

SYLLABUS

INTERNATIONAL EUROPEAN
UNIVERSITY



**SCHOOL OF
MEDICINE**

Clinical pathophysiology

2021



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Discipline 

 Clinical pathophysiology

Lecturer 



Lecturer's profile 



Consultations:

On-campus  second Monday of the month from 3 p.m. till 4 p.m.

Online consultations  third Wednesday of the month from 3 p.m. till 4 p.m.

Contact number 



E-mail 



Discipline page 



Form of final control	final test	grading test	exam
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1 Brief discipline annotation

Clinical pathophysiology - as a discipline forms in students the ability to interpret the basic concepts of general nosology, 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, diseases. Provides fundamental training and acquisition of practical skills for the next professional activity of the doctor.

2 Background for studying discipline

Clinical pathophysiology implies the application of knowledge obtained by students while learning general pathophysiology, in practical operations in a clinical setting in order to deepen and systematize knowledge in relevant issues of organ and system pathophysiology.

3 Goal and objectives of the discipline

Goal of the discipline: to teach students to apply knowledge acquired while learning general and special pathological physiology in order to understand key regularities of the origin and particularities of disease progression of particular patients, the character of compensatory mechanisms aimed at preserving functions of the affected organ, which is required to ground and choose a differentiated approach to patient treatment during practical work of students in a clinical setting.

Objectives of the course: to provide students with skills in questioning and clinical examination of patients, the ability to define a required list of laboratory and instrumental research and assessment of their results, make a provisional and clinical diagnosis, define principles and nature of treatment, interpret biochemical, laboratory and functional results, realizing their interaction as an integral part to set an ultimate clinical diagnosis.

4 Learning outcomes

Learning the discipline, students should:

Be able to:

- Collect data on patient's complaints, medical history, life history.
- Assess information about the diagnosis using the standard procedure based on the results of laboratory and instrumental examination.
- Detect a leading clinical symptom or syndrome. To make the most probable or syndromic diagnosis. To prescribe laboratory and/or instrumental examination of patients. To conduct differential diagnostics of diseases. To set a provisional clinical diagnosis.
- Define a proper work and rest schedule during treatment.
- Determine principles and character of treatment (conservative, operative).
- Assess the efficiency of treatment of patients with infectious and non-infectious diseases using laboratory diagnostic and functional examinations.
- Develop an algorithm of biochemical, laboratory diagnostic and functional examinations of patients depending on the disease condition and phasing, taking into account core pathological symptoms and syndromes, analyzing the functional state of organs and systems, depending on the state and phasing of the disease.

5 ECTS credits

3 credits / 90 academic hours



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6 Discipline structure

Topics	Number of hours	
	Lectures	Practical training
Introduction to clinical physiology. Regulated parameters and mechanisms of nervous and humoral regulation of physiological functions of the body and its systems. Mechanisms and regularities of functioning of stimulating body structures.	2	4
Role and character of changes in physiological processes, compensatory mechanisms of physiology function disorders, interaction between organs and functional systems during the development of pre-pathological and pathological states, functioning particularities of regulating mechanisms of patient's body functions.	2	4
Disorders of resistance, reactivity (immunologic, allergic), inheritance and constitution in pathology	2	4
Typical metabolism disorders: disorders of hydrocarbonic, acid-base, protein, lipid metabolism	2	4
Water-electrolytic balance disorders.		4
Cardiac electrical activity. Sinoatrial rhythm disorders, atrioventricular heart blocks, ectopics, ectopic tachycardia, fibrillations. Heart beat, impact of mechanical effects on the heart.	2	4
Pathophysiology of the systematic circulation, heart, blood vessels; Pathophysiology of external respiration. Hypoxia.		4
Blood physiology; blood transfusion; immunosuppression and immunodeficiency; bleeding control and wound healing.		4
Pathophysiology of the digestive system, liver, kidneys.		5
Pathophysiology of regulatory systems (endocrine, nervous) and extreme conditions.		5
Total	10	42

