

226 PHARMACY, INDUSTRIAL PHARMACY

Educational and professional program for the second (Master's) level
"PHARMACY"



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Field of knowledge	22 Healthcare
Specialty	226 Pharmacy, Industrial Pharmacy
Program scope	300 ECTS credits
Program length	4 years 10 months, 3 years 10 months / 5 years 6 months, 4 years 6 months, 2 years 6 months
Study form	full time study / part time study

Educational and professional program "PHARMACY" is aimed at developing the ability to solve typical and complex specialized tasks and to understand critically and solve practical problems in professional pharmaceutical and / or research and innovation activities by applying the regulations, theories and methods of fundamental, chemical, technological, biomedical and socio-economic sciences; the ability to apply the acquired knowledge and skills in general and vocational training courses for solving specialist's typical tasks due to the corresponding position, including the manufacture of medications, their storage, quality control, delivery, distribution, issuance, regulation of the medicinal products provision, as well as patient counseling information, providing information on medicines and monitoring of side effects and / or ineffectiveness of medical therapy; integrating knowledge and

solving complex issues, formulating judgments for insufficient or limited information; bringing your own knowledge clearly and unequivocally, conclusions and their justification to the professional and non- professional audience.

Special aspects of the educational and professional program

The program focuses on providing professional competencies in pharmacy field, provides academic education for graduates in basic and applied sciences and professional training by acquiring general and specialized competencies to carry out professional activities due to an appropriate position, including the realization of pharmaceutical assistance, the assurance of safe and rational use of medications, monitoring of the effectiveness of pharmacotherapy and / or side effects, readiness to carry (or divide) the responsibility for the pharmacotherapy results, the stages of the drug manufacture, the storage, quality control, provision, distribution, promotion, regulation, provision of medicinal products and other pharmacy range products, taking into account the current international trends, providing pharmaceutical care based on the principles of pharmaceutical ethics and deontology.

The activity of the Master of Pharmacy and Industrial Pharmacy includes consulting, communicative, organizational, technological, control and analytical, administrative-economic (managing), research functions, safety determination, efficacy and cost-effectiveness of pharmacotherapy, needs for medicines and other pharmacy assortment products, organization of their delivery; assurance of the modern technology for the medicines development and manufacture due to prescriptions and requirements of health facilities; intake, storage and distribution of medicines, monitoring the medicines quality; the implementation of pharmaceutical care; performing advertising and informational campaign, adhering to the principles of pharmacological ethics and deontology, and constantly increasing the professional level.

The high level of professional training is provided by a powerful scientific and academic pharmacy scholarship and yearslong experience, developed by the international cooperation in the scientific and educational spheres and the presence of specialized laboratories.

The high level of the practical training is ensured by the involvement of leading specialists from the pharmaceutical sector enterprises of the healthcare field in the educational-scientific process.

Professionals, who are involved in vocational and scientific training, have been trained at the leading European Universities and have international experience in educational and scientific activities.

Program components:

№	Discipline names
Compulsory discipline	
1.	Analytical chemistry
2.	English language
3.	Pharmacy drug technology
4.	Biological chemistry
5.	Biopharmacy
6.	Military training
7.	Ethics and deontology in Pharmacy
8.	General and inorganic chemistry
9.	Information technology in Pharmacy
10.	Clinical Pharmacy and pharmaceutical care
11.	Latin language
12.	Medical and pharmaceutical commodities
13.	Microbiology with the basics of immunology
14.	Good Pharmacy practices
15.	Organization and economics of Pharmacy
16.	Organic Chemistry
17.	Occupational safety in the field
18.	Pathological physiology
19.	Premedical first aid
20.	Industrial technology of medicines
21.	Resource studies of medicinal plants
22.	Standardization of medicines
23.	Beauty products technology
24.	Pharmacognosy
25.	Pharmacoeconomics
26.	Pharmacology
27.	Pharmacotherapy with pharmacokinetics
28.	Pharmaceutical botany

