MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

INTERNATIONAL HUMANITARIAN UNIVERSITY

"APPROVED"

Academic Council

International Humanitarian University

Protocol No. 4

from 06.07. 2023

Put into effect by the order of the Rector of the International Humanitarian University dated 07.07.2023 No. 1233a

Rector K.V. Hromovenko

EDUCATIONAL AND PROFESSIONAL PROGRAM

PHARMACY, INDUSTRIAL PHARMACY

(for foreign applicants)

LEVEL OF HIGHER EDUCATION second (master's)
(name of higher education level)

HIGHER EDUCATION DEGREE master's degree
(title of higher education degree)

FIELD OF KNOWLEDGE 22 Healthcare
(code and name of the field of knowledge)

SPECIALTY 226 Pharmacy, Industrial Pharmacy
(code and name of specialty)

SPECIALIZATIONS 226.01 Pharmacy
(specialization code and name)

Odesa 2023

LETTER OF APPROVAL

Educational and Professional Program "Pharmacy, Industrial Pharmacy"
(for foreign applicants)

specialty 226 "Pharmacy, Industrial Pharmacy"
at the second (master's) level of higher education
Specialization 226.01 Pharmacy

First Vice-Rector _____ **Vasyl LEFTEROV**

Dean of the Faculty of Dentistry and Pharmacy _____ **Elena ZAHRADSKA**

Guarantor of the program _____ **Iryna BORYSIUK**

PREFACE

By order of the Rector of the International Humanitarian University in 2023, a project was created under the chairmanship of Professor, Doctor of Pharmacy. Iryna Borysiuk (guarantor of the program), who developed the educational and professional program "Pharmacy, Industrial Pharmacy", submitted it to the Academic Council of the University, and introduced it into the educational process from September 1, 2023.

An educational and professional program has been developed on the basis of Articles 1, 10, 29 of the Law of Ukraine "On Higher Education", Resolution of the Cabinet of Ministers of Ukraine No. 266 of 29.04.2015 "On Approval of the List of Fields of Knowledge and Specialties in which Higher Education Applicants Are Trained".

Developed by a project team consisting of:

1. *Borysiuk Iryna Yuriivna*, Doctor of Pharmaceutical Sciences, Professor, Head of the Department of General and Clinical Pharmacology (guarantor of the OPP);
2. *Peklina Galina Petrivna,* Doctor of Medical Sciences, Professor of the Department of General and Clinical Pharmacology;
3. *Zahradska Olena Leonidivna,* Candidate of Medical Sciences, Associate Professor, Dean of the Faculty of Dentistry and Pharmacy;
4. *Silvestrova Hanna Serhiivna,* Doctor of Philosophy, Lecturer at the Department of General and Clinical Pharmacology of the International Humanitarian University, member of the project group from among the teachers of the support group;
5. *Bacherikov Valerii Anatoliiovych,* Candidate of Chemical Sciences, Associate Professor of the Department of Medicinal Chemistry and Biology of the International Humanitarian University, member of the project group from the teachers of the support group;
6. *Smirnova Hanna Vasylivna,* Art. Lecturer at the Department of General and Clinical Pharmacology of the International Humanitarian University, member of the project group from the teachers of the support group.
7. *Hanna Bashly*, General Director of AKS PJSC, project team member, external stakeholder (employer);
8. Fikri Haula, a 5th year student, an applicant for the second (master's) level of higher education in the field of knowledge 22 "Health care" in the specialty - 226 "Pharmacy, industrial pharmacy".

REVIEWERS:

Alyoshin Alexey Vyacheslavovich	-	Founder of AKS-ODESSA LLC
Bashura Oleksandr Gennadievich	-	Doctor of Pharmaceutical Sciences, Professor of the Department of Cosmetology and Aromalogy, National University of Pharmacy

Expert opinion (review) of the head of the professional association-employers:

Lyashenko-Shcherbakova Valeriia Valeriivna	-	Head of the State Service on Medicines and Drugs Control in Odesa Oblast

1. Profile of the educational and professional program

Components	Description of the educational and professional program
1 – General information	
Full name of the higher education institution and individual entrepreneur	International Humanitarian University
Level of higher education	Second (Master's) Level
Higher education degree	Master
Field of knowledge	22 Healthcare
Speciality	226 Pharmacy, Industrial Pharmacy (by specialization)
Specialization	226.01 Pharmacy
Forms of education	A person is eligible to pursue a master's degree on the basis of complete general secondary education or on the basis of a degree professional junior bachelor (educational qualification level "junior bachelor", "junior specialist") in the relevant specialty based on the results of EIT or NMT certificates in full-time (full-time) and part-time forms of study.
Educational Qualification	Specialization 226.01 Pharmacy – Master of Pharmacy
Professional Qualification	Specialization 226.01 Pharmacy – pharmacist, clinical pharmacist, pharmacist-cosmetologist (according to the educational program)

Qualification in Diploma	Specialization – 226.01: Higher Education Degree − Master's Degree Specialty – 226 Pharmacy, Industrial Pharmacy Specialization – 226.01 Pharmacy Professional qualification – pharmacist, clinical pharmacist, pharmacist-cosmetologist (according to the educational program)
Availability of accreditation	until 01.07.2022
Accreditation organization	National Agency for Quality Assurance in Higher Education
Cycle/Level	NQF of Ukraine – Level 7, FQ-EHEA – Second Cycle, EQF-LLL – Level 7
Level of higher education	Second (Master's) Level
Prerequisites	Availability of complete general secondary education, educational qualification level "junior bachelor", "bachelor". The conditions of admission are determined by the Rules of Admission to the International Humanitarian University, approved by the Academic Council.
Language of instruction	Ukrainian/English
Validity educational program	The term of the educational program is 5 years
Internet address of permanent Placement of the description of the educational program	**http://www.mgu.edu.ua**
2 – Purpose of the educational and professional program	
The purpose of the educational and professional program "Pharmacy, Industrial Pharmacy" is to train a highly qualified specialist capable of solving complex tasks and problems in the field of pharmacy and health care or in the process of studying, which involves research and/or innovation and is characterized by uncertainty of conditions and requirements. To ensure highly effective activities in the national and international educational and scientific space in order to train highly qualified pharmaceutical specialists with moral and spiritual values, competitive in the domestic and international labor markets, capable of providing high-quality pharmaceutical care to the population. Formation of the ability to apply the acquired knowledge, skills, and understanding	

in the humanities, fundamental and professionally oriented disciplines to carry out professional activities in the relevant position, including the implementation of pharmaceutical care, ensuring the safe and rational use of medicines, monitoring the effectiveness of pharmacotherapy and/or side effects, readiness to bear (or share) responsibility for the results of pharmacotherapy, stages of drug manufacturing, their storage, quality control, delivery, distribution, promotion, regulation, provision of medicines and other pharmacy products taking into account modern international trends, provision of pharmaceutical care on the basis of pharmaceutical ethics and deontology.	
3 – Characteristics of the educational and professional program	
The official name of the educational Program	Educational and professional program "Pharmacy, Industrial Pharmacy" of the second (master's) level of higher education, specialization 226.01 Pharmacy.
Description Subject Area	**Specialization – 226.01 Pharmacy** **Object of activity:** development, production, quality control, wholesale and retail sale of medicines, pharmaceutical service, pharmaceutical care. **Learning objectives:** acquisition of specialized conceptual knowledge, including modern scientific achievements in the field of professional activity of a pharmacist; skills in solving complex problems, including research and innovation, and conveying professional information to the target audience; the ability to continue learning with a high degree of autonomy. **Theoretical content of the subject area:** principles, concepts, theories of development, production, quality control, wholesale and retail sale of medicines, pharmaceutical services, pharmaceutical care. **Methods, techniques and technologies:** organoleptic, physical, chemical, physicochemical, biopharmaceutical, pharmacotechnological, microbiological, biochemical, pharmacological, clinical, computational-economic, pharmaco-economic methods; methods of marketing research, modeling, data analysis, forecasting; technologies for the production of medicines and modern digital technologies. **Tools and equipment:** tools, equipment and equipment of pharmaceutical (pharmacy) health care institutions; technological equipment for pharmaceutical development and manufacture of medicines; analytical equipment for quality control of medicines; specialized information systems and software.

