

MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Faculty of Pharmacy

Department of Pharmacy Organization and Economy with post-diploma
specialization

Syllabus of the educational component

Pharmaceutical and medical commodity science

Amount	Total number of hours per discipline: 150 hours, 5 credits
Semester, year of study	Semesters: VII-VIII 4th year of study
Days, time, place of the discipline	According to the schedule of classes Department of organization and economics of pharmacy Odesa, str. Malinovskyi, bldg. 37, 2nd floor, Department of organization and economics of pharmacy, room 212
Teacher(s)	head of the department, Ph.D., Prof. Liana UNHURIAN senior teacher Oksana STEPANOVA
Contact Information	Help by phone: (048) 777-98-18 Oksana STEPANOVA oksana.stepanova@onmedu.edu.ua Head of the Department of Pharmacy Organization and Economics Liana UNHURIAN liana.unguryan@onmedu.edu.ua Odesa, str. Malinovskyi, bldg. 37, 2nd floor, department of pharmacy organization and economy <i>Face-to-face consultations:</i> from 14.30 to 16.00 every Tuesday, from 9.00 to 13.00 every Saturday. <i>Online consultations:</i> from 14.30 to 16.00 every Tuesday, from 9.00 to 13.00 every Saturday. The link to the online consultation is provided to each group during the classes separately.

COMMUNICATION

Communication with students can be carried out in the classroom (in person) or remotely.

During distance learning, communication is carried out through the Microsoft Teams platform and using Viber, Telergram, WhatsApp, Zoom messengers, by creating separate groups of students, and e-mail.

ANNOTATION OF THE DISCIPLINE

The subject of study of the educational component - consumer properties of medicines, medical devices and parapharmaceuticals, their range, classification and coding, packaging and labeling rules, commodity operations related to the organization of their transportation and storage.

Prerequisites and post-requisites of the course (place of the discipline in the educational program):

Aims and objectives of the discipline, competencies, program learning outcomes

Prerequisites: "Ukrainian language (for professional purposes), Foreign language (for professional purposes), Introduction to Pharmacy, Pharmaceutical Law and Legislation, Fundamentals of Economics in Pharmacy, Pharmacology, Drug Technology, Ethics and Deontology in Pharmacy, Information Technology in Pharmacy, World Pharmaceutical Distribution, Psychology of Communication.

Post-requisites: "Pharmaceutical Management and Marketing", "Organization and Economics of Pharmacy", "Pharmacoeconomics", "Social Pharmacy", "Evaluation of Medical Technologies", "Pharmaceutical Logistics".

The purpose of the educational component: the acquisition of theoretical knowledge and mastery of professional competencies, practical skills in performing commodity functions related to the provision of medical and preventive institutions and the population with medicines and medical devices, handling medical instruments, devices and equipment.

Goal: mastering by the applicant of higher education knowledge and formation of elements of professional competencies in the field of pharmacy and improvement of skills and competencies acquired in the study of previous disciplines.

Objectives of the discipline:

1. Formation of skills and abilities to conduct commodity operations related to the provision of medical and preventive institutions and the population with medicines and medical devices
2. Formation of skills and abilities to handle medical instruments, devices and equipment used for diagnosis of diseases
3. Creating a proper knowledge base that determines the professional competence and general erudition of pharmacists.

The process of studying the discipline is aimed at forming elements of the following competencies:

Expected results:

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

Know:

- product characteristics of pharmacy products;
- main classification approaches to pharmacy assortment products;
- basic concepts and principles of quality management;
- procedure for state registration in Ukraine of medicinal products, medical products, special food products and other pharmaceutical products;
- key differences in the merchandising characteristics of certain groups of pharmacy products;
- regulatory documents regulating the circulation of medicines and medical devices in Ukraine;
- rules of rational storage and transportation of medical and pharmaceutical goods;
- algorithms of pharmaceutical care when dispensing medical products and related pharmaceutical products from pharmacies;

