

SYLLABUS

INTERNATIONAL
EUROPEAN UNIVERSITY



SCHOOL OF
MEDICINE

"Pharmacology"
EPP – 222 "Medicine"

2024



SYLLABUS



1	Name of the course and educational program
	"Pharmacology" EPP – 222 "Medicine"
2	Course description
	Pharmacology is a complex science that studies the effect of drugs on healthy and sick organisms, the science of purposeful search for new drugs and their rational use. It clarifies the effect of drugs on various organizations of biological systems: molecules, cells, tissues, organs, functional systems and the organ as a whole.
3	Background of study
	The course "Pharmacology" is based on the previously studied by students "Medical Biology", "Medical Chemistry", "Latin Language and Medical Terminology", "Biological and Bioorganic Chemistry", "Pathophysiology"
4	Amount of credits/hours
	6 ECTS credits / 180 academic hours
5	Training format
	Blended learning
6	Classroom Location
	4th floor, 409 classroom
7	Full name of the teacher
	Shostak Lyubov , Ph.D., Associate Professor of the Department of Fundamental and Medical Disciplines
8	Pulpit
	Department of Fundamental and Medical-Preventive Disciplines of the Scientific Research Institute "EMS"





SYLLABUS



9 Office Location

Department of Fundamental and Medical-Preventive Disciplines of the Scientific Research Institute "EMS"
Kyiv, Akademika Glushkova Ave., 42 V, office. 423

10 Counseling

Thursday from 14:00 to 15:30 with prior registration via corporate mail

11 Teacher's e-mail

liubovshostak@ieu.edu.ua

12 Course Objectives

Formation of students' theoretical knowledge and acquisition of practical skills on the basic principles of justification of rational and safe use of medicines for human health for the purpose of treatment and prevention of diseases. Achieving the goal will allow students to prepare for practical activities, high-quality performance of functional duties related to the rational choice of drugs, independent preparation of pharmacotherapy regimens and their further implementation.

13 The role of the academic discipline in achieving program results

PLO1. Have thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. Be responsible for professional development, the ability to further professional training with a high level of autonomy

PLO 2. Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient to solve professional problems in the field of health care

PLO 3. Specialized conceptual knowledge, including scientific achievements in the field of health care and is the basis for research, critical reflection on problems in the field of medicine and related interdisciplinary problems.

PLO 4. Identify and identify the leading clinical symptoms and syndromes (according to list 1); according to standard methods, using the patient's preliminary anamnesis data, patient examination data, knowledge about the person, his organs and systems, establish a preliminary clinical diagnosis of the disease (according to list 2).

PLO 10. Determine the necessary mode of work, rest and nutrition on the basis of the final clinical diagnosis, observing the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

PLO 14. Determine tactics and provide emergency medical care in emergency conditions (according to List 3) in conditions of limited time in accordance with existing clinical protocols and standards of treatment.

PLO 21. To search for the necessary information in professional literature and databases and other sources, to analyze, evaluate and apply this information

PLO 24. Organize the necessary level of individual safety (own and those of the person he cares for) in case of typical dangerous situations in the individual field of activity.

14 Learning outcomes

Upon completion of the course, applicants will be able to:

- determine the group affiliation of medicines according to modern classifications

- justify the main indications for prescribing, adequate dosage form, routes of administration and interaction with other medicines;
- determine the manifestations of possible side effects and symptoms of overdose, methods of their prevention and treatment;
- assess the benefit/risk ratio when using medicines;
- make judgments about the possibility of side effects of drugs in order to prevent them;
- to create an algorithm for helping patients in acute drug poisoning;
- understand the possibility of using antidotes in each case;
- explain the dependence of the action of drugs on the peculiarities of pharmacokinetics in patients of different ages, concomitant diseases and their therapy;
- write and analyze prescriptions for drugs in various dosage forms

15

Course Content

SECTION I. MEDICINAL FORMULATION.

Topic 1. Main provisions of the Law of Ukraine "On Medicinal Products". Introduction to the drug formulation. Solid dosage forms.

Topic 2. Soft dosage forms: classification, prescribing rules, routes of administration and features of use.

Topic 3. Liquid dosage forms (infusions, decoctions, emulsions, potions, tinctures, liquid extracts, novogalenic preparations).

SECTION II. AGENTS AFFECTING THE CENTRAL AND PERIPHERAL NERVOUS SYSTEM

Topic 4. Drugs that affect the transmission of excitation in cholinergic synapses.

Topic 5. Cholinergic agents that selectively act on M-cholinergic receptors. M-cholinergic agents. M-cholinergic agents.

Topic 6. Pharmacology of drugs that selectively act on H-cholinergic receptors. H-cholinergic agents. H-cholinergic agents.

Topic 7. Pharmacology of drugs affecting the transmission of excitation in adrenergic synapses: adrenergic mimetics, sympathomimetics, antiadrenergic drugs, sympatholytics.

Topic 8. Agents used for general anesthesia. Local anesthetic drugs.

Topic 9. Pharmacology and toxicology of ethyl alcohol and drugs for the treatment of alcoholism. Hypnotics. Antiepileptic, antiparkinsonian drugs.

Topic 10. Pharmacology of narcotic and non-narcotic analgesics. Addictive substances.

Topic 11. Psychotropic drugs with a depressant type of action: antipsychotics, tranquilizers, sedatives.

Topic 12. Psychostimulants. Antidepressants. Drugs used for bipolar diseases and SPAU.

SECTION III. DRUGS THAT AFFECT THE FUNCTION OF THE EXECUTIVE ORGANS AND METABOLISM

Topic 13. Pharmacology of drugs affecting respiratory function.

Topic 14. Diuretics. Pharmacology of drugs that reduce the content of uric acid in the body. Agents that affect the tone and contractile activity of the myometrium.

Topic 15. Medicines used for coronary insufficiency.

Topic 16. Antiatherosclerotic drugs.

Topic 17. Antihypertensive drugs. Antiarrhythmics.

Topic 18. Remedies used to treat heart failure.

Topic 19. Medicines that affect the function of the digestive system

Topic 20. Pharmacology of drugs affecting hematopoiesis.

Topic 21. Pharmacology of agents affecting the blood coagulation system.

Topic 22. Hormone preparations of the hypothalamus, pituitary gland, thyroid gland.

Topic 23. Hormone preparations of the adrenal cortex. Sex hormone drugs and anabolic steroids.

Topic 24. Anti-inflammatory drugs. Treatment of rheumatoid arthritis Social justice, transcultural ethics issues and socioethical obligations

SECTION IV. ANTIBACTERIAL MEDIATORS. GENERAL PHARMACOLOGY

Topic 25. Antibiotic pharmacology 1 (Pharmacology of betalactam antibiotics). Pharmacology of antibiotics 2 (Pharmacology of macrolides, lincosamides, tetracyclines, aminoglycosides, cyclic

polypeptides).

Topic 26. Sulfonamide drugs. Synthetic antimicrobial agents of various chemical structures. Pharmacology of fluoroquinolones.

Topic 27. Pharmacology of anti-tuberculosis drugs. Antispirochetous, antiprotozoal, antifungal and anthelmintic drugs.

Topic 28. Antiviral drugs. Antiseptic and disinfectant drugs.

Topic 29. Toxicology. Basic principles of treatment of acute drug poisoning

16

Books and materials

1. Pharmacology: Textbook for students of medical faculties / I.S. Chekman, N.O. Gorchakova, L.I. Kazak et al. / Edition 4 – Vinnytsia.: New Book, 2019. 784 p. (in Russian).
2. Skakun M.P., Posokhova K.A. Pharmacology: Textbook, Ternopil: Ukrmedkniga, 2019. 740 p. (in Russian).
3. Pharmacology: Textbook for Students of Medicine. and stoma. faculties of higher medical educational institutions / Chekman I.S., Bobirev V.M., Kresyun V.Y. [et al.]; per row. Chekmana I.S. - Vinnytsia: New Book, 2020. – 427 p.: ill.
4. Drogovoz S.M., Shchokina K.G. Pharmacology on the palms, Kharkiv: Pleiada, 2019. 112 p. (in Russian)..

17

Technical requirements for working on the course

To work during the study of the discipline "English for professional purposes", you need regular access to a computer (or phone) and the Internet. The classroom for teaching the course is equipped with microscopes, sets of necessary drugs.

To successfully study and pass the exam for the training course, you must first familiarize yourself with the distance platform (Classroom or Moodle) and study all the folders on which there is already / or will be placed in stages information or materials for studying the course. You will also need to upload and create documents, upload a completed task, watch a video or create one.

The ability to use remote platforms is possible only with the use of corporate mail.

If it is impossible to enter the course, you need to inform the management of the ESI EMS, or the headman, or directly the course teacher.

18

Learning process

The process of studying the course "Pharmacology" includes lectures and practical classes.

During the lectures, such teaching methods as *lecture; problem-oriented lecture, lecture-conversation, lecture-discussion, demonstration, case analysis in accordance with the topic of lectures* will be used.

During practical classes, such teaching methods as *surveys, testing, individual and team tasks, cases, exchange of ideas (think-pair-share), preparation of reports and presentations, work in small groups, solved specific tasks and situations, brainstorming (brainstorming, brainstorming)* will be used



19 Signs of discipline

Term of teaching	Semester	International Disciplinary Integration	Course year (training)	Cycles: General Training/ Professional Training/ Free Choice
2 semesters	5.6 semester	yes	3rd year	Professional training cycle

20 Grading Policy

Assessment of knowledge and skills during the semester is possible in various ways. The teacher assesses class attendance, activity during the practical lesson, discussion of control questions, quality and timely completion of tasks and tests, ability to present their report, performance

Activities during the semester	Maximum number of points during the semester
Current work (attendance, oral survey, participation in discussion) (15 during the semester)	30 (2x15)
Solving situational problems and answering tests (30 during the semester)	150 (5x30)
Presentations (1 per semester)	5 (5x1)
Labster Interactive Platform (1 work)	10 (1x10)
Final test	5
Together	200

21 Grading scale

The maximum number of points for the discipline is 200 points. The ratio between the results of the assessment of current educational activities and the final control of knowledge is 60% and 40%.

The study of the discipline ends with a final control in the form of an exam.

Only those students who do not have academic debt (all missed classes have been worked out) and their average score for current academic activities in the academic discipline is not less than a grade of "3" are allowed to take the exam.

The maximum number of points that a student can score for current academic activities for admission to the exam is 120 points and is determined as the sum of the arithmetic mean of all grades received in the semester.

The minimum number of points that a student must score for the current academic activity to be admitted to the exam is 72 points. Recalculation of the average grade for current performance (on a 120-point scale) in Table. 1. (Table. 1. Regulations on the organization of educational activities).

The maximum number of points that a student can score when passing the exam is 80 (the minimum number is at least 50). The grade in the discipline is determined comprehensively, as the sum of points for current educational activities and points for the exam.

Of the allocated 120 points for current educational activities for the assessment of individual independent work of higher education applicants, according to the working curriculum, an additional 4 to 12 points are allocated. Incentive points are added to the final grade in the discipline at the end of its study. Points in the discipline for students who have successfully completed the program are converted to the national scale and the ECTS system.



Sum of points for all types of learning activities	ECTS assessment	National scale score	
		For the sake of clarity, diffusion	For the sake of credit
180-200	And	Perfectly	Enrolled
160-179	Into	Well	
150-159	C		
130-149	D	Satisfactory	
120-129	E		
50-119	FX	unsatisfactory with the possibility of retaking	not enrolled with the possibility of retaking
0-49	F	unsatisfactory with the obligatory re-study of the discipline	not enrolled with mandatory re-study of the discipline

22 How to find out your score

To check your grades for assignments and read the teacher's comments, you should check the relevant tabs of the Classroom or Moodle distance learning platforms.

You can also get information about the grades received directly from the course teacher through corporate mail or by appointment on the days of consultations (room 423).

23 Course Policy

For productive educational and cognitive activities of students when studying the discipline, topical lectures are carried out in the form of presentations, group work, seminars-discussions.

During his stay on the territory of the IEU and in classes, the student must respect teachers, staff and other students, attend classes according to the schedule, come on time and not leave the classroom without the permission of the teacher. It is necessary to complete all academic tasks and work within the specified deadlines.

The teacher, in turn, must constantly improve his professional level, pedagogical skills, general culture, provide conditions for students to assimilate curricula at the level of mandatory requirements for the content, level and scope of education, promote the comprehensive professional development of students. It is imperative to adhere to the curriculum, not to be late for classes, to prevent any manifestations of corruption, discrimination, bullying, harassment and infringement of the rights of students.

A student who, for valid reasons, confirmed by documents, was not subject to current control, has the right to undergo current control within two weeks after returning to study.

A student who was absent from classes without a valid reason, did not participate in current control measures, did not liquidate academic debt, is not allowed to the final semester control of knowledge in this discipline, and on the day of passing the exam in the exam sheet, the scientific and pedagogical worker gives a grade of "not admitted". Re-passing the exam in the discipline is assigned under the condition of performing all types of educational, independent (individual) work provided for by the working curriculum of the discipline, and is carried out in accordance with the liquidation schedule approved by the directorate.

All participants in the educational process are guided by the principles of academic integrity.





SYLLABUS



24

Completing the task late, correcting grades, working out

Assignments must be submitted via Classroom or Moodle before the completion deadlines specified in the course schedule on our website. Most of the tasks must be completed by 09:00 on the day of the next lesson in order to align them with the content of the course and activities in the group. It is best practice to complete the assignment as soon as possible after receiving it so that you have enough time to actively participate in the class.

If you need more time to complete a task, flexible deadlines are available. Completed assignments are accepted for full credit until the last lesson in the discipline according to the schedule, after which a 40% partial credit based on the grade received will be awarded within a week after the last day of classes. Tasks that did not pass at all will receive 0.

If you plan to miss classes for more than one week due to illness or other reasons, please contact your instructor to arrange alternative assignment options.

Remember that deadlines work both ways, and meeting them will ensure that the instructor provides timely feedback on your assignments to ensure that you keep up with the course.



25

Teacher's response time

Through corporate mail, within a week.

26

Effective communication

Effective communication is not only about being able to speak, but also about being able to hear!!

Therefore, the main recommendations for effective communication are corporate e-mail directly with the course teacher; this is personal communication with classmates through social networks/corporate mails/mobile phones; this is communication directly on the course of distance platforms Classroom or Moodle; This is a face-to-face meeting with the teacher on the days of consultations.

27

Course Materials Publication and Distribution Policy

Students may not post, publish, sell, or otherwise publicly distribute course materials without the written permission of the instructor!

Such materials include, but are not limited to: lecture notes, lecture slides, video or audio recordings, assignments, problem sets, exams, other students' papers, and answer keys.

Students who sell, post, publish, or distribute course materials without written permission for the purpose of obtaining answers or otherwise may be subject to disciplinary action, up to and including the requirement to refuse to study. In addition, students may not make video or audio recordings of classes for their own use without written permission from the instructor.

28

Expected workload and student engagement

For work in this course, hours are necessarily provided for independent study of materials and preparation for practical classes (approximately 5-6 hours per week).

If circumstances arise that force you to spend more time on any of the tasks, inform the teacher by e-mail.



SYLLABUS



An extension of the deadline is possible only if the teacher is informed in advance that you will not be able to submit the assignment on time. Students are expected to have a backup plan in case of computer failure or internet outages.

29

Support

Electronic schedule
Library
Repository
Directorate of SCHOOL OF MEDICINE

30

Course Schedule

Title of the lecture topic	Practical classes
History of the development of pharmacology. The state of modern pharmacology. Law of Ukraine "On Medicines". Pharmacokinetics and pharmacodynamics of drugs.	1. Oral Survey 2. Tests
Drugs that affect the transmission of excitation in cholinergic synapses.	1. Oral Survey 2. Practical tasks 3. Tests 4. Situational tasks
Drugs that affect the transmission of excitation in adrenergic synapses	1. Oral Survey 2. Practical tasks 3. Tests
Pharmacology of narcotic and non-narcotic analgesics. Means for general and local anesthesia.	1. Oral Survey 2. Solving practical problems 3. Checking the issues that are submitted for independent study 4. Tests
Psychotropic drugs with a depressant type of action.	1. Oral Survey 2. Solving practical problems 3. Presentation of reports
Psychotropic drugs with a stimulating type of action.	1. Oral Survey 2. Solving practical problems 3. Tests
Remedies for the treatment of coronary heart disease.	1. Oral Survey 2. Tests 3. Solving practical problems
Medicines affecting the respiratory system	1. Oral Survey 2. Practical tasks 3. Tests 4. Exchange of ideas
Antihypertensive drugs.	1. Oral Survey 2. Solving practical problems 3. Tests
Agents that affect the function of the digestive system.	1. Oral Survey 2. Tests 3. Labster



SYLLABUS



Agents affecting hematopoiesis and hemostasis.	1. Oral Survey 2. Solving practical problems 3. Checking the issues that are submitted for independent study 4. Tests
Hormonal drugs, their synthetic substitutes and antagonists.	1. Oral Survey 2. Solving practical problems 3. Tests 4. Exchange of ideas

31

Tips for successful study in the course

Tell me - and I will forget, teach me - and I can remember, involve me - and I will learn, said Benjamin Franklin.

If you want to successfully master this subject, you must be:

- persistent, attentive and inquisitive;
- creative and cheerful, open for communication and discussion;
- ready to receive and share information on the subject not only at lectures, but also in extracurricular time.

See you!