Orientation educational program	*The educational and professional program* “Pharmacy, Industrial Pharmacy" is focused on the Standard of Higher Education in the specialty 226 "Pharmacy, Industrial Pharmacy" for the second (master's) level of higher education (04.11.2022) and modern WHO requirements regarding the role and mission of a pharmacist in the health care system, organically combines the theoretical and practical components of training both on the basis of practices and in conditions as close to real as possible. The educational and professional program "Pharmacy, Industrial Pharmacy" is aimed at forming the ability to solve typical and complex specialized tasks and critically comprehend and solve practical problems in professional pharmaceutical and/or research and innovation activities using the provisions, theories and methods of fundamental, chemical, technological, biomedical and socio-economic sciences; ability to apply the acquired knowledge, skills and abilities in the disciplines of general and professional training to solve typical tasks of a specialist in the relevant position, including the manufacture of medicines, their storage, quality control, delivery, distribution, issuance, regulation of the provision of medicines, as well as consulting, providing information on medicines and monitoring side effects and/or treatment failure; integrate knowledge and solve complex issues, formulate judgments with insufficient or limited information; clearly and unambiguously convey their own knowledge, conclusions and their validity to professional and non-professional audiences.
The main focus of the educational program	The focus of the educational program "Pharmacy, Industrial Pharmacy" is focused on the training of modern specialists capable of solving complex specialized tasks and practical problems by acquiring general and special competencies for the implementation of professional activities in the relevant position, including the implementation of pharmaceutical care, ensuring the safe and rational use of medicines, monitoring the effectiveness of pharmacotherapy and / or side effects, readiness to carry (or divide) responsibility for the results of pharmacotherapy, stages of drug manufacturing, storage, quality control, delivery, distribution, promotion, regulation, provision of medicines and other pharmacy products, taking into account current international trends, providing pharmaceutical care on the basis of pharmaceutical ethics and deontology.

	Special higher education in the field of knowledge 22 "Health care", specialty 226 "Pharmacy, industrial pharmacy", specialization 226.01 Pharmacy. Tags: health care, pharmacy, industrial pharmacy, higher education, master's degree
Features of the program	The program combines theoretical and practical training of applicants, based on modern scientific results and the principles of modern pharmaceutical science and good pharmacy (pharmaceutical) practice, is implemented in a logical sequence of disciplines of the curriculum, as well as with the involvement of practicing industry specialists in the management of industrial practice and in conducting practical classes of disciplines of the professional training cycle. Internships that are carried out on the basis of educational and practical centers and pharmacies are mandatory for all students. The program is also implemented in English.
4 – Graduates' suitability for employment and further teaching	
Employability	The graduate is suitable for work according to KVEDDK 009-2010: Class 01.28 Cultivation of spicy, aromatic and medicinal crops; Class 21.10 Manufacture of basic pharmaceuticals products); Class 21.20 Manufacture of pharmaceuticals and Materials; Class 46.46 Wholesale of pharmaceuticals Goods; Class 47.73 Retail sale of pharmaceuticals goods in specialized stores; Class 47.74 Retail sale of medical and orthopedic products in specialized Stores; Class 72.19Research and Experimental developments in the field of other natural and technical sciences; Class 73.20 Market research and public opinion polling; Class 85.42 Higher Education; Class 86.90 Other Health Care Activities. Upon completion of educational and professional studies program specialist is able to perform professional work according to DK 003-2010:

	1) - laboratory assistant (pharmacy) 3228, - pharmacist (pharmacist/pharmacist-intern) 3228, - Pharmacist Assistant 3228 (Section 3. Specialists / Subsection 32. Specialists in the field of biology, agronomy and Medicine / Class 322.Support personnel in modern medicine, physiotherapy, pharmacy and veterinary medicine (except nurses) / Subclass 3228. Pharmaceutical Assistants) 2) after completing the internship: - Researchers (pharmacy) 2224.1, - pharmacists (pharmacist, clinical pharmacist, pharmacist toxicologist, pharmacist analyst, pharmacist-cosmetologist) 2224.2, - Pharmacovigilance Professional 2229.2 - Health Technology Assessment Expert 2229.2 (Chapter 2. Professionals / Subsection 22. Professionals in Life Sciences and Health Sciences / Class 222.Professionals in Medicine (Except Nurses) / Subclass 2224.Professionals in Pharmacy; 2229.Other professionals in the field of medicine (except nursing and midwifery).
Further education	A graduate after graduation from the OPP can enter postgraduate education programs (internship, residency), where training is carried out according to the educational programs of pharmacist's training. After training at internship, residency, a specialist is awarded the qualification – a pharmacist, who is able to perform the professional work specified in DK 003: 2010 and can hold the appropriate position: 2224.2 Pharmacist. Such a specialist has the right to: - to undergo specialization and perform the appropriate professional work of a pharmacist of a certain specialty, which is specified in the current National Classifier of Ukraine "Classifier of Professions", to hold the appropriate pharmacist position; - continuation of education at the third (educational and scientific) level of higher education to obtain the degree of Doctor of Philosophy; - acquire another specialty, which gives an opportunity to occupy the appropriate pharmacist position and perform the appropriate professional work. Advanced training in the system of continuous postgraduate education in the specialty 226 "Pharmacy, Industrial Pharmacy", as well as acquisition of additional

	qualifications in the system of postgraduate education of Ukraine "Classifier of Professions", to occupy the appropriate pharmacist position.
5 – Teaching and Assessment	
Teaching & Learning	Integration and training under the program is based on the principles of student-centeredness, in particular, it provides an opportunity for students to choose academic disciplines from among the elective disciplines of the educational and professional program "Pharmacy, Industrial Pharmacy", to influence the program through surveys and questionnaires. The teaching methods are: learning through practice by doing, self-learning, purposefulness, binary – active direct participation of the teacher and the student. Student-centered problem-oriented learning, which is conducted in the form of lectures, seminars, practical classes, laboratory work, individual classes, work in small groups, practice, consultations with teachers, independent work of students, on the basis of textbooks, manuals, periodicals, the use of the Internet. The use of technologies of problem-based and differentiated learning, intensification and individualization of learning, programmed learning, information technology, technology of developmental learning, credit-transfer system of training organization, e-learning in the Moodle system, self-study, research-based learning. According to the dominant methods and methods of teaching: active (problem-based, interactive, information-computer, self-developing). By organizational forms: collective and integrated learning. According to the orientation of pedagogical interaction: positional and contextual learning, technology of cooperation.
Evaluation	Assessment of educational achievements of higher education applicants is based on the principles of student-centered learning, is carried out on a 100-point (rating) scale of ECTS, a national 4-point scale ("excellent", "good", "satisfactory", "unsatisfactory") and verbal ("passed", "not passed") systems. Oral and written exams, passing and defending reports on internships, defense of laboratory/practical works, essays as independent work, discussions, seminars and modules. The system of assessment of students' knowledge in each discipline includes current and final control of knowledge,