29.	Pharmaceutical Chemistry
30.	Pharmaceutical law and legislation
31.	Pharmaceutical Marketing and Management
32.	Physical and colloidal chemistry
33.	Physical Education
34.	Philosophy
Selective disciplines	
35.	English (for Vocational Purpose)
36.	Bioactivity of inorganic compounds
37.	Bioethics and biosafety
38.	Valeology (Health Science)
39.	Developmental physiology
40.	Hygiene in Pharmacy
41.	Epidemiology of diseases
42.	Ethics and esthetics
43.	Effective and safe methods of chemical investigations
44.	European standard of computer literacy
45.	Instrumental methods of organic substance analysis
46.	Modern world history
47.	Cellular biology
48.	Scientific language culture
49.	Laboratory diagnostics
50.	Medicinal and analytical toxicology
51.	Logic
52.	Medical botany
53.	Medical physics
54.	Medical and pharmaceutical merchandising
55.	Nutritiology and bromatology
56.	Fundamentals of infectious diseases diagnostics
57.	Fundamentals of constitutional law of Ukraine
58.	Fundamentals of pedagogics
59.	Fundamentals of consumer behavior in pharmacy
60.	Fundamentals of rational medication usage
61.	Fundamentals of complex analysis
62.	Fundamentals of modern homeopathy
63.	Fundamentals of chemical metrology
64.	Pathophysiology of civilization diseases
65.	Politology
66.	Applied genetics

67.	Applied aspects of fundamental medicine
68.	Communication psychology
69.	Work with data sources
70.	Sorbets of medical purpose
71.	Modern analytical and laboratory practice
72.	Modern problems of molecular biology
73.	Theory of synthesis
74.	Theory of medical forms technology
75.	Tropical infections
76.	Ukrainian language and culture of Ukraine
77.	Compendial methods of analysis
78.	Functional biochemistry
79.	Medicinal plants and fungi, which are cultivated
80.	State administration and regulation in pharmaceutical field
81.	Improvement of drug technology
Practical preparation	
82.	Practical training in Organization and Economics of Pharmacy
83.	Practical training in Pharmaceutical Marketing and Management
84.	Practical training in Clinical Pharmacy
85.	Practical training in Pharmaceutical Chemistry
Final academic assessment	
86.	Licensed test-based examination Krok-1
87.	Licensed test-based examination Krok-2
88.	Unitary state qualification examination
89.	Defense of a qualifying paperwork

Employment and competitive advantages of program graduates

After the internship training, a specialist is able to perform professional work, which is specified in the DC 003: 2010, and hold an appropriate primary position:

2224.2 pharmacist;

2224.2 clinical pharmacist;

2224.2 pharmacist -analyst;

2224.2 pharmacist -cosmetologist;

2224.2 pharmacist -toxicologist;

2224.2 pharmacist - homeopathist.

In addition, the Master in Pharmacy and Industrial Pharmacy will be able to work at the chemical and pharmaceutical industry enterprises, forensic chemical and toxicological laboratories, research institutes, clinical health care institutions, higher education establishments and industry institutions of various departments, performing professional functions due to position duties.

Program educational outcomes

To conduct professional activities in social interactions based on humanistic and moral principles; to identify future professional activities as socially important for human health. To apply general and professional discipline knowledge for professional activities. To uphold sanitary and hygienic regime standards and safety requirements in the professional activities. To demonstrate the ability of independent searching, analysis and synthesis of information from various sources using these results to solve typical and complex specialized tasks of professional activity. To present the professional activity and personal qualities at the pharmaceutical labour market; to formulate own activity purposes, taking into account public and production interests. To reason information for decision-making, to be responsible for them in standard and non-standard professional situations; to follow the principles of deontology and ethics in professional activities. To carry out professional activity using creative methods and approaches.