Be able:

- Apply knowledge of general and professional disciplines in professional activities for the modern development of the enterprise;
- use information and communication technologies in the professional field
- to provide pharmaceutical care when dispensing drugs, taking into account the individual characteristics of patients; provide pharmaceutical care at discharge without prescription and prescription drugs, taking into account compatibility, indications and contraindications;
- to use normative legal acts regulating pharmaceutical activity in Ukraine and abroad;
- monitor and determine changes and additions to domestic pharmaceutical legislation;
- choose the necessary standards depending on the specifics of the enterprise;
- to develop the company's policy in the field of quality management;

- to develop the main elements of quality management systems according to standard models;
- check the correctness of the proposed document in accordance with the supply contract;
- to draw up the necessary documents about the detected shortage of goods in terms of quantity.
- check the correctness of the labeling of the transport container;
- distribute the received goods by storage departments;
- accept and release the product taking into account its expiration date;
- to check the correctness of the storage of medicinal products in the premises for storage in the pharmacy;
- take medical oxygen from the supplier at the pharmacy or at the hospital
- release medical oxygen to the consumer from the pharmacy;
- check the correctness of filling the transport container with dressing material in accordance with DSTU;
- determine the quality characteristics of medical cotton wool (absorbency, capillarity and neutrality) and gauze (wettability, capillarity and neutrality);
- divide the proposed surgical instruments into groups;
- prepare the proposed surgical instrument for sterilization;
- to check compliance of the proposed surgical instrument with the requirements of DSTU;
- conduct a trade analysis of injection syringes in accordance with the regulatory documentation on them;
- conduct a trade analysis of injection needles in accordance with the documentation on them;
- accept dental instruments in accordance with the documentation;
- conduct a trade analysis of the proposed eyepiece lens;
- check the correctness of the issued prescription for glasses;
- distribute the proposed glass container according to the purpose;
- conduct a commodity analysis of the proposed glass container for compliance with technical requirements;
- draw up the appropriate document for receiving the proposed fiberglass container from the warehouse;
- accept the polymer container in accordance with the documentation for it;
- carry out labeling of transport containers;
- distribute the proposed sealing means according to their classification by purpose;
- check the correctness of the labeling of the finished medicinal product;
- to draw a conclusion regarding the correctness of placement of finished medicinal forms on the shelves of the warehouse;
- determine the type of consumer packaging of the finished dosage form;
- accept a ready-made dressing in accordance with the documentation;
- check the correctness of the storage of rubber products in the storage room;
- carry out a commodity analysis on the suitability of the proposed rubber product for further use and propose a method of its recovery;
- to receive mineral water at the pharmacy and to make a conclusion regarding the correctness of mineral water storage;
- check the correct storage of medical leeches;

DESCRIPTION OF THE EDUCATIONAL COMPONENT

Forms and methods of education

The educational component will be taught in the form of lectures (20 hours) and practical classes (70 hours), organization of students' independent work (60 hours).

Teaching methods:

- Verbal: lectures (problematic, visualization lectures, lectures with analysis of specific situations), discussions;
- Face-to-face: multimedia presentations, demonstration, method of direct observation, presentation of the results of own research;
- Practical: exercises; training exercises; solving calculation problems; surveys using blackboards in online format, testing

Content of the educational component

Topic 1. Basics of commodity science. Normative documentation in the pharmaceutical industry.

Topic 2. Classification and coding of goods.

Topic 3. Basics of merchandising analysis of pharmacy products.

Topic 4. Packaging and labeling of medical products.

Topic 5. Packaging, labeling of finished medicines. Closers.

Topic 6. Commodity analysis of transport containers.

Topic 7. Basics of materials science. Metal materials.

Topic 8. Rubber, production methods. Production of rubber products.

Topic 9. Glass, ceramic materials and products from them.