	evaluation of the results of practices and certification of graduates. Current control – testing of knowledge during practical and seminar classes, presentations of reports, projects, demonstration of practical skills. The final control of knowledge is carried out in the form of tests, exams. Certification of applicants for higher education of the second (master's) level of the OPP "Pharmacy, Industrial Pharmacy" in the specialty 226 "Pharmacy, Industrial Pharmacy" is carried out with the help of means of monitoring the degree of achievement of the ultimate goals of educational and professional training in compliance with the principles of formation and implementation of a system of means for diagnosing the quality of knowledge, assessing the degree of formation of their competencies. Certification of graduates includes a standardized test exam, a comprehensive practically-oriented exam (pharmacy technology of medicines, pharmaceutical chemistry, pharmacognosy, organization and economics of pharmacy, industrial technology of drugs), defense of a qualification work and a final exam in the discipline "Ukrainian as a foreign language". The standardized test exam (Unified State Qualification Exam) – a licensed integrated exam, which is a form of external independent evaluation – consists of three test exams "Krok 1. Pharmacy", in English for professional purposes and "Step 2. Pharmacy". A comprehensive practically-oriented exam in 5 academic disciplines (pharmacy technology of medicines, pharmaceutical chemistry, pharmacognosy, organization and economics of pharmacy, industrial technology of medicines) is a tool for assessing the acquisition of general and special competencies by higher education students in conditions close to professional activity. The qualification work is a component of the certification of graduates and is an independent research work of the student, the main tasks of which are the systematization, consolidation and expansion of theoretical and practical knowledge obtained during training, as well as the development of skills for independent solution of research, scientific-methodological and practical problems in the field of training, gaining experience in analyzing the results obtained, forming conclusions and new provisions.

	Final exam in the discipline "Ukrainian as a foreign language", which is a systematized set of communicative skills, practical skills and theoretical knowledge of the Ukrainian language, which determine the ability of a foreign applicant, for whom Ukrainian language is not native (first), to meet various needs (social, domestic, educational, business, socio-cultural) with the help of the Ukrainian language.
6 – Programmatic Competencies	
Integral Competence	Specialization – 226.01 Pharmacy Ability to solve research and/or innovation problems in the field of pharmacy.
General Competencies	GC1. Ability to abstract thinking, analysis, and synthesis. GC2. Knowledge and understanding of the subject area; Understanding of professional activities. GC3. Ability to communicate in the state language both orally and in writing. GC4. Ability to communicate in a foreign language. GC5. Ability to evaluate and ensure the quality of work performed. GC6. Ability to work in a team. GC7. Ability to exercise their rights and responsibilities as a member of society; awareness of the value of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine. GC8. Ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of pharmacy, its place in the general system of knowledge about nature and society and in the development of society, equipment and technology, to use various types and forms of physical activity for active recreation and a healthy lifestyle. GC9. Ability to use information and communication technologies.

Special (professional) Competence	FC1. Ability to integrate knowledge and solve complex pharmacy/industrial pharmacy problems in broad or multidisciplinary contexts. FC2. Ability to collect, interpret and apply data necessary for professional activities, research and implementation of innovative projects in the field of pharmacy. FC3. Ability to solve pharmacy problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility. FC4. Ability to clearly and unambiguously convey own knowledge, conclusions and arguments in the field of pharmacy to specialists and non-specialists, in particular to students. FC5. Ability to carry out sanitary and educational work among the population in order to prevent and prevent widespread, dangerous infectious, viral and parasitic diseases, to promote timely detection and maintenance of adherence to treatment of these diseases in accordance with their medical and biological characteristics and microbiological characteristics. FC6. Ability to provide advice on prescription and over-the-counter medicines and other pharmacy products, pharmaceutical care during the selection and sale of medicines of natural and synthetic origin by assessing the risk/benefit ratio, compatibility, taking into account their biopharmaceutical, pharmacokinetic, pharmacodynamic and physicochemical and chemical features, indications/contraindications for use, guided by data on the health status of a particular Patient. FC7. Ability to provide first aid to patients and victims in extreme situations and emergencies. FC8. Ability to monitor the efficacy and safety of the use of medicines by the population according to the data on their clinical and pharmaceutical characteristics. FC9. Ability to determine drugs, xenobiotics, toxins and their metabolites in biological fluids and tissues of the body, to conduct chemical and toxicological studies in order to diagnose acute poisoning, drug and alcohol intoxication. FC10. Ability to ensure proper storage of medicines of natural and synthetic origin and other pharmacy products in accordance with their physicochemical properties and the rules of Good Storage Practice (GSP) in healthcare facilities.

	FC11. Ability to organize the activities of pharmacies to provide the population, health care institutions with medicines and other pharmacy products and implement appropriate reporting and accounting systems in them, carry out commodity analysis, administrative record keeping, taking into account the requirements of pharmaceutical legislation. FC12. Ability to analyze and forecast the main economic indicators of pharmacies, calculate basic taxes and fees, form prices for medicines and other pharmacy products in accordance with the legislation of Ukraine. FC13. Ability to analyze socio-economic processes in pharmacy, forms, methods and functions of the system of pharmaceutical provision of the population and its components in world practice, indicators of need, efficiency and accessibility of pharmaceutical care in the context of health insurance and reimbursement of the cost of medicines. FC14. Ability to organize and carry out the production activities of pharmacies for the manufacture of medicines in various dosage forms according to doctors' prescriptions and the requirements (orders) of medical institutions, including the justification of technology and the selection of auxiliary materials in accordance with the rules of Good Pharmacy Practice (GPP). FC15. Ability to carry out pharmaceutical development and participate in the production of medicines of natural and synthetic origin in the conditions of pharmaceutical enterprises in accordance with the requirements of Good Manufacturing Practice (GMP). FC16. Ability to organize and carry out general and marketing management of assortment, commodity-innovation, price, sales and communication policies of pharmaceutical market entities based on the results of marketing research and taking into account market processes at the national and international levels, to manage risks in the pharmaceutical supply system. FC17. Ability to organize and carry out quality control of medicinal products of natural and synthetic origin in accordance with the requirements of the current edition of the State Pharmacopoeia of Ukraine, quality control methods (QCM), technological instructions, etc.; prevent the distribution of low-quality, falsified and unregistered medicines.

	FC18. Ability to develop and evaluate methods of quality control of medicines of natural and synthetic origin, including active pharmaceutical ingredients, medicinal plant raw materials and excipients using physical, chemical, physicochemical, biological, microbiological and pharmaco-technological methods; standardize medicinal products in accordance with current requirements.
7 – Programmatic Learning Outcomes	
Programmatic Learning Outcomes	PRN1. Have and apply specialized conceptual knowledge in the field of pharmacy and related fields, taking into account modern scientific achievements. PRN2. Critically comprehend scientific and applied problems in the field of pharmacy. PRN3. Have specialized knowledge and skills/abilities to solve professional problems and tasks, including for the further development of knowledge and procedures in the field of pharmacy. PRN4. Communicate fluently in the state and English languages orally and in writing to discuss professional problems and results of activities, present research and innovative projects. PRN5. Evaluate and ensure the quality and efficiency of activities in the field of pharmacy. PRN6. Develop and make effective decisions to solve complex/complex problems of pharmacy personally and based on the results of joint discussion; formulate the goals of their own activities and the activities of the team, taking into account public and industrial interests, the general strategy and existing constraints, determine the best ways to achieve goals.

	PRN7. Collect the necessary information on the development and production of medicines using professional literature, patents, databases and other sources; systematize, analyze and evaluate it, in particular, using statistical analysis. PRN8. Develop and implement innovative projects in the field of pharmacy, as well as related interdisciplinary projects, taking into account technical, social, economic, ethical, legal and environmental aspects. PRN9. Formulate, argue, clearly and specifically convey to specialists and non-specialists, including higher education applicants, information based on their own knowledge and professional experience, the main trends in the development of world pharmacy and related industries. PRN10. Carry out sanitary and educational work among the population in order to prevent and in the event of outbreaks of dangerous infectious, viral and parasitic diseases. PRN11. Determine the advantages and disadvantages of medicinal products of natural and synthetic origin of different pharmacological groups, taking into account their chemical, physicochemical, biopharmaceutical, pharmacokinetic and pharmacodynamic features and the type of dosage form. Recommend to consumers medicines and other pharmacy products with the provision of advisory assistance and pharmaceutical care. PRN12. Provide first aid to patients in emergencies and victims in extreme situations. PRN13. Record cases of side effects when using medicines of natural and synthetic origin; assess the factors that may affect the processes of absorption, distribution, deposit, metabolism and excretion of medicinal products and are determined by the state and characteristics of the human body and the pharmaceutical characteristics of medicinal products. PRN14. Select biological objects of analysis, determine xenobiotics, toxins and their metabolites in them; evaluate the results obtained. PRN15. Predict and determine the impact of environmental factors on the quality and consumer characteristics of medicines of natural and synthetic origin and other pharmacy products, organize their storage in accordance with their physical and chemical properties and the rules of Good Storage Practice (GSP). PRN16. Implement appropriate organizational and managerial measures to provide the population and health

	care institutions with medicines and other pharmacy products; carry out all types of reporting and accounting in pharmacies, administrative office work and commodity analysis. PRN17. Calculate the main economic indicators of pharmacies, as well as taxes and fees. Form all types of prices (purchase, wholesale and retail) for medicines and other pharmacy products. PRN18. To use the data of the analysis of socio-economic processes in society for the pharmaceutical provision of the population, to determine the effectiveness and accessibility of pharmaceutical care in the conditions of health insurance and reimbursement of the cost of medicines. PRN19. To develop technological documentation for the manufacture of medicines, to choose a rational technology, to manufacture medicines in various dosage forms according to doctors' prescriptions and the requirements (orders) of medical and preventive treatment institutions, to issue them for dispensing. PRN20. Carry out pharmaceutical development of medicines of natural and synthetic origin in industrial production. PRN21. To ensure competitive positions and effective development of pharmaceutical organizations, including taking into account the results of marketing research and market processes at the national and international levels. PRN22. Ensure and carry out quality control of medicinal products of natural and synthetic origin and document its results; issue quality certificates and certificates of analysis taking into account the requirements of the current edition of the State Pharmacopoeia of Ukraine, quality control methods (QCM), technological instructions, etc.; take measures to prevent the distribution of low-quality, falsified and unregistered medicines. PRN23. Determine the main chemical and pharmaceutical characteristics of medicinal products of natural and synthetic origin; select and/or develop quality control methods for the purpose of their standardization using physical, chemical, physicochemical, biological, microbiological and pharmaco-technological methods in accordance with current requirements.

8 – Resourcing of program implementation

Staffing	All scientific and pedagogical workers involved in the implementation of the educational and professional program have scientific degrees and academic titles. The vast majority of scientific and pedagogical staff are full-time employees of the International Humanitarian University. Staffing complies with the licensing conditions for the implementation of educational activities. In the support group, the share of those who have certificates according to the Common European Framework of Reference for Languages at the B2 level is 42.9%. In addition, 10 people have undergone internships abroad over the past 3 years. Conducting lectures, practical, seminars and laboratory classes, the level of scientific and professional activity of each of the scientific and pedagogical staff is certified by the fulfillment of at least four conditions specified in paragraph 38 of the licensing conditions for the implementation of educational activities over the past five years.
Material and technical support	The International Humanitarian University has a sufficient material and technical base for the training of masters in the educational and professional program "Pharmacy, Industrial Pharmacy" in the specialty 226 Pharmacy, Industrial Pharmacy. An appropriate infrastructure has been created with a proper material and technical base that meets the current requirements. In the educational process, modern technical teaching aids and computer classes are used. The training fund consists of multimedia presentations, tables, educational films, samples of medicinal plants, medicinal plant raw materials, medicinal substances for the manufacture of dosage forms and analysis, tools and devices, forms of document management of pharmaceutical activities, chemical and laboratory glassware, reagents, etc. Educational and industrial practices are carried out on the basis of pharmacies "AKS", "ANC", "Podorozhnik", "Citymed", "Ankor", "Pharm Care", the company "InterChem" and pharmacy warehouses of the city and region, homeopathic pharmacy "Vita" and sanatorium "White Acacia". A reading room is organized for students; for physical education and sports – a modern sports complex; University Clinic; Students are provided with a dormitory.
Informational, educational and methodological support	The library is provided with domestic and foreign professional periodicals of the relevant or related profile, including in electronic form. The library funds are annually replenished and meet the needs of higher education applicants in modern domestic and foreign

	professional periodicals in the specialty (including in electronic form). The library has access to databases of periodical scientific publications in English according to the profile. Educational and methodological support of the educational process consists of: - curriculum and explanatory note to it; - work programs, syllabi, educational and methodological complex for each discipline of the curriculum; - practical training programs, work programs of internships; banks of test tasks, methodological materials for students for all forms of current and final classes, certification of applicants.
9 – Academic mobility	
National Credit Mobility	National credit mobility is carried out on the basis of the Law of Ukraine "On Higher Education". Recognition of learning outcomes in other educational institutions of Ukraine within the framework of academic mobility – in accordance with agreements. Individual agreements on academic mobility for studying and conducting research at universities and research institutions of Ukraine are allowed. ECTS credits received in other HEIs of Ukraine are re-credited in accordance with the Regulations on the organization of the educational process at the International Humanitarian University.
International Credit Mobility	International mobility, enrollment of the results of international mobility within the framework of the Erasmus+ program is carried out on the basis of the Law of Ukraine "On Higher Education", agreements between IHU and higher education institutions of other countries, the Regulations on the organization of the educational process at the International Humanitarian University, the Regulations on the procedure for transferring academic disciplines (individual plans) and determining the academic difference at the International Humanitarian University.
Training of foreign applicants for higher education	The training of foreign students is carried out in accordance with the requirements of the law. Admission to study is carried out in accordance with the "Rules of Admission" with the passing of appropriate professional exams. Training is carried out in Ukrainian and English at the request of the student.

