

Odesa National Medical University
Faculty of Dentistry
Department of Pharmacology and Pharmacognosy

Syllabus course

PHARMACOLOGY

Scope	180 hours, 6 credits ECTS
Semester, year of study	4-5 semester, II-III year of study
Days, time, place	According to the schedule in the classrooms № 1-5 of the Department of Pharmacology and Pharmacognosy (cycle of pharmacology): Odessa, Olgievskaya 4 str.
Teachers	Rozhkovsky Ya.V., Head of the Department, Doctor of Medical Sciences, Professor; Kresyun V.Y., Member-correspondent of AMSU, Honored scientist of Ukraine, Professor; Antonenko P.B., Doctor of Medical Sciences, Professor ; Lobashova K.G., Candidate of Medical Sciences, Associate Professor; Shemonaeva K.F., Candidate of Medical Sciences, Associate Professor; Timchishin O.L., Candidate of Medical Sciences, senior teacher; Ostapchuk K.V., Candidate of Medical Sciences, senior teacher; Sokolik O.P. , Candidate of Medical Sciences, Assistant; Antonenko K.O., Candidate of Biological Sciences, assistant; Paniotova G.P., assistant; Al-Nadawi N.D., assistant.
Contact phone	(048) 717-35-45
E-mail	pharmacology@onmedu.edu.ua
Workplace	Odessa, Olgievskaya 4 str. , Department of Pharmacology and Pharmacognosy (cycle of pharmacology)
Consultations	Consultations are conducted by teachers of the department according to the schedule: Face-to-face consultations: Thursday from 14.30 to 17.00; Saturday from 9.00 to 13.00 Online consultations: Thursday from 15.00 to 17.00; Saturday from 9.00 to 13.00 https://moodle.odmu.edu.ua/ or via Microsoft Teams / Telegram / viber / Zoom

COMMUNICATION

Communication with students will be through face-to-face meetings. In case of transition to distance learning, communication with students will be carried out by e-mail pharmacology@onmedu.edu.ua and programs: Microsoft Teams, Zoom, Telegram, Viber.

COURSE ANNOTATION

The subject of study of the discipline "Pharmacology" is a set of processes that occur in the interaction of drugs (drugs) with biological systems (human body); regularities between chemical structure, physicochemical and quantum chemical properties and pharmacological action of drugs; the use of drugs for the treatment of patients and for prophylactic purposes. Pharmacology as a discipline is based on the study of Latin, ethics, philosophy, ecology, medical biology, medical chemistry, biological and bioorganic chemistry, biophysics, human anatomy, pathological anatomy, physiology, pathological physiology, microbiology.

The purpose of the course: to master a set of knowledge, skills, skills of rational and safe for human health use of drugs for the treatment and prevention of diseases.

The main objectives of the discipline "Pharmacology" are to provide students with theoretical knowledge to determine the group affiliation of drugs, their pharmacokinetics, pharmacodynamics, manifestations of possible side effects, symptoms of overdose, measures to prevent and eliminate adverse reactions, the main indications for appointment and interaction with other medicines and the acquisition of practical skills, in particular prescribing medicines in various dosage forms.

Expected results:

As a result of studying the discipline, students **should know:**

- The main ways of pharmacological correction of diseases.
- Nomenclature and classification of medicines.
- Pharmacological characteristics * of basic drugs.
- Indications and contraindications to the use of drugs
- Manifestations of possible side effects of drugs, symptoms of overdose of potent and poisonous drugs, methods of their prevention and principles of treatment.
- Rules for prescribing drugs in various dosage forms in accordance with modern legislation of Ukraine.

Students **must be able to:**

- To prescribe and analyze prescriptions for drugs in various dosage forms in accordance with modern legislation of Ukraine.
- To determine the group affiliation of drugs according to modern classifications;
- To provide pharmacological characteristics * of drugs, logically link the mechanism of action with pharmacodynamics, pharmacodynamics with indications, and side effects with contraindications to their use;
- To calculate a single dose of the drug depending on the age, body weight or body surface area of the patient;

- To determine, depending on the pharmacokinetics of drugs, the frequency of drug administration, its daily, course dose in patients of different ages in accordance with comorbidities and the use of other drugs;
- To justify the adequate dosage form in accordance with the routes of administration
- To predict the consequences of the interaction of drugs in their combined administration, drugs and food components, drugs and alcohol;
- No assess the benefit / risk ratio of drugs;
- To make judgments about the possibility of adverse drug reactions in order to prevent them;
- To identify the manifestations of possible side effects of drugs, symptoms of overdose of potent and toxic drugs, methods of their prevention and principles of treatment;
- To create an algorithm to help patients with acute drug poisoning with the use of antidotes in each case;
- To analyze pharmacological information in modern reference books, scientific and professional periodicals;
- To provide a comparative description of drugs in terms of efficacy, safety, mechanism of action, indications for use, etc.

* **Pharmacological characteristics** include the group affiliation of the drug, its mechanism of action, pharmacological effects (main, side), indications and contraindications to use.

COURSE DESCRIPTION

Форми і методи навчання

The course will be presented in the form of lectures (30 hours) and practical classes (70 hours), organization of self-preparation of the students (70 hours).

The following teaching methods are used in teaching the discipline: lectures, explanations, multimedia presentations, oral interviews, testing, individual tasks, practical work (prescribing), solving pharmacotherapeutic problems, self-preparation work with the textbook.

The content of the discipline

Topic 1. Introduction to the prescription. Prescription rules. Solid dosage forms.

Topic 2. Liquid dosage forms.

Topic 3. Soft dosage forms. Non-dosed dosage forms. Checking off practical skills in the section: "Prescription".

Topic 4. General pharmacology. Pharmacokinetics.

Topic 5. General pharmacology. Pharmacodynamics,

Topic 6. Cholinergic drugs. Cholinomimetics.

Topic 7. Cholinergic drugs. Cholinoblockers

Topic 8. Adrenergic drugs. Adrenomimetics.

Topic 9. Adrenergic drugs. Antiadrenergic drugs.

Topic 10. Agents that irritate and protect receptors.

Topic 11. Checking off practical skills in the section: "Drugs acting on afferent and efferent innervation".

Topic 12. Hypnotics and anticonvulsants.

Topic 13. Non-narcotic analgesics. Non-steroidal anti-inflammatory drugs (NSAIDs).

Topic 14. Psychotropic drugs. Narcotic analgesics.

Topic 15. Neuroleptics. Tranquilizers. Psychosedatives.

Topic 16. Antidepressants. Psychostimulants. Nootropics. Analeptics. Substances that cause abuse.

Topic 17. Checking off practical skills in the section: "Neuro- and psychotropic drugs"

Topic 18. Cardiotonic drugs. Cardiac glycosides. Non-glycosidic cardiotonics. Antiarrhythmic drugs.

Topic 19. Antianginal drugs. Complex therapy of myocardial infarction.

Topic 20. Diuretics. Complex therapy of chronic heart failure. Anti-gout.

Topic 21. Antihypertensive and hypertensive drugs and acting on blood circulation and microcirculation.

Topic 22. Checking off practical skills in the section: "Drugs that affect the functions of the cardiovascular system."

Topic 23. Hormonal agents of polypeptide and amino acid structure. Antihormonal drugs.

Topic 24. Hormonal drugs of steroid structure.

Topic 25. Means of water-soluble and fat-soluble vitamins. Enzymes. Agents acting on phosphorus-calcium metabolism.

Topic 26. Immunotropic and antiallergic drugs.

Topic 27. Drugs that affect erythropoiesis. Blood and plasma substitutes.

Topic 28. Drugs that affect leukopoiesis and blood clotting

Topic 29. Checking off practical skills in the section: "Drugs that affect metabolism, blood system and immune processes."

Topic 30. Disinfectants and antiseptics.

Topic 31. Chemotherapeutic agents. Antibiotics (I).

Topic 32. Antibiotics (II).

Topic 33. Chemotherapeutic agents. Sulfanilamides. Antimicrobials of different chemical structure.

Topic 34. Antitubercular, antiprotozoal, anthelmintic, antifungal and antiviral drugs.

Topic 35. Checking off practical skills in the section: "Antimicrobial and antiparasitic drugs".

Topic 36. Drugs that affect the function of the digestive system.

Topic 37. Pharmacotherapy of dental diseases

Topic 38. Pharmacotherapy of dental diseases (continued).

Topic 39. General principles of treatment of acute poisoning.

Topic 40. Pharmacotoxicodynamics

Recommended literature

1. Pharmacology: a textbook for students. medical and dental faculties of higher med. textbook institutions of Ukraine: ed. 4th correction. and reworked. / [I.C. Chekman, V.M. Bobyr'ov, V.J. Kresyun and others]. - Vinnytsia: New book, 2020. - 472 p.
2. Pharmacology: a textbook for the medical stud. of higher medical institutions of Ukraine: view. 4th edition corrected and reworked. / [I.C. Chekman, V.J. Kresyun, V.V. Godovan and others]. - Vinnitsa: The New Book, 2017. - 784 pp.
3. Drug formulation with general pharmacology: teach. manual: 2nd edition corrected and reworked / [V.J. Kresyun, V.V. Godovan]. - The Odessa National Medical University, 2017. - 280 p.
4. Pharmacology on pictures and schemes: textbook manual / V. V. Godovan ; ed. By V. I. Kresyun. Vinnitsa: The New Book, 2019. - 462 pp

EVALUATION

Current control

Carried out at each practical lesson with the help of: oral examination, testing, written work on prescribing, solving situational (pharmacotherapeutic) problems; written control of practical skills test after each section of the discipline.