To carry out professional communication using the official state language, to use foreign language communication skills, while analyzing professional orientated texts and to translate foreign-language information sources. To carry out professional activities using information technologies, "Information databases", search-engine systems, internet resources, software and other information and communication technologies. To follow the norms of communication in professional interaction with colleagues, management, consumers, to work effectively in a team. To use the estimation methods of quality activities indicators; to reveal reserves for increasing work efficiency. To analyze the information obtained as a result of scientific research, to summarize, to systematize and use it for professional activities. To carry out sanitary and educational work for professional activities while outbreaks of infection contamination, viroous and parasitic diseases. To identify the advantages and disadvantages of different drugs among various pharmacological groups,

taking into account their chemical, physicochemical, biopharmaceutical, pharmacokinetic and pharmacodynamic characteristics. To recommend and advise consumers over-the-counter medicines and other pharmacy range products providing advisory assistance and pharmaceutical care.

To provide pre-medical aid for patients with emergency conditions and victims of accidents. To determine the influence of factors affecting the processes of absorption, distribution, deposition, metabolism and excretion of the drug and occur due to the conditions, characteristics of the human body and physical and chemical properties of drugs. To use the data of clinical, laboratory and instrumental investigations to check the effectiveness and safety of drugs. To choose analysis biological objects, to determine xenobiotics and their metabolites in biological media and to test the results, taking into consideration their distribution in the body. To predict and determine the impact of environmental factors on the quality of medicines and consumption characteristics of other pharmacy range products during their storage. To carry out a complex of organizational and administrative measures to provide the population and health care facilities with medicines and other goods of the pharmacy range. To carry out all types of accounting in pharmacies, administrative records management, commodity analysis processes. To calculate the main economic indicators of pharmacy institutions, as well as taxes and fees. To form all types of prices (wholesale, purchasing and retail) for medicines and other goods of the pharmaceutical range.

To provide management of pharmaceutical organizations and to determine its effectiveness using management functions. To take management decisions based on the formed leadership and communication skills of pharmaceutical personnel in strategic planning of enterprises. To take into account the data on social-economic processes in society for pharmaceutical provision of the population, to determine the effectiveness and availability of pharmaceutical care in terms of health insurance and reimbursement of the cost of medicines. To plan and implement professional activities on the basis of Ukraine legal acts and appropriate pharmaceutical practice recommendations. To promote health, in particular, a disease prevention, rational use and medicine administration. To act their professional duties in a reasonable manner and in good faith, to comply with the legislation due to the medicine promotion and advertising. To possess psychological communication

skills to achieve trust and mutual understanding with colleagues, doctors, patients and consumers.

To choose rational technology, to produce medicines in various dosage forms due to the doctors' prescriptions and medical institutions orders, to issue them before a vacation. To perform technological operations: to weigh, measure, dose various drugs due to the weight, volume etc. To develop and formalise manufacturing documents for the medicine manufacture in pharmacies. To substantiate the technology and organize the production of medicines at pharmaceutical enterprises and issue technological documentations for the medical production at pharmaceutical enterprises. To organize and carry out rational procurement of medicinal plant raw materials. To develop and carry out measures for the protection, reproduction and rational use of wild species of medicinal plants. To ensure competitive positions and effective development of pharmaceutical organizations on the basis of research work on all elements of the marketing complex. To ensure quality control of medicinal products and note the results. To manage quality risks at all stages of the medicine life cycle. To carry out all types of quality control of medicines; to make certificates of medicine quality series and the certificate of the analysis considering requirements of the existing regulations, the requirements of the Ukrainian State Pharmacopoeia and results of the carried-out quality control. To develop specifications and methods of quality control in accordance with the requirements of the the Ukrainian State Pharmacopoeia. To determine the main organoleptic, physical, chemical, medical physicochemical and pharmacotechnological indicators, to prove and choose the methods of their standardization, to carry out statistical processing of the results due to the requirements of the Ukrainian State Pharmacopoeia.