2. List of components of the educational and professional program and their logical sequence

2.1. List of EP components

N/A Code	**Components of the educational program (academic disciplines, practices)**	*Number of credits ECTS*	*Form of final control*
1	*2*	*3*	*4*
1. MANDATORY COMPONENTS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM "Pharmacy, Industrial Pharmacy"			
1.1. Mandatory components of general training			
OK 1	Ukrainian as a Foreign Language	**20**	Credit/Exam*
OK 2	Foreign Language (for Professional Purposes)	**4**	Test/Exam
OK 3	Higher Mathematics and Statistics	**4**	Passed
OK 4	Biological Physics with Physical Methods of Analysis	**4**	Passed
OK 5	Biology with Fundamentals of Genetics	**4**	Passed
OK 6	Human Anatomy and Physiology	**4**	Passed
OK 7	Latin Language	**4**	Exam
OK 8	Microbiology with Fundamentals of Immunology	**5**	Exam
OK 9	Information Technologies in Pharmacy	**3**	Passed
OK 10	Pathological physiology	**5**	Exam
OK 11	General and Inorganic Chemistry	**6**	Test/Exam
OK 12	Organic Chemistry	**5**	Test/Exam
OK 13	Analytical Chemistry	**4**	Test/Exam
OK 14	Pharmaceutical Botany	**4**	Exam
OK 15	Biological Chemistry	**6**	Test/Exam
The total amount of mandatory components of the salary is *as follows:*		***82 credits***	
1.2. Mandatory components of professional training			
OK 16	First aid	**4**	Exam
OK 17	Hygiene in Pharmacy and Ecology	**3**	Passed
OK 18	Pharmacy Technology of Medicines	**7**	Test/Exam
OK 19	Industrial Technology of Medicinal Products	**7**	Test/Exam
OK 20	Life safety. Fundamentals of Bioethics and Biosafety	**3**	Passed
OK 21	Introduction to Pharmacy	**3**	Passed
OK 22	Pharmacognosy	**4**	Test/Exam

OK 23	Pharmacotherapy with pharmacokinetics	**3**	Test/Exam
OK 24	Pharmacology	**8**	Test/Exam
OK 25	Physical and Colloid Chemistry	**5**	Test/Exam
OK 26	Pharmaceutical Chemistry	**6**	Test/Exam
OK 27	Organization and Economics of Pharmacy	**6**	Test/Exam
OK 28	Clinical Pharmacy and Pharmaceutical Care	**3**	Test/Exam
OK 29	Pharmaceutical and Medical Commodity Science	**3**	Exam
OK 30	Pharmaceutical Management and Marketing	**4**	Test/Exam
OK 31	Good Pharmaceutical Practices	**3**	Passed
OK 32	Occupational health and safety in the industry	**3**	Exam
OK 33	Standardization of medicines and quality system of pharmacy	**4**	Exam
OK 34	Ethics and deontology in pharmacy	**3**	Passed
OK 35	Pharmaceutical Law and Legislation	**3**	Passed
OK 36	Biopharmacy and Pharmaceutical Biotechnology	**3**	Passed
OK 37	Computer Simulation in Pharmacy	**3**	Passed
OK 38	Social Pharmacy	**3**	Passed
OK 39	First aid in extreme situations	**4**	Exam
OK 40	Fundamentals of the organization of medical support of the population and troops with medicines	**3**	Passed
OK 41	Pharmaceutical Analysis of Medicinal Products	**3**	Exam
OK 42	First aid with introductory practice	**3**	Passed
OK 43	Educational practice in pharmaceutical botany	**3**	Passed
OK 44	Internship with ATLZ	**6**	Passed
OK 45	Pharmacognosy Training Practice	**3**	Passed
OK 46	Internship with PTLZ	**6**	Passed
OK 47	Internship in the organization of economics in pharmacy	**3**	Passed
OK 48	Internship in Pharmaceutical Management and Marketing	**3**	Passed
OK 49	Pre-diploma practice (pharmaceutical)	**3**	Passed
OK 50	Comprehensive Practice-Oriented Exam	**2**	Exam*
OK 51	Defense of qualification work	**2**	Exam*

OK 52	Certification of the Unified State Qualification Exam "Krok-1". Pharmacy", exam in English for professional purposes	**2**	-
OK 53	Certification of the Unified State Qualification Exam "Krok-2. Pharmacy"	**2**	-
The total amount of mandatory components of the PP:		***142 credits***	
Just:		**224 credits**	
2. ELECTIVE COMPONENTS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM "Pharmacy, Industrial Pharmacy"			
2.1. Elective components of general training			
VC 1	Elective discipline 1*	**4**	Passed
VK 2	Elective discipline 2*	**4**	Passed
VC 3	Elective discipline 3*	**4**	Passed
VC 4	Elective discipline 4*	**4**	Passed
VC 5	Elective discipline 5*	**4**	Passed
VC 6	Elective discipline 6*	**4**	Passed
The total amount of sample components of the salary is *as follows:*		***24 credits***	
2.2. Elective components of vocational training			
VC 7	Elective discipline 7*	**4**	Passed
VC 8	Elective discipline 8*	**4**	Passed
VC 9	Elective discipline 9*	**4**	Passed
VC 10	Elective discipline 10*	**4**	Passed
VC 11	Elective discipline 11*	**4**	Passed
VK 12	Elective discipline 12*	**4**	Passed
VK 13	Elective discipline 13*	**4**	Passed
VC 14	Elective discipline 14*	**4**	Passed
VC 15	Elective discipline 15*	**4**	Passed
VC 16	Elective discipline 16*	**4**	Passed
VC 17	Elective discipline 17*	**4**	Passed
VC 18	Elective discipline 18*	**4**	Passed
VC 19	Elective discipline 19*	**4**	Passed
The total volume of sample components of the PP *is as follows:*		***52 credits***	
Total for the selected components of the OPP:		**76 credits**	
THE TOTAL AMOUNT OF THE EDUCATIONAL PROGRAM		**300 credits**	