The current assessment of students on relevant topics is carried out according to the traditional 4-point system (excellent, good, satisfactory, unsatisfactory).

At the end of the discipline, the current performance is calculated as the average score of all grades obtained by the student on a traditional scale, rounded to 2 (two) decimal places.

Final control

The form of final control is an exam. Students who have completed the discipline program, have no academic debt, received an average score of at least 3.00 for current activities and passed a set of practical skills in the discipline according to the list are admitted to the pharmacology exam.

The procedure of the pharmacology exam involves the assessment of theoretical and practical training.

According to the peculiarities of pharmacology as a discipline, the student must know the following information about each drug or group of drugs:

1. General characteristics.
2. Classifications.
3. Pharmacokinetics.
4. Pharmacodynamics.
5. Indications for use.
6. Side effects.
7. Contraindications to use.
8. Clinical manifestations of possible overdose.
9. Form of release of the main representatives of the group and their prescription.

A grade "excellent" is given in the case when the student knows the program in full, illustrating the answers with various examples; gives comprehensively accurate and clear answers without any leading questions; teaches material without errors and inaccuracies; performs practical tasks of varying complexity (knows the pharmacology of the drug or drug group and is able to write a prescription within the situational task);

The grade "good" is given when the student knows the whole program and understands it well, answers the questions correctly, consistently and systematically, but they are not exhaustive, although the student answers additional questions without errors; performs practical tasks, feeling difficulties only in the most difficult cases (navigates within the above issues and is able to write a prescription);

The grade "satisfactory" is given to the student 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 student is able to solve simplified problems with the help of leading questions; performs practical skills, experiencing difficulties in simple cases; is not able to systematically state the answer on his own, but answers the directly asked questions correctly (has a superficial idea about the drug and does not know how to write a prescription).

The grade "unsatisfactory" is given in situations when the student's knowledge and skills do not meet the requirements of "satisfactory" assessment (does not know any of the above questions, or knows less than 50% of the questions and can not write a prescription).

The grade for the discipline is determined on the basis of the sum of grades of current educational activity (arithmetic mean of current performance) and examination grade (traditional grade), which is set when assessing theoretical knowledge and practical skills according to the lists defined by the discipline program.

The grade on the exam consists of the student's answer to the questions from the list of questions provided by the discipline program. The exam is graded on a 4-point (traditional) scale. In the future, the student receives two grades: the first - on the traditional 4-point scale and the second on a 200-point system.

The multi-point scale characterizes the actual success of each student in mastering the discipline. Conversion of the traditional grade from the discipline to 200-point is performed by the information and computer center of the university program "Contingent" by the formula:

$$\text{grade point average (current / from the discipline)} \times 40$$

National grade for the discipline	The sum of points for the discipline
«5»	185-200
«4»	151-184
«3»	120-150

Self-preparation of the students

Control of self-preparation of the students :

The control of self-preparation of the students, which is provided by the topic along with the classroom work, is carried out during the current control of the topic in the relevant classroom. Topics that are submitted only for independent work and are not included in the topics of classroom training, are controlled during the final control.

COURSE POLICY

Deadline and recompilation policy: timely completion of the tasks set by the teacher within the specified time is mandatory. For late performance of the task during the current / final control of knowledge the student receives an unsatisfactory grade. Reassignment is carried out according to the approved schedule with the permission of the dean's office.

Policy on academic integrity: independent performance of all types of work, tasks, forms of control provided by the work program of this discipline; providing reliable information about the results of their own educational (scientific) activities, used research methods and sources of information; copying and plagiarism are not allowed.

Attendance policy: attendance at lectures and practical classes is mandatory, exceptions are possible only if an individual study schedule is approved for an individual student. Late classes are not allowed. The omission of classes, regardless of the reason for the omission, the student of higher education works for the teacher in accordance with the schedule of consultations and practice of missed classes.

Mobile devices: the use of a mobile phone, tablet or other mobile devices during the lesson is not allowed (except in cases provided by the curriculum and guidelines of the teacher).

Behavior in the audience: keeping quiet among students in lectures, exceptions - students' questions to the teacher regarding the explanation of the material; working discussion atmosphere in practical classes during the survey; adherence to the ethics of academic relations.

Syllabus stacker
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