

**Odesa national medical university**  
**Faculty – international (“Pharmacy”)**  
**Department of organization and economics in pharmacy**

**SYLLABUS**

**Introduction to pharmacy**

<b>The number of hours</b>	90 hours / 3 ECTS credits
<b>Year of studying, semester</b>	1 <sup>st</sup> / 1 <sup>st</sup> semester
<b>Days, time, place</b>	According to the schedule
<b>Teacher</b>	Prof. Unhuroan Liana Mikhailivna Sen. teacher Vishnitskaya Irina Vladimirovna As. Aleksandrova Olena Oleksandrivna
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<b>Work place</b>	Odesa, Malynovs'koho str., 37, 2 <sup>nd</sup> floor, department of organization and economics in pharmacy
<b>Consultations</b>	Consultations are held on Saturdays from 9:00 to 14:00, on Tuesdays from 15:00 to 17:30, according to schedule

**COMMUNICATION**

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**COURSE ANNOTATION**

***Subject of discipline***

The subject of normative discipline is the historical aspects of the formation and development of medicine and pharmacy, trends in the pharmaceutical industry in the world and in Ukraine; organization of pharmacies as health care and trade, pharmaceutical process providing people and institutions of Keep of dorov'ya; structure and functions of the pharmacy, the main issues of ensuring the sanitary and anti-epidemic regime of pharmacies, packaging materials, general requirements for the manufacture of sterile and non-sterile drugs in pharmacies.

***Course re-requisites and post-requisites:***

The discipline is the basis for the study of ethics and deontology in pharmacy, human physiology and anatomy, organic chemistry, pharmaceutical botany, pharmaceutical technology, pharmacology, pharmacognosy, industrial technology of drugs, organization and economics of pharmacy, medical and pharmaceutical commodity, good pharmacists chemistry, management and marketing in pharmacy, standardization of drugs, which involves integrating the teaching of the above stated ymi disciplines on formation of skills to apply the knowledge in further education and

professional activities; the discipline lays the foundations of professional culture, cultivates pride and a sense of the need for a pharmaceutical specialty.

### *Purpose of the course*

The purpose of teaching the discipline "Introduction to Pharmacy" is the formation of students' knowledge of the historical path of development of pharmacy and pharmacy, detailed and thorough acquaintance of students with the history of pharmaceutical science and practice; formation of students' theoretical foundations and important professional skills in organizing the provision of medicines to the population, knowledge of the basics of good pharmacy practice; formation of students' primary professional knowledge on the requirements for the production activities of pharmacies, safety rules and sanitary and anti-epidemic regime of the production department of the pharmacy; acquisition by students of practical competencies in the field of professional activity of pharmaceutical workers.

### *Tasks of the discipline:*

- formation of students' historical thinking, scientific understanding of the relationship of Natural and Special Inyh di subject matter, knowledge of the historical origins of pharmacy;

- acquaintance of students with the organization of work of a drugstore, tasks and functions of a drugstore, its organizational structure, the general principles of providing with medicines and other goods of drugstore assortment of the population and health care institutions;

- acquaintance with normative-legal and legislative acts of Ukraine, requirements of good pharmacy practice (NAP) for the manufacture of drugs in pharmacies, the main tasks and functions of pharmacies, labor protection and safety of pharmaceutical workers, acquisition of skills in dosing, packaging and packaging of medicines in pharmacy practice and acquaintance of students with workplaces and equipment of the production department of the pharmacy .;

- raising the general cultural level of a modern young specialist, cultivating pride and a sense of the need for a pharmaceutical specialty.

### *Expected results:*

#### *Program learning outcomes for the discipline:*

PLO 1. Carry out professional activities in social interaction based on humanistic and ethical principles; identify future professional activities as socially significant for human health.

PLO 3. Adhere to the norms of sanitary and hygienic regime and safety requirements for professional activities.

PLO 5. Position your professional activities and personal qualities in the pharmaceutical labor market; to formulate the purposes of own activity taking into account public and industrial interests.

PLO 9. Carry out professional activities using information technology, "Information Databases", navigation systems, Internet resources, software and other information and communication technologies.

PLO 11. Use methods for assessing performance indicators; identify reserves to increase labor efficiency.

PLO 12. Analyze the information obtained as a result of scientific research, summarize, systematize and use it in professional activities.

PLO 13. Carry out sanitary-educational work in professional activity in case of outbreaks of infectious, viral and parasitic diseases.

PLO 14. To determine the advantages and disadvantages of drugs of different pharmacological groups, taking into account their chemical, physicochemical, biopharmaceutical, pharmacokinetic and pharmacodynamic features. Prescribers are recommended over-the-counter medicines and other products of the pharmacy range with the provision of consulting and pharmaceutical care.

PLO 15. Provide home care to patients in emergencies and victims in extreme situations.

PLO 19. Predict and determine the impact of environmental factors on the quality of medicines and consumer characteristics of other products of the pharmacy range during their storage.

PLO 20. Carry out a set of organizational and managerial measures to provide the population and health care facilities with medicines and other products of the pharmacy range. Carry out all types of accounting in pharmacies, administrative records, processes of commodity analysis.

PLO 24. Plan and implement professional activities on the basis of regulations of Ukraine and recommendations of good pharmaceutical practices.

PLO 25. Promote health, including disease prevention, rational use and use of medicines. Perform your professional duties in good faith, comply with the law on the promotion and advertising of medicines. Have psychological communication skills to build trust and understanding with colleagues, doctors, patients, consumers.

PLO 26. To choose rational technology, to make medicines in various medicinal forms according to prescriptions of doctors and orders of medical institutions, to issue them before release. Perform technological operations: weigh, measure, dose a variety of drugs by weight, volume, etc. Develop and draw up technological documentation for the manufacture of medicines in pharmacies.

PLO 30. Ensure quality control of medicines and document its results. Manage quality risks at all stages of the life cycle of medicines.

## **COURSE DESCRIPTION**

### ***Forms and methods of teaching***

The training course consists of lectures (20 hours) practical lessons (20 hours), seminars (20 hours) and individual work of students (30 hours). Problem-based presentation, case studies, discussions, electronic (review, problem) lectures, presentations, business games, classes with the use of computer technology (situational tasks, test tasks) are used as teaching methods.

### *The content of the discipline*

#### SECTION 1. HISTORICAL ASPECTS OF MEDICINE AND PHARMACY FROM THE ANCIENT WORLD TO THE PRESENT

Topic 1. Introduction to the pharmacy. Historical stages of the formation and development of medicine and pharmacy in ancient times. Pharmacy in the Middle Ages.

Topic 2. Pharmacy in the Middle Ages

Topic 3. The development of medicine and pharmacy in Ukraine from ancient to present

Topic 4. The development of pharmaceutical science and pharmaceutical personnel training

Topic 5. Health and Medicine in Foreign Countries

#### SECTION 2. ORGANIZATIONAL ASPECTS OF PHARMACEUTICAL ESTABLISHMENTS.

Topic 6. Pharmacy - health care facilities.

Topic 7. Pharmaceutical information as part of scientific and technical information. Fundamentals of pharmaceutical information in the pharmacy.

Topic 8. Characteristics and requirements for prescription prescription forms.

Topic 9. Organization of the prescription and production department

Topic 10. Organization of the department reserves

Topic 11. Company quality control of extemporaneous and finished medicines and other pharmaceutical products range.

Topic 12. Organization of the sales department of medical products prescribed by doctors. The organization of non-prescription medicines.

Topic 13. Automatization of pharmacy

### *List of recommended literature*

1. Texts of lectures on the discipline "Introduction to pharmacy" / IS Yashchuk, LM Unhurian, OI Bieliaieva,. - Odessa: ONMedU, 2019. - 110 p.
2. History of medicine and pharmacy: a textbook. for higher students. pharmacy. textbook lock and pharmac. A.A. Kotvitska, V.V. Gorbanyov, O.O. Surikov and others. - Kharkiv: NUPh: Golden Pages, 2016. - 168 p.
3. *The History of Medical Informatics in the United States* / ed. by M.F. Collen, M.J. Ball. — London : Springer-Verlag, 2015.
4. Introduction into the pharmacy: teach. manual / Under the general editorship: A.S. Nemchenko. - Kh.: NUPh, 2016 - 115 p.
5. Medicines, Ethics and Practice. The professional guide for pharmacists, 2015. — 172 p.

## **EVALUATION**

There are various forms of control for classes (oral, written, combined, testing, practical skills, etc.). The results of the academic progress for students exhibited in the form of evaluation on a national scale, 200-point scale, ECTS and have standardized generic assessment criteria:

**Criteria for assessing the student's current learning activity**

<p><b>grade "excellent" ("5")</b> grade "excellent" ("5") is given to a student who systematically worked during the term, has showed versatile and deep knowledge of the program content during the exam, is able to successfully complete the tasks provided for by the program, has mastered the content of the main and additional literature, realized the relationship of individual sections of the discipline, their importance for the future profession, identified creative ability to understand and use educational and program materials, showed the ability to independently replenish and update knowledge; high level of competence (creative)</p>
<p><b>grade "good" ("4")</b> is given to a student who has revealed complete knowledge of the educational and program materials, successfully completes the tasks provided for by the program, has mastered the basic literature recommended by the program, has shown a sufficient level of knowledge in the discipline and is capable of independently updating and replenishing them in the course of further education and professional activity; the level of competence is sufficient (constructive - variation)</p>
<p><b>grade "satisfactory" ("3")</b> is given to a student who has revealed knowledge of the basic educational and program materials in the amount necessary for further training and subsequent work in the profession, copes with the tasks provided for by the program, made some mistakes in the answers on the exam and when performing the exam tasks, but has the necessary knowledge to overcome mistakes made under the guidance of a scientific and pedagogical worker; the level of competence is medium (reproductive).</p>
<p><b>grade "unsatisfactory" ("2")</b> is given to a student who did not reveal sufficient knowledge of the basic educational and program materials, made fundamental mistakes in performing the tasks provided for in the program, cannot use knowledge in further training without the help of a teacher, could not master the skills of independent work, the level of competence is low (reciprocal-productive).</p>

**Current control**

Current control is carried out at each practical class through oral questioning or written control. After studying each section, based on the control of theoretical knowledge, practical skills and abilities, the control of the acquisition of practical skills is carried out. The student's current educational activity is assessed in a practical class on a 4-point (traditional) scale.

**Final control**

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The final control in the form of tests is assessed on a two-point scale:

- the mark "passed" is given to a student who has completed the curriculum of the discipline and has no academic debt; the level of competence is high (creative).

- the mark "not passed" is given to a student who has not completed the curriculum of the discipline, has academic debt (average score below 3.0 and / or missing classes), the level of competence is low (receptive-productive). In the student's record book, the teacher enters the grade for the discipline on the traditional and 200-point scale.

A multi-point scale characterizes the actual progress of each student in mastering the academic discipline. The conversion of the traditional grade in the discipline into a 200-point grade is carried out by the information and computing center of the university by the "Contingent" program according to the formula:

**grade point average (current / by discipline) x 40**

national grade	points
«5»	185-200
«4»	151-184
«3»	120-150

### **ECTS scale**

The ECTS rating scale evaluates the achievements of students in the discipline who study in one course of one specialty, according to the points they received, by ranking, namely:

ECTS score	Statistical indicator
"A"	top 10% of students
"B"	next 25% of students
"C"	next 30% of students
"D"	next 25% of students
"E"	the remaining 10% of students

The ECTS scale establishes the student's belonging to the group of the best or worst among the reference group of fellow students (faculty, specialty), that is his rating. When converting from a multi-point scale, as a rule, the boundaries of grades "A", "B", "C", "D", "E" do not coincide with the boundaries of grades "5", "4", "3" on the traditional scale. The "A" grade on the ECTS scale cannot be equal to the "excellent" grade, and the "B" grade - the "good" grade, etc.

Students who have received grades "FX" and "F" ("2") are not included in the list of ranking students. Such students, after retaking, automatically receive an "E" score.

The mark "FX" is given to students who have scored the minimum number of points for the current educational activity, but who are not credited with the final control. Grade "F" is given to students, attended all classroom lessons in the

discipline, but did not score an average score (3.00) for the current educational activity and were not admitted to the final control.

### **Independent work of students.**

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Independent work in the study of the discipline is provided by methodological developments for the independent work of students, visual teaching aids (presentations, educational films etc.), the information resource of the department, the topic of independent tasks for each task, algorithms for the implementation of practical skills, algorithms for self- and mutual control of knowledge and skills, test tasks for each practical class.

Independent work of students, which is provided by the topic of the class along with classroom work, is assessed during the current control of the topic in the corresponding practical class. The assimilation of topics that are taken out only for independent work is checked during an exam.

## **COURSE POLICY**

### ***Deadline and retake policy***

Students for education are expected to attend all lectures and practical classes. If they missed classes, it is necessary to make-up them (according to the schedule posted on the information stand of the department and according to the permission of the dean's office, if necessary).

The retake of the control of the acquisition of practical skills is carried out during the semester on an individual basis with the determination of the time of the training.

Retake of unsatisfactory grades is carried out during the term of studying the discipline, provided that the average score for the current educational activity is less than 3.00 (carried out according to the schedule posted on the information stand of the department).

### ***Academic Virtue Policy***

Respect for academic virtue by education seekers includes:

- independent fulfillment of educational tasks, tasks of current and final control (current controls and discipline exam) of learning outcomes (for persons with special educational needs, this requirement is applied taking into account their individual needs and capabilities);

- links to sources of information when using ideas, developments, statements, information;

- provision of reliable information about the results of their own (scientific, creative) activities, the research methods used and sources of information.

It is unacceptable in educational activities for participants in the educational process to use prohibited auxiliary materials or technical means (crib notes, earpieces, phones, smartphones, tablets, etc.) during control events.

For violation of academic virtue, education seekers may be held liable for such academic responsibility

- decrease in the results of assessment (control work, exam);
- re-passing the assessment (test, exam);
- appointment of additional control measures (additional individual tasks, control works, tests, etc.).

#### *Attendance policy*

Attendance at lectures and practical classes is compulsory. If you are more than 15 minutes late, the lesson is considered missed and requires working out.

#### *Mobile devices*

During practical exercises, the use of a smartphone, tablet or other device for storing and processing information is allowed only with the permission of the tutor.

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

#### *Audience behavior*

During the classes it is allowed: to leave the audience for a short time, if necessary and with the permission of the teacher; photograph presentation slides; actively participate in the class.

During the lessons it is prohibited: to eat (except for persons whose special medical condition requires another - in this case, medical confirmation is required), smoking, drinking alcoholic and low-alcohol drinks or drugs; use obscene language or use words that offend the honor and dignity of colleagues and faculty; gamble; damage the material and technical base of the university (spoil inventory, equipment; furniture, walls, floors, litter premises and territories), make noise, shout or listen to loud music in classrooms and even in the corridors during classes.