***LIST OF ELECTIVE DISCIPLINES**

N/A Code	**Components of the educational program (academic disciplines, practices)**	*Number of credits ECTS*	*Form of final control*
1	*2*	*3*	*4*
Disciplines of free choice of the applicant for higher education of general training			
2 SEMESTER (2 disciplines per semester are selected, 8 credits in total)			
VC 1 VK 2	Foreign Language	**4**	Passed
	Psychology of Communication	**4**	Passed
	Logic	**4**	Passed
	Fundamentals of Economics	**4**	Passed
3 SEMESTER (2 disciplines per semester are selected, 8 credits in total)			
VC 3 VC 4	History of Medicine and Pharmacy	**4**	Passed
	Medicinal plants of the world flora	**4**	Passed
	Applied Genetics	**4**	Passed
	Valeology	**4**	Passed
4 SEMESTER (2 disciplines per semester are selected, 8 credits in total)			
VC 5 VC 6	Modern Problems of Molecular Biology	**4**	Passed
	Nanotechnology and Nanomaterials in Pharmacy	**4**	Passed
	Functional biochemistry	**4**	Passed
	Cell biology	**4**	Passed
Just:		***24 credits***	
Disciplines of free choice of the applicant for higher education, professional training			
5 SEMESTER (2 disciplines per semester are selected, 8 credits in total)			
VC 7 VC 8	Organization of pharmaceutical care	**4**	Passed
	Social interaction: pharmacist-doctor-patient	**4**	Passed
	Social Function of Pharmaceutical Activity	**4**	Passed
	Fundamentals of consumer behavior in pharmacy	**4**	Passed
6 SEMESTER (2 disciplines per semester are selected, 8 credits in total)			
VC 9 VC 10	Medicinal formulation	**4**	Passed
	Homeopathic remedies	**4**	Passed
	Pharmaceutical Aspects of Nutrition and Biologically Active Additives	**4**	Passed
	Side effects of medications	**4**	Passed
7 SEMESTER (2 disciplines per semester are selected, 8 credits in total)			
	Dermatology	**4**	Passed

VC 11	Aromatherapy in cosmetology and aromatherapy	**4**	Passed
VK 12	Features of foreign economic activity in the pharmaceutical industry	**4**	Passed
	Fundamentals of Insurance Medicine	**4**	Passed
8 SEMESTER (2 disciplines per semester are selected, 8 credits in total)			
VK 13	Infectious diseases	**4**	Passed
	Pathophysiology of diseases of civilization	**4**	Passed
VC 14	Fundamentals of Chemical Metrology	**4**	Passed
	Drug Toxicology	**4**	Passed
SEMESTER 9 (3 disciplines are chosen per semester, a total of 12 credits depending on the specialization 226.01 Pharmacy – pharmacist, clinical pharmacist, pharmacist-cosmetologist)			
VC 15	Hardware cosmetology	**4**	Passed
	Clinical cosmetology	**4**	Passed
VC 16	Cosmetic chemicals		
VC 17	Laboratory Techniques	**4**	Passed
	Toxicological and Forensic Chemistry	**4**	Passed
	Modern Analytical Laboratory Practice	**4**	Passed
SEMESTER 10 (2 disciplines are chosen per semester, a total of 8 credits depending on the specialization 226.01 Pharmacy – pharmacist, clinical pharmacist, pharmacist-cosmetologist)			
VC 18	Technologies for the production of cosmetics	**4**	Passed
VC 19	Theoretical bases for the development of the composition and technology of manufacturing cosmetics	**4**	Passed
	Physicochemical Analysis in the Creation of Drugs	**4**	Passed
	Chemical and Toxicological Analysis	**4**	Passed
Just:		***52 credits***	
The total amount of elective disciplines:		**76 credits**	

The sequence of educational components by semester and the structural and logical scheme of the EP are presented in Appendix 1 and Appendix 2.

3. Form of certification of students

Certification of applicants for higher education of the second (master's) level of the OPP "Pharmacy, Industrial Pharmacy" in the specialty 226 "Pharmacy, Industrial Pharmacy" is carried out with the help of means of monitoring the degree of achievement of the ultimate goals of educational and professional training in

compliance with the principles of formation and implementation of a system of means for diagnosing the quality of knowledge, assessing the degree of formation of their competencies.

Certification of graduates includes a standardized test exam, a comprehensive practically-oriented exam, the defense of a qualification work and a final exam in the discipline "Ukrainian as a foreign language".

The standardized test exam (Unified State Qualification Exam) – a licensed integrated exam, which is a form of external independent evaluation – consists of three test exams "Krok 1. Pharmacy", the exam in English for professional purposes and "Step 2. Pharmacy". The Unified State Qualification Exam is carried out in accordance with the Resolutions of the Cabinet of Ministers of Ukraine dated 28.03.2018 No. 334 "On Approval of the Procedure for the Implementation of the Unified State Qualification Exam for Applicants for a Master's Degree in the Specialties of the Field of Knowledge "Health Care" and dated May 19, 2021 No. 497 "On Certification of Applicants for the Degree of Professional Pre-Higher Education and Degrees of Higher Education at the First (Bachelor's) and Second (Master's) Levels in the Form of a Single State Qualification Exam".

A comprehensive practically-oriented exam in 5 academic disciplines (pharmacy technology of medicines, pharmaceutical chemistry, pharmacognosy, organization and economics of pharmacy, industrial technology of medicines) is a tool for assessing the acquisition of general and special competencies by higher education students in conditions close to professional activity.

The qualification work is a component of the certification of graduates and is an independent research work of the student, the main tasks of which are the systematization, consolidation and expansion of theoretical and practical knowledge obtained during training, as well as the development of skills for independent solution of research, scientific-methodological and practical problems in the field of training, gaining experience in analyzing the results obtained, forming conclusions and new provisions. The qualification work must demonstrate the ability of the applicant for a master's degree to solve problems of a research and/or innovative nature in the field of pharmacy. The qualification work should not contain academic plagiarism, signs of fabrication and falsification. The qualification work must be published on the official website of the higher education institution or its structural unit, or in the repository of the higher education institution.

Final exam in the discipline "Ukrainian as a foreign language", which is a systematized set of communicative skills, practical skills and theoretical knowledge of the Ukrainian language, which determine the ability of a foreign applicant, for whom Ukrainian language is not native (first), to meet various needs (social, domestic, educational, business, socio-cultural) with the help of the Ukrainian language.

APPENDIX 1

2.2. Sequence of educational components by semester

N/A Code	**Components of the educational program (academic disciplines, practices)**	**Total Credits**	**Semesters and number of credits**									
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1. MANDATORY COMPONENTS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM "Pharmacy, Industrial Pharmacy"												
1.1. Mandatory components of general training												
OK 1	Ukrainian as a Foreign Language	20	2	2	2	2	2	2	2	2	2	2
OK 2	Foreign Language (for Professional Purposes)	4					2	2				
OK 3	Higher Mathematics and Statistics	4		4								
OK 4	Biological Physics with Physical Methods of Analysis	4	4									
OK 5	Biology with Fundamentals of Genetics	4	4									
OK 6	Human Anatomy and Physiology	4		4								
OK 7	Latin Language	4		4								
OK 8	Microbiology with Fundamentals of Immunology	5				5						
OK 9	Information Technologies in Pharmacy	3				3						
OK 10	Pathological physiology	5		3	2							
OK 11	General and Inorganic Chemistry	6	6									
OK 12	Organic Chemistry	5		3	2							