Topic 10. Polymer materials and plastic masses used in pharmacy

Topic 11. Commodity analysis of general surgical medical instruments.

Topic 12. Commodity analysis of special instruments: neurosurgical, ophthalmological, otorhinolaryngological.

Topic 13. Commodity analysis special instruments: urological, obstetric and gynecological.

Topic 14. Commodity analysis dental instruments

Topic 15. Commodity analysis of technical means for traumatology.

Topic 16. Commodity analysis of suture materials and piercing needles.

Topic 17. Commodity analysis of tools and devices for punctures, injections, transfusions and suction

Topic 18. Merchandising analysis of equipment for disinfection and sterilization.

Topic 19. Commodity analysis of rubber products and patient care items.

Topic 20. Commodity analysis of dressing materials and ready-made dressings.

Topic 21. Eye optics. Commodity analysis devices and means for research, correction and protection of the organs of vision.

Topic 22. Commodity analysis of related products pharmacy assortment products

Topic 23. Commodity analysis of oxygen, breathing and anesthetic equipment.

Topic 24. Commodity analysis of devices for inspection, endoscopy and introscopy.

Topic 25. Acceptance of goods to the pharmacy warehouse.

Topic 26. Organization of storage of medicines and medical products.

Topic 27. Prevention of circulation of falsified medicinal products in Ukraine.

Topic 28. Commodity analysis medical devices for diagnosis and treatment.

Topic 29. Commodity analysis laboratory and pharmacy glass, products made from it. Pharmacy equipment. Technical means for laboratories and pharmacies.

List of recommended literature

Basic literature:

1. Medical and pharmaceutical commodity science: textbook for students of higher educational institutions / I.I. Baranova, S.M. Kovalenko, D.V. Semenov et al. - Kharkiv: NUPh: Golden

- pages, 2017. - 320 c.
2. Medical and pharmaceutical commodity science: textbook for students of higher educational institutions / I.I. Baranova, S.M. Kovalenko, Yu: Original, 2016.- 304 p.
 3. Commodity research at a pharmaceutical enterprise; textbook for applicants for higher education of the second (master's) level of specialty "Pharmacy" / I.I. Baranova, S.M. Kovalenko, S.V. Breusova et al: NUPh, 2018.-160 p.
 4. Gromovyk B.P. Workshop on medical and pharmaceutical commodity science. Part 2. Pharmaceutical commodity science: textbook for teachers / B.P. Gromovyk, N.B. Yarko, I.Y. Gorodetska. - Lviv: Space M, 2018. -139 c.
 5. Medical and pharmaceutical commodity science: textbook / O.B. Kalushka, T.A. Groshovoy, A.V. Znaevska, M.B. Demchuk. - Ternopil: TSMU, 2017. - 484 c.
 6. Pharmaceutical and medical commodity science: texts of lectures for students of the Faculty of Pharmacy of full-time, part-time and distance learning / LM Ungurian, OA Stepanova, et al: ONMedU, 2020.- 216 p.- Language: Ukrainian. Access mode https://info.odmu.edu.ua/chair/economy_pharmacy/files/113/ua
 7. Pharmaceutical and medical commodity science: a workshop for students of the Faculty of Pharmacy of full-time, part-time and distance learning / LM Unguryan, OA Stepanova, et al: ONMedU, 2019- 136 p.- Language of Ukr.
 8. Pharmaceutical and medical commodity science: textbook for students of the Faculty of Pharmacy of full-time, part-time and distance learning / LM Unguryan, OA Stepanova, et al: ONMedU, 2020.- 230 p.- Language of Ukr.
 9. Pharmaceutical and medical commodity science: atlas for students of the Faculty of Pharmacy of full-time, part-time and distance learning / L. M. Unguryan, O. A. Stepanova, et al: ONMedU, 2020.- 120 p.- Language of Ukr.
 10. Rymarchuk KM Fundamentals of pharmaceutical and medical commodity science: a
 11. manual / KM Rymarchuk. - Kyiv: Medicine, 2015. - 118 p.: Tables.
 12. Fundamentals of medical and pharmaceutical commodity science: Study guide for higher medical (pharmaceutical) institutions. Approved by the Ministry of Health / O.G. Moroz, Zh.V. Osinska et al.
 13. Fundamentals of pharmaceutical law. Album of schemes: textbook for students of higher educational institutions / O.O.Green - Uzhhorod: Publishing House of FOP Sabov A.M., 2020. - 211 c
 14. Medical and pharmaceutical commodity science: methodical recommendations for independent work / I. I. Baranova, S. V. Breusova, S. M. Kovalenko et al.
 15. Fundamentals of law and legislation in pharmacy: national textbook for students of higher educational institutions / A.A. Kotvitska, I.V. Kubareva, O.O. Surikov et al: NUPh: Golden pages, 2016. - 528 p. (National textbook).
 16. Guide to Federal Pharmacy Law, 9-th Edition 9th Edition by Barry S. Reiss & Gary D. Hall (Author) 2015.
 17. Pharmaceutical Packaging Technology 1st Edition by D. A. Dean (Editor), E. R. Evans (Editor), I. H. Hall (Editor) 646 p. 2014
 18. Packaging of Pharmaceuticals and Healthcare Products / H. Lockhart, F. A. Paine. – London: Blackie academic& Professional - 230 p. 2017.
 19. Mondher Toumi Introduction to market access for pharmaceuticals. CRC Press Taylor and Francis Group, 2017. 175 p.
- Information resources:*
1. Legislation of Ukraine [Electronic resource]. - Access mode <http://zakon.rada.gov.ua/laws>
 2. Normative and directive documents of the Ministry of Health of Ukraine [Electronic resource]. – Access mode: [/http:// mozdocs.kiev.ua](http://mozdocs.kiev.ua)
 3. State Service of Ukraine for Medicinal Products and Drug Control <https://www.dls.gov.ua/>
 4. Medicines of Ukraine. All about medicines and their quality <https://lyky.ukr/>

5. Compendium online. [Electronic resource]. - Access mode: <https://compendium.com.ua/bad/>.
6. Weekly "Apteka" [Electronic resource]. - Access mode: <https://www.apteka.ua/>.
7. Search database of drugs [Electronic resource]. - Access mode: <https://tabletki.ua/uk/>.
8. Search database of drugs [Electronic resource]. - Access mode: <http://likicontrol.com.ua/>.
9. FDA [E-resource]. – Access :<https://www.fda.gov>
10. WHO [E-resource]. - Access: <https://www.who.int>

ASSESSMENT

Forms and methods of current control: oral and written questioning (express control) during practical classes and interactive lectures, student presentations during discussion of issues, assessment of the degree of practical skills, testing (blank or computer).

Evaluation criteria

The criteria for assessing the current progress of applicants are reflected in the work program of the educational component "Pharmaceutical and Medical Commodity Science" with a clear procedure for assessing students' knowledge in the classroom. Assessment of the current success of the study of the topics of the educational component is carried out on a traditional 4-point scale.

Assessment of current learning activities in practical classes:

1. Assessment of theoretical knowledge on the topic of the lesson:
 - methods: survey, solving a situational problem
 - maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.
2. Assessment of practical skills on the topic of the lesson:
 - methods: assessment of the correctness of practical skills
 - maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.

The grade for one practical lesson is the arithmetic mean of all components and can only have an integer value (5, 4, 3, 2), which is rounded by the statistical method.

