONAL DISCIPLINE

Deadlines and Rescheduling Policy :

- Absences of classes for non-respectable reasons will be worked out according to the schedule of the teacher on duty.
- Absences for valid reasons are worked out according to an individual schedule with the permission of the dean's office.

Academic Integrity Policy :

Applicants must observe academic integrity, namely:

- independent performance of all types of work, tasks, forms of control provided for by the work program of this educational discipline;
- references to sources of information in case of use of ideas, developments, statements, information;
- compliance with the legislation on copyright and related rights;
- provision of reliable information about the results of one's own educational (scientific) activity, used research methods and sources of information.

Unacceptable in educational activities for participants of the educational process are:

- the use of family or official ties to obtain a positive or higher grade during any form of control of academic performance or academic merit;
- use of prohibited auxiliary materials or technical means (cheat sheets, notes, micro-earphones, telephones, smartphones, tablets, etc.) during control measures;
- going through procedures for monitoring the results of training by fake persons.

For violation of academic integrity, students may be held to the following academic responsibility:

- a decrease in the results of assessment of the control work, assessment in class, credit, etc.;
- retaking the assessment (test, credit, etc.);
- assignment of additional control measures (additional individual tasks, control works, tests, etc.);
- conducting an additional inspection of other works authored by the violator.

Attendance and Tardiness Policy:

Uniform: medical gown, surgical suit, cap, mask, change of footwear.

Equipment: notebook, pen, phonendoscope.

State of health: applicants suffering from acute infectious diseases, including

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of general and clinical pathological physiology

respiratory diseases, are not allowed to attend classes.

A student who is late for class can attend it, but if the teacher has put "nb" in the journal, he must complete it in the general order.

Use of mobile devices :

Mobile devices may be used by students with the permission of the instructor if they are needed for the assignment.

Use of mobile devices :

During practical classes, the use of a smartphone, tablet or other device for storing and processing information is allowed only with the teacher's permission.

During any form of control, the use of mobile devices and their accessories is strictly prohibited.

Behavior in the audience:

During classes, it is allowed to: leave the audience for a short time if necessary and with the teacher's permission; take photos of presentation slides; take an active part in the lesson.

During classes, it is forbidden to: eat (with the exception of persons whose special medical condition requires otherwise - in this case, medical confirmation is required); smoking, consuming alcoholic and low-alcoholic beverages or narcotic drugs; speak obscenely or use words that insult the honor and dignity of colleagues and teaching staff; gaff; to cause damage to the material and technical base of the university (damage inventory, equipment; furniture, walls, floors, litter premises and territories); making noise, shouting or listening to loud music in the classrooms and even in the corridors during classes.