OK 13	Analytical Chemistry	4			4							
OK 14	Pharmaceutical Botany	4			4							
OK 15	Biological Chemistry	6				6						
1.2. Mandatory components of professional training												
OK 16	First aid	4	4									
OK 17	Hygiene in Pharmacy and Ecology	3				3						
OK 18	Pharmacy Technology of Medicines	7					2	5				
OK 19	Industrial Technology of Medicinal Products	7						5	2			
OK 20	Life safety. Fundamentals of Bioethics and Biosafety	3	3									
OK 21	Introduction to Pharmacy	3	3									
OK 22	Pharmacognosy	4						2	2			
OK 23	Pharmacotherapy with pharmacokinetics	3								3		
OK 24	Pharmacology	8				3	5					
OK 25	Physical and Colloid Chemistry	5			5							
OK 26	Pharmaceutical Chemistry	6					4	2				
OK 27	Organization and Economics of Pharmacy	6								4	2	
OK 28	Clinical Pharmacy and Pharmaceutical Care	3									3	
OK 29	Pharmaceutical and Medical Commodity Science	3									3	
OK 30	Pharmaceutical Management and Marketing	4								4		

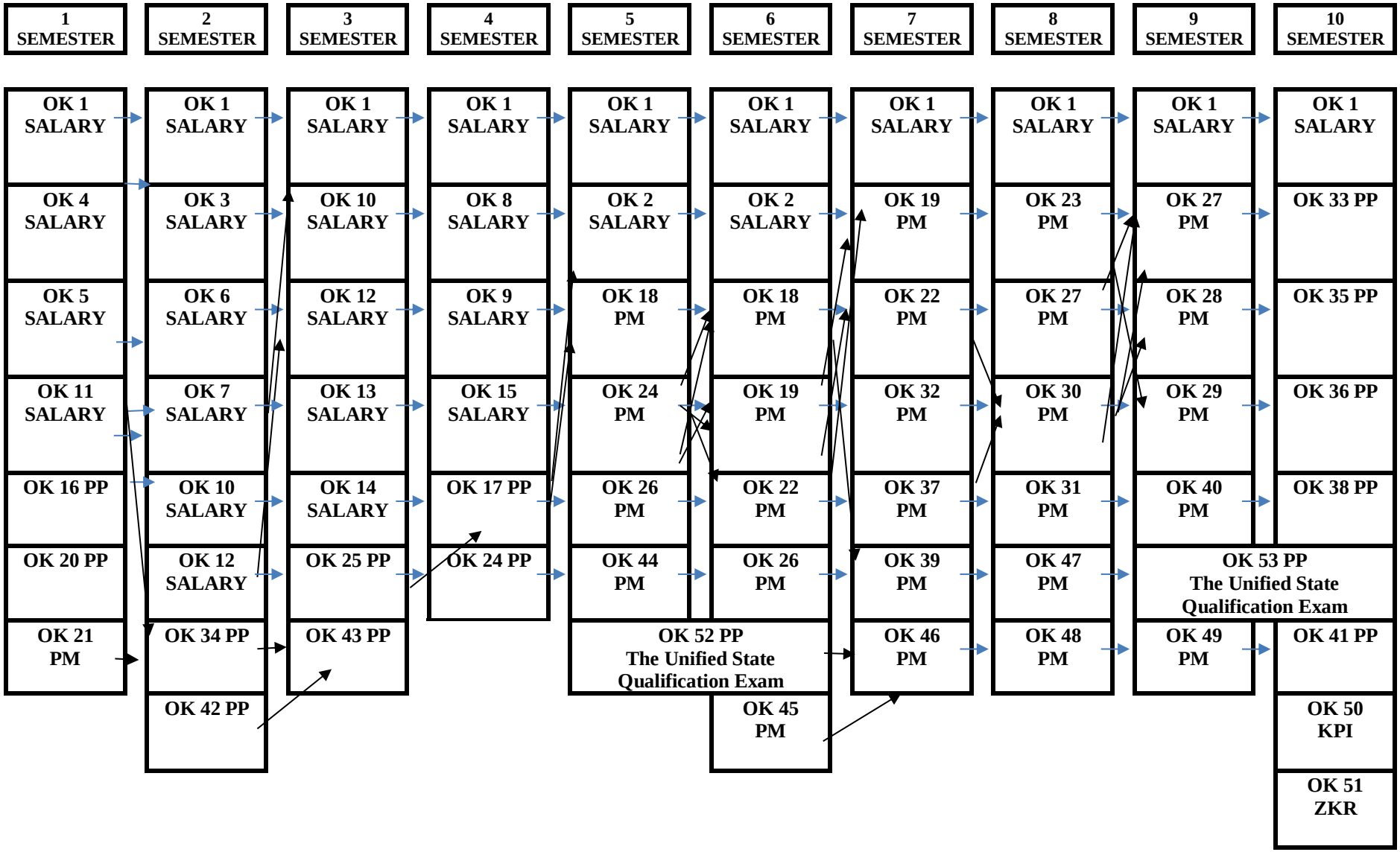
OK 31	Good Pharmaceutical Practices	3								3		
OK 32	Occupational health and safety in the industry	3							3			
OK 33	Standardization of medicines and quality system of pharmacy	4										4
OK 34	Ethics and deontology in pharmacy	3		3								
OK 35	Pharmaceutical Law and Legislation	3										3
OK 36	Biopharmacy and Pharmaceutical Biotechnology	3										3
OK 37	Computer Simulation in Pharmacy	3							3			
OK 38	Social Pharmacy	3										3
OK 39	First aid in extreme situations	4							4			
OK 40	Fundamentals of the organization of medical support of the population and troops with medicines	3									3	
OK 41	Pharmaceutical Analysis of Medicinal Products	3										3
OK 42	First aid with introductory practice	3		3								
OK 43	Educational practice in pharmaceutical botany	3			3							
OK 44	Internship with ATLZ	6					6					
OK 45	Pharmacognosy Training Practice	3						3				
OK 46	Internship with PTLZ	6							6			
OK 47	Internship in the organization of economics in pharmacy	3								3		
OK 48	Internship in Pharmaceutical Management and Marketing	3								3		

OK 49	Pre-diploma practice (pharmaceutical)	3									3	
OK 50	Comprehensive Practice-Oriented Exam	2									1	1
OK 51	Defense of qualification work	2										2
OK 52	Certification of the Unified State Qualification Exam "Krok-1". Pharmacy", the exam in English for professional purposes	2					1	1				
OK 53	Certification of the Unified State Qualification Exam "Step - 2. Pharmacy"	2									1	1
2. ELECTIVE COMPONENTS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM "Pharmacy, Industrial Pharmacy"												
2.1. Elective components of general training												
VC 1	Elective Discipline 1	4	4									
VK 2	Elective Discipline 2	4		4								
VC 3	Elective discipline 3	4			4							
VC 4	Elective Discipline 4	4			4							
VC 5	Elective discipline 5	4				4						
VC 6	Elective Discipline 6	4				4						
2.2. Elective components of vocational training												
VC 7	Elective Discipline 7	4					4					
VC 8	Elective Discipline 8	4					4					
VC 9	Elective discipline 9	4						4				
VC 10	Elective discipline 10	4						4				
VC 11	Elective discipline 11	4							4			
VK 12	Elective discipline 12	4							4			
VK 13	Elective discipline 13	4								4		
VC 14	Elective discipline 14	4								4		
VC 15	Elective discipline 15	4									4	

VC 16	Elective discipline 16	4									4	
VC 17	Elective discipline 17	4									4	
VC 18	Elective discipline 18	4										4
VC 19	Elective discipline 19	4										4
Just:			30	30	30	30	30	30	30	30	30	30
Total: 300 credits												

2.3. Structural and logical diagram of the EP

APPENDIX 2



4. MATRIX OF CORRESPONDENCE OF INTEGRAL COMPETENCE AND GENERAL COMPETENCIES TO THE COMPONENTS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM

	OK 1	OK 2	OK 3	OK 4	OK 5	OK 6	OK 7	OK 8	OK 9	OK 10	OK 11	OK 12	OK 13	OK 14	OK 15	OK 16	OK 17	OK 18	OK 19	OK 20	OK 21	OK 22	OK 23	OK 24	OK 25	OK 26	OK 27	OK 28	OK 29	OK 30	OK 31	OK 32	OK 33	OK 34	OK 35	OK 36	OK 37	OK 38	OK 39	OK 40	OK 41	OK 42	OK 43	OK 44	OK 45	OK 46	OK 47	OK 48	OK 49	OK 50	OK 51	OK 52	OK 53
IR	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
GC1	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
GC2				*	*	*		*	*	*	*	*	*	*	*	*		*	*		*	*	*	*		*	*	*	*	*		*		*	*		*		*	*	*	*	*	*	*	*	*	*	*	*	*	*
GC3	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ZK4		*							*																											*																*	*
GC5			*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*			*	*	*			*	*	*	*	*		*		*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*
GC6									*		*	*	*		*			*	*			*	*	*	*	*	*	*	*	*		*			*	*	*		*	*	*	*	*	*	*							
GC7	*															*	*	*	*	*							*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
GC8	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ZK9	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

IR – integral competence; GC – general competencies; OK – the main components of the educational program (academic disciplines, practices, certification);

* - acquired competence

5. MATRIX OF CORRESPONDENCE OF PROFESSIONAL (SPECIAL) COMPETENCIES TO THE COMPONENTS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM

	OK 1	OK 2	OK 3	OK 4	OK 5	OK 6	OK 7	OK 8	OK 9	OK 10	OK 11	OK 12	OK 13	OK 14	OK 15	OK 16	OK 17	OK 18	OK 19	OK 20	OK 21	OK 22	OK 23	OK 24	OK 25	OK 26	OK 27	OK 28	OK 29	OK 30	OK 31	OK 32	OK 33	OK 34	OK 35	OK 36	OK 37	OK 38	OK 39	OK 40	OK 41	OK 42	OK 43	OK 44	OK 45	OK 46	OK 47	OK 48	OK 49	OK 50	OK 51	OK 52	OK 53
FC1	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*			*	*			*	*	*	*	*	*	*	*	*	*		*			*				*	*	*	*	*	*	*	*	*	*	*	*	*
FC2	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*		*	*	*	*	*	*	*	*	*	*	*		*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
FC3	*	*		*																*											*		*									*	*	*	*	*				
FC4	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
FC5										*						*	*			*										*	*							*			*	*	*	*	*	*	*				
FC6																		*	*			*	*	*			*	*	*	*	*		*			*				*	*			*	*	*	*	*	*	*	*	*
FC7						*										*																							*			*												
FC8									*											*		*	*								*	*							*		*							*	*	*	*	*	*
FC9				*							*	*	*	*	*	*		*	*					*	*	*			*											*							*	*	*	*	*	*
FC 10				*					*									*	*			*		*					*											*							*	*	*	*	*	*
FC 11																		*	*			*	*				*	*	*	*	*		*			*		*		*	*			*	*	*	*	*	*	*	*	*
FC 12									*																		*	*	*	*	*		*								*						*	*	*	*	*	*
FC 13																											*	*	*	*	*		*								*							*	*	*	*	*	*
FC 14											*							*	*					*		*										*									*		*			*	*	*	*	*
FC 15											*											*		*							*														*				*	*	*	*	*
FC 16									*																		*	*		*	*		*			*											*	*	*	*	*	*
FC 17																																	*		*								*						*	*	*	*	*
FC 18																											*						*		*								*						*	*	*	*	*

FC – professional (special) competencies; OK – the main components of the educational program (academic disciplines, practices, certification);

* - acquired competence

6. MATRIX OF CORRESPONDENCE OF PROGRAM LEARNING OUTCOMES TO THE COMPONENTS OF THE EDUCATIONAL AND PROFESSIONAL PROGRAM

	OK 1	OK 2	OK 3	OK 4	OK 5	OK 6	OK 7	OK 8	OK 9	OK 10	OK 11	OK 12	OK 13	OK 14	OK 15	OK 16	OK 17	OK 18	OK 19	OK 20	OK 21	OK 22	OK 23	OK 24	OK 25	OK 26	OK 27	OK 28	OK 29	OK 30	OK 31	OK 32	OK 33	OK 34	OK 35	OK 36	OK 37	OK 38	OK 39	OK 40	OK 41	OK 42	OK 43	OK 44	OK 45	OK 46	OK 47	OK 48	OK 49	OK 50	OK 51	OK 52	OK 53
PRN 1					*	*	*	*				*	*	*	*	*	*	*	*		*	*	*	*		*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
PRN 2			*			*																												*								*	*	*	*	*	*	*	*	*	*	*	*
PRN 3					*	*		*				*	*	*	*			*	*			*	*	*		*		*	*	*	*	*		*			*			*			*	*	*	*	*	*	*	*	*	*	*
PRN 4	*	*					*		*																								*	*		*							*	*	*	*	*	*	*	*	*		
PRN 5			*															*	*				*	*			*	*	*	*	*		*			*	*	*			*	*	*	*	*	*	*	*	*	*	*	*
PRN 6																											*			*	*		*		*									*	*	*	*	*	*	*	*			
PRN 7	*	*		*				*	*	*	*							*	*					*			*	*	*	*	*		*			*	*							*	*	*	*	*	*	*	*	*	*
PRN 8	*	*		*				*	*	*	*						*	*	*								*			*	*		*			*	*	*						*	*	*	*	*	*	*	*	*	*
PRN 9	*	*	*	*			*	*		*											*		*								*	*				*			*		*											
PRN 10	*	*	*	*			*									*	*			*	*										*	*				*	*		*	*	*			*	*	*	*	*	*			
PRN 11	*	*		*			*								*			*	*			*	*			*		*	*											*		*							*	*	*	*	*	*
PRN 12																*				*																			*				*							*	*				
PRN 13																							*	*	*	*		*									*													*	*	*	*	*
PRN 14					*			*	*			*		*	*									*	*	*					*																		*	*	*	*	*
PRN 15																		*	*					*	*	*		*			*							*											*	*	*	*	*
PRN 16																		*									*		*	*			*			*											*	*	*	*	*	*	*
PRN 17																		*									*	*	*	*	*		*			*											*	*	*	*	*	*	
PRN 18																		*									*	*	*	*	*		*			*											*	*	*	*	*	*	
PRN 19																		*	*									*			*															*		*			*	*	*		
PRN 20					*		*	*				*	*	*					*			*		*																						*	*				*				
PRN 21																														*																				*		*				
PRN 22																															*		*			*														*	*	*		
PRN 23					*			*				*	*	*	*		*		*							*																						*				*				

PRN – program learning outcomes; OK – the main components of the educational program (academic disciplines, practices); * - acquired competence