Criteria for the current assessment in the practical class

Rating	Evaluation criteria
"5"	The student is fluent in the material, takes an active part in the discussion and solution of the situational / case problem, confidently demonstrates practical skills on the topic of the lesson, expresses his opinion on the topic of the lesson
"4"	The student has a good command of the material, participates in the discussion and solution of the situational / case problem, demonstrates certain practical skills on the topic of the lesson with some mistakes, expresses his opinion on the topic of the lesson.
"3"	The student has insufficient knowledge of the material, hesitantly participates in the discussion and solution of the situational / case problem, demonstrates practical skills on the topic of the lesson with significant errors.
"2"	The student does not know the material, does not participate in the discussion and solution of the situational / case problem, does not demonstrate practical skills on the topic of the class

At the practical (laboratory) class, students must be interviewed at least once for 2-3 practical (laboratory) classes (no more than 75% of students), At the end of each class, the teacher announces

to the students their grades, makes the appropriate entry in the Journal of attendance and progress of students and the Statement of attendance and attendance of students.

At the end of the study of the educational component, the current progress is calculated - the average current score (arithmetic mean of all current grades on a traditional scale, rounded to two decimal places).

At the last practical lesson, the teacher provides information to students about the results of their current academic performance and academic debt (if any), as well as to fill out the student's record book when completing the work program of the educational component.

To increase the average score of the educational component, current grades "3" or "4" are not retaken.

Forms and methods of final control: differentiated credit.

An applicant is considered admitted to a differentiated test if he has completed all types of work provided by the work program of the educational component and evaluated for the current educational activity on average not lower than 3.00.

Part-time students are allowed to participate in the examination session if they have no debts for the previous semester and before the start of the examination session have completed the types of work provided by the work programs of educational components that are submitted to the session. Differentiated credit is given at the last lesson of the discipline by interviewing the applicant or taking practical skills.

Possibility and conditions for obtaining additional (bonus) points: not provided.

INDEPENDENT WORK OF HIGHER EDUCATION APPLICANTS

Independent work of applicants, which is provided by the topic of the lesson along with classroom work, is evaluated during the current control of the topic in the relevant lesson.

POLICY OF ACADEMIC DISCIPLINE

Policy on deadlines and retakes:

- unexcused absences will be made up by the instructor on duty.
- excused absences are made up on an individual schedule with the permission of the dean.

Policy on academic integrity:

It is obligatory to observe academic integrity by applicants, namely:

- independent performance of all types of work, tasks, forms of control provided by the work program of this educational component;
- references to sources of information when using ideas, developments, statements, information;
- compliance with copyright and related rights legislation;
- providing reliable information about the results of their own educational (scientific) activities, used research methods and sources of information.

Unacceptable in educational activities for participants in the educational process are

- the use of family or official relations to obtain a positive or higher grade during any form of control of learning outcomes or advantages in scientific work;
- use of prohibited auxiliary materials or technical means (cribs, notes, micro-headphones, phones, smartphones, tablets, etc.) during control measures;
- passing the procedures for controlling the results of training by fictitious persons.

For violation of academic integrity, students may be brought to such academic responsibility:

- lowering the results of the assessment of control work, assessment in the classroom, test, etc.;
- repeated passing of assessment (control work, test, etc.);
- appointment of additional control measures (additional individual tasks, control works, tests, etc.);
- conducting an additional check of other works of the offender's authorship.

Policy on attendance and lateness:

- Uniform: medical gown that completely covers the outer clothing.
- Health status: applicants with acute infectious diseases, including respiratory diseases, are not allowed to attend classes.
- An applicant who is late for class may attend it, but if the teacher has put "nb" in the journal, he must work it out in the general order.

Use of mobile devices:

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

Behavior in the classroom:

The behavior of applicants and teachers in the classroom must be working and calm, strictly comply with the rules established by the Regulations on Academic Integrity and Ethics of Academic Relations at Odesa National Medical University, in accordance with the Code of Academic Ethics and Relations of the University Community of Odesa National Medical University, the Regulations on the Prevention and Detection of Academic Plagiarism in the Research and Educational Work of Higher Education Applicants, Researchers and Teachers of Odesa National Medical University.