7 Topics of individual work

Nº	Topics	Number of hours
1	Role of reactivity disorder in pathology development.	2
2	Immunologic reactivity disorder. Immunodeficiency states.	2
3	Autoimmune responses and diseases.	2
4	Role of inheritance and constitution in pathology. Role of the physiological system of the connective tissue and body resistance to pathogenic agents.	2



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7 Topics of individual work

№	Topics	Number of hours
5	Cell pathophysiology. Cell damage.	2
6	Peripheral circulation and microcirculation disorders.	2
7	Role of inflammation in pathology.	4
8	Fever.	2
9	Tumors.	4
10	Hypoxia.	3
11	Total blood volume disorders. Acute blood loss as the most common cause of hypovolemia.	4
12	Anemias.	3
13	Pathophysiology of the hemostatic system.	4
14	Disorders of physical and chemical blood properties.	4
15	Heart pathophysiology. Heart failure.	
16	Coronarogenic and non-coronarogenic myocardial damage.	4
17	Disorders of the external respiration functional state. Respiratory distress.	2
18	Pathophysiology of the neural system.	2
19	Extreme states (collapse, shock, coma).	2

8 Discipline features

Period of teaching	Semester	International discipline integration	Year of study	Courses: general training/ professional training/ elective
1 семестр	VIII	Так	4 курс	Цикл загальної підготовки

9 Assessment system and requirements

Current student performance is assessed according to the 4-point scale (2; 3; 4; 5) during every practical class given the approved assessment criteria for a corresponding discipline. Students should obtain a grade in each topic for further conversion of grades into scores due to the multi-point (200-point) scale.

Assessment criteria of current learning activities:

Excellent (5) – students answer correctly to 90-100% of A-format tests (from the Krok-2 database); solve case problems and can generalize the material.



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9 Assessment system and requirements

Good (4) – students answer correctly to 70-89% of A-format tests; have necessary practical skills and techniques of their performance in the volume exceeding the required minimum.

Satisfactory (3) – students answer correctly to 50-69% of A-format tests; have an obligatory minimum of research methods.

Failure (2) – students answer correctly to 50% of A-format tests, make significant, serious mistakes while answering and showing practical skills.

Students' individual work related to preparations for practical classroom activities is assessed during current control of a topic during a corresponding class.

A semester test is assessed due to the two-point scale (pass/fail) and 200-point scale by defining the arithmetic average of current grades for each practical class due to the 4-point scale and by its further conversion into scores of the 200-point scale. Minimum amount of scores that should be obtained by students: 120.

The final control of knowledge in the clinical pathophysiology discipline is conducted in the form of grading test. The grading test is conducted in the form of oral questioning according to grading test questions.

<https://ieu.edu.ua/docs/rate-of-study.pdf>

10 Admission to final control

Students who accomplish all types of works, tasks prescribed by the curriculum for the semester according to the academic discipline, answer during all classes stipulated by the curriculum, prepare a medical report and have the average grade of at least 3 (72 scores according to the 120-point scale) for current learning activities are admitted to the semester final control.

<https://ieu.edu.ua/docs/rate-of-study.pdf>

11 Discipline policy

To achieve learning objectives and successfully complete the course, you should be actively involved in the training process from the first day, regularly attend lectures, prepare in advance for practical classes, not be late, not miss classes, wear a doctor's gown during classes, perform all necessary tasks and work daily on self-advancement, be able to work with a partner or in a team, ask for help and accept it if needed.

For students:

- you are not allowed to use mobile phones, tablets or any other mobile devices during classes;
- do not miss practical training without valid reasons;
- to ensure cooperation between the lecturer and students and adhere to the principle of solidarity while learning the discipline;
- to address the lecturer regarding the assistance in organization and consultation on scientific, exploration and research activities;
- to take part in scientific groups;
- topics of the academic discipline are considered from the perspective of their practical application and bioethical capability;
- students should have a textbook, lecture notes and compulsory study guides during a practical class;
- to wear doctor's gowns during classes.

For lecturers:

- fulfillment of the syllabus is obligatory;
- coming late to lectures, seminars and practical training is not allowed;
- the discipline policy implies objective assessment of knowledge and skills;
- any forms of corruption activities are forbidden;



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11 Discipline policy

- prejudiced attitude and discrimination regardless of the race, ethnic origin and religious beliefs are not allowed.

12 Policy of absence and late task performance

Students who miss current control for valid reasons confirmed by documents have the right to take current control within two weeks after returning to studying.

Students who have missed classes without valid reasons, have not participated in current control activities, have not liquidated academic failure are not admitted to final semester control of this discipline. In this case, an academic staff member puts a mark 'non-admission' in the exam record.

Repeated taking of the grading exam of the discipline is appointed in case of accomplishing all types of educational, individual work stipulated by the working program of the academic discipline and is carried out according to the approved schedule of academic failure liquidation.

<https://ie.u.edu.ua/docs/050.pdf>

13 Academic integrity policy

Participants of the educational process rely on the academic integrity principles

<https://ie.u.edu.ua/docs/011.pdf>

14 Recommended sources of information

1. Physiology: a textbook for students. higher honey. textbook institutions / VG Shevchuk, VM Moroz, SM Belan, MR Gzhegotsky, MV Yoltukhivsky; edited by VG Shevchuk. - 2nd type. - Vinnytsia: Nova Kniga, 2015. - 448 p. : il.
2. Physiology / Edited by Prof. Shevchuk VG: - Vinnytsia: New Book. - 2012. - 448 p.
3. Grzegotsky MR, Filimonov VI, Petryshyn YS, Misakovets OG Human physiology.- K. : Book plus, 2005.- 496 p.
4. Ganong W.F. Human Physiology: Textbook / Translated from English, Science. ed. translated by M. Grzegotsky, V. Shevchuk, O. Zayachkivska.- Lviv. BaK.- 2002.- 784 p.
5. Normal physiology / Ed. VI Filimonova: - K. : Health.- 1994. - 608 p.
6. Guyton A.C., Hall J.E.: Textbook of Medical Physiology, 10th ed. Saunders.- 2001.- 1120 p.
7. Moroz V.M., Shandra O.A., Vastyanov R.S., Yoltukhivsky M.V., Omelchenko O.D. Physiology : Textbook / Edited by V.M.Moroz, O.A.Shandra. – Vinnytsia: Nova Knyha Publishers, 2011. – 888 p.
8. Moroz V.M., Shandra O.A., Vastyanov R.S., Yoltukhivsky M.V., Omelchenko O.D. Physiology : Textbook / Edited by V.M.Moroz, O.A.Shandra. – 2nd edition. – Vinnytsia: Nova Knyha Publishers, 2016. –728 p
9. Pathological physiology / Ed. M.N. Зайка, Ю.В. Биця.-К. : Медицина, 2008. - 703 с.
10. Pathophysiology / Ed. OV Ataman.-Vinnytsia: New Book, 2007. - 513p.
11. Pathological physiology / Ed. Н.Н. Зайко, Ю.В. Биця.-Москва: МЕДпресс-информ, 2008. - 635 с.
12. Guide to practical classes in pathological physiology / Ed. YV Bytsya and L.Ya. Danilova. - K. : Health, 2001.
13. Fundamental and clinical physiology / AG Kamkin, A.A. Kamensky.- Moscow: MEDpress-inform, 2004. - 735 p.
13. Pathological physiology / Ed. M.N. Зайка, Ю.В. Биця.-К. : Медицина, 2010. - 703 с.

15 Tips on successful study during the course

If you want to succeed in this discipline, you should:

- attend classes, work hard, be confident, conscious, creative and active;



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Tips on successful study during the course

- communicate with a lecturer regarding all issues of the educational program;
- accomplish tasks according to the program;
- write abstracts on program topics;
- discuss topics and tasks in groups beyond class hours;
- use online resources.

We wish you insistence, goal commitment and motivation to study. And you'll definitely succeed!
See you at classes! Don't forget about gowns!