

**MINISTRY OF HEALTH OF UKRAINE
HIGHER STATE EDUCATIONAL ESTABLISHMENT OF UKRAINE
“BUKOVINIAN STATE MEDICAL UNIVERSITY”**

EDUCATIONAL-PROFESSIONAL CURRICULUM

«PHARMACY»

Second (Master's) level of higher education

Specialty 226 «Pharmacy, Industrial Pharmacy»

Professional area 22 «Health»

Educational qualification: Master of Pharmacy, Industrial Pharmacy

Professional qualification: pharmacist

APPROVED BY ACADEMIC COUNCIL

Head _____ T.M. Boychuk
(04 June 2020, record № 7)

Educational curriculum enacted on
01 September 2020

Rector _____ T.M. Boychuk
(Order date 02 September 2020, № 307-Adm)

PREFACE

Educational and professional curriculum “Pharmacy” of the second (master's) level of higher education in the specialty 226 “Pharmacy, Industrial Pharmacy”, professional area 22 “Health Care” is developed in accordance with the Law of Ukraine “On Higher Education”, the resolution of the Cabinet of Ministers of Ukraine of 29.04.2015 № 266 “On approval of the list of branches of knowledge and specialties in which training of higher education is carried out” (as amended), resolution of the Cabinet of Ministers of Ukraine of 23.11.2011 № 1341 “On approval of the National Qualifications Framework” (as amended), resolution of the Cabinet of Ministers of Ukraine of 30.12.2015 № 1187 “On approval of Licensing conditions for educational activities of educational institutions”, the resolution of the Cabinet of Ministers of Ukraine of 28.03.2018 № 334 “On approval of the Procedure for a single state qualifying examination for higher education masters” “Health Care”.

The educational and professional curriculum is a regulatory document, which defines the profile of the curriculum, the list of program components and the sequence of their study, the number of ECTS credits required for this curriculum, the form of certification of higher education, as well as the list of general and special (professional) competencies, in terms of the results of training specialists for the second (master's) level of higher education in professional area 22 “Health Care”, specialty 226 “Pharmacy, Industrial Pharmacy”.

The educational and professional curriculum was developed by the project group:

- Gerush O. V. – Candidate of Pharmaceutical Sciences., Associate Professor, Head of Pharmacy Department, Head of the project group (Guarantor of the educational curriculum);
- Palibroda N. M. – Candidate of Medical Sciences., Associate Professor, Dean of Pharmacy Faculty, Member of the project group;
- Bratenko M. K. – Doctor of Chemical Sciences., Professor, Head of Medical and Pharmaceutical Chemistry Department, Member of the project group;
- Horoshko O. M. – Candidate of Pharmaceutical Sciences., Associate Professor of the Pharmaceutical Botany and Pharmacognosy, Member of the project group;
- Palamar A. O. – Candidate of Pharmaceutical Sciences., Assistant Professor of Pharmacy Department, Member of the project group.

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PROFILE OF THE EDUCATIONAL CURRICULUM FOR SPECIALTY

226 “PHARMACY, INDUSTRIAL PHARMACY”

1 – General notion	
Full name of the establishment of higher education and structural subdivision	Bukovinian State Medical University Faculty of Pharmacy
Level of higher education and qualification	Master of Pharmacy, Industrial Pharmacy Degree - Master of Pharmacy, Industrial Pharmacy Educational qualification - Master of Pharmacy Professional qualification - pharmacist
Official name of the educational program	Educational-professional curriculum “Pharmacy”
Type of diploma and volume of educational program	Master's degree, single, 300 ECTS credits, term of study 4 years 10 months. Master's degree, single, 240 ECTS credits, term of study 3 years 10 months (based on the obtained EQL “junior specialist”)
Accreditation	Ministry of Education and Science of Ukraine National Agency for Quality Assurance in Higher Education Not accredited The deadline for submitting the program for accreditation is 2020-2021 academic year.
Cycle/level	NQF of Ukraine – 7 level, FQ-EHEA – second cycle, EQF-LLL – 7 level
Preconditions	Admission to study on the basis of complete general secondary education (daily and distance form of study), on the basis of the acquired educational and qualification level “junior specialist” (daily and distance form of study) Rules of admission for higher education at Bukovynian State Medical University approved by the Academic Council of the University
Educational curriculum period	from 01.09.2020 to 01.03.2026
Internet address for the permanent description of the educational program	https://www.bsmu.edu.ua/osvita/edu-programs/
2 – The Objective of the Educational Curriculum	
<p>Developing the ability to apply the knowledge, skills and abilities acquired during training to solve typical types of professional activities of a specialist in the relevant position, including technology of production (manufacture) of drugs and active pharmaceutical ingredients, pharmaceutical drug development, development of new and improvement of existing technologies, control quality of raw materials, intermediates and finished pharmaceuticals, as well as consulting, providing information on medicines, monitoring side effects, regulating the supply of medicines to the population.</p> <p>The expected result of fulfilling the goals of the curriculum is to provide training for pharmacists of a high level of professional competence, socially oriented, able to meet both personal spiritual and material needs, and the needs of society.</p>	
3 - Educational Curriculum Description	
Subject area (professional area, specialty)	Professional area: 22 Health Care Specialty: 226 Pharmacy, Industrial Pharmacy
Orientation of the educational curriculum	Educational-professional

The main focus of the educational curriculum	Complete higher education in the area 22 “Health Care” specialty 226 “Pharmacy, Industrial Pharmacy” The educational curriculum is aimed at the formation and development of professional competencies in the pharmaceutical field, develops the ability to abstract thinking, analysis and synthesis of information, the ability to learn and be modernly trained. It is adapted to the requirements of employers in the field of retail, wholesale sales of drugs and their industrial manufacture.
Peculiarities of the curriculum	It is implemented in small groups with a combination of theoretical and practical training, classroom classes (lectures, practical classes, seminars) and independent student work. Provides internships at leading domestic chemical and pharmaceutical companies, laboratories, pharmacies. The curriculum combines traditions and innovations. It is based on the Model Curriculum for Master's Degree in Higher Education in Specialty 226 “Pharmacy”, as the specialty is regulated (MES Order № 673 of 22.05.2020), while having a number of features taking into account the interests of stakeholders .
4 – Eligibility of the Graduates for Employment and Postgraduate Education	
Eligibility for employment	Graduates of the program must undergo a postgraduate education program (internship) to be trained as a pharmacy specialist of a certain specialization (Order of the Ministry of Health of Ukraine № 81 of 23.02.2005 “On approval of the list of specialties and terms of internship graduates of medical and pharmaceutical universities, medical faculties”). After passing the initial specialization in the internship in the specialty “General Pharmacy”, the specialist is able to perform the professional work specified in DK 003: 2010 and can hold the appropriate primary position: 2224.2 pharmacist; 2224.2 pharmacist clinical; 2224.2 pharmacist-analyst; 2224.2 pharmacist-cosmetologist; 2224.2 pharmacist-toxicologist; 2224.2 pharmacist-homeopath. In addition, the Master of Pharmacy, Industrial Pharmacy can work in the chemical-pharmaceutical industry, forensic chemistry and toxicology laboratories, research institutes, clinical health care institutions, higher education institutions and sectoral institutions of various departments, performing professional functions, respectively. to job responsibilities.
Further education	After graduation from the educational program “Pharmacy”, a specialist has the right to enter a program of postgraduate education (internship). Continuation of education at the third (educational and scientific) level of higher education to obtain a PhD degree is also possible.
5 – Teaching and Evaluation	
Teaching and Studying	Student-centered problem-oriented teaching, which is conducted in the form of lectures, seminars, workshops, consultations, individual study based on textbooks, manuals, guidelines, distance learning server of BSMU, periodicals, Internet use, training practices, and performing research work in student research groups
Evaluation	The following types of evaluation scales are used: 200-point scale; traditional 4-point scale (5 – “excellent”, 4 – “good”, 3 – “satisfactory”, 2 – “unsatisfactory”); ECTS rating scale. Points from disciplines are converted into a traditional 4-point scale: “5” - from 180 to 200 points; “4” - from 150 to 179 points; “3” - from 149 to the minimum number of points that a student must get; “2” - below the minimum number of points. Students who study at one faculty, course, one specialty, based on the number of points scored in the discipline, are ranked on the ECTS scale: “A” - the best 10% of students, “B” - the next 25% of students, “C” - the next 30% of students, “D” - the next 25% of students, “E” - the last 10% of students. The results of the tests are evaluated on a two-point scale: “credited”, “not credited”. Forms of control are current control and final control (tests, final module controls).
6 – Program Competencies	

Integral competence	The ability to solve typical and complex specialized problems and critically comprehend and solve practical problems in professional pharmaceutical and / or research and innovation activities using the provisions, theories and methods of basic, chemical, technological, biomedical and socio-economic sciences; integrate knowledge and solve complex issues, formulate judgments on insufficient or limited information; clearly and unambiguously convey their own knowledge, conclusions and their validity to the professional and non-professional audience.
General competencies (GC)	
	<p>GC 1. Ability to act with social responsibility civil consciousness.</p> <p>GC 2. Ability to apply knowledge in practical situations</p> <p>GC 3. Care for the environmental protection</p> <p>GC 4. Ability to abstract thinking, analysis and synthesis, ability to study and be taught currently.</p> <p>GC 5. The spirit of entrepreneurship, the ability to show initiative</p> <p>GC 6. Knowledge and understanding of the subject area and understanding of the profession.</p> <p>GC 7. Ability to adaptation and action in a new situation.</p> <p>GC 8. Ability to communicate in a state language both orally and written form; ability to communicate in a foreign language (English) at the level that provides an efficient professional activity.</p> <p>GC 9. Skills of using information and communication technologies</p> <p>GC 10. Ability to choose a communication strategy, the ability to work in a team and with experts in other fields/areas of economic activity.</p> <p>GC 11. Ability to assess and ensure the quality of work performed</p> <p>GC 12. Ability to conduct research at the appropriate level.</p>
Special (professional, subject) competence (SC)	
	SC 1. Ability to use the knowledge of normative legal, legislative acts of Ukraine and recommendations of appropriate pharmaceutical practice
	SC 2. Ability to carry out activity on development and registration of documentation on clear definition of technological processes of manufacturing and production of medicines
	SC 3. Ability to organize the production activities of pharmacies in the manufacturing of medicinal products in various forms, based on prescriptions of doctors and orders of medical institutions, including the substantiation of technology and selection of auxiliary materials in accordance with the rules of Good Pharmacy Practice (GPP)
	SC 4. Ability to organize and participate in the manufacturing of medicines in the pharmaceutical industry, including the choice of technological process with substantiation of the technological process and the choice of appropriate equipment in accordance with the requirements of Good Manufacturing Practice (GMP)
	SC 5. Ability to organize and carry out the procurement of medicinal plant raw material, taking into account the rational use of medicinal plant resources, to forecast and substantiate ways of solving the problem of preserving and protection the thickets of wild medicinal plants in accordance with the rules of the good practice of cultivation and collection of plant raw material (GACP)
	SC 6. Ability to organize pharmacy activities for provision the population and health care facilities with medicinal products, parapharmaceutical products, medical supplies and medical perfumery and cosmetic products in accordance with the requirements of the National Drug Policy, Good Pharmacy Practice and other organizational and legal norms of pharmaceutical legislation.

	SC 7. Ability to organize the reporting and accounting system (managerial, statistical, accounting and financial) in pharmacy establishments, conduct merchandising analysis, administrative work, documenting and quality management in accordance with regulatory acts of Ukraine
	SC 8. Ability to analyze and forecast the main economic indicators of the pharmacy establishments activity, to make calculations of basic taxes and fees, to form prices for medicines and medical products in accordance with the current legislation of Ukraine
	SC 9. Ability to develop, implement and apply management approaches in the professional activities of pharmacies, wholesale intermediaries, manufacturing companies and other pharmaceutical organizations in accordance with the principles of Good Pharmacy Practice and the Global Framework for FIP
	SC 10. Ability to organize and carry out general and marketing management of assortment, innovation, price, marketing and communicative policies of the subjects of the pharmaceutical market on the basis of market research results and taking into account market processes in the national and international markets.
	SC 11. Ability to conduct analysis of socioeconomic processes in pharmacy, forms, methods and functions of the pharmaceutical supply system of the population and its components in world practice, indices of need, efficiency and availability of pharmaceutical aid under the conditions of medical insurance and reimbursement of the cost of medicinal products
	SC 12. Ability to organize, provide and carry out analysis of medicinal products and medicinal plant raw materials in pharmacies and control-analytical laboratories of pharmaceutical enterprises in accordance with the requirements of the State Pharmacopoeia and other regulatory acts
	SC 13. Ability to organize and monitor the quality of medicinal products in accordance with the requirements of the State Pharmacopoeia of Ukraine and good practice, to determine the methods of sampling for the control of medicinal products in accordance with the requirements to certify them, to prevent the distribution of counterfeit medicines
	SC 14. Ability to develop methods for quality control of medicinal products, pharmaceutical substances, medicinal plant material and auxiliary substances using physical, physico-chemical, and chemical methods of control
	SC 15. Ability to determine medicinal products and their metabolites in biological fluids and tissues of the body, conduct chemical and toxicological studies for the diagnosis of acute poisoning, narcotic and alcoholic intoxication
	SC 16. Ability to ensure the proper storage of medicinal products and medical devices in accordance with their physical and chemical properties and Good Storage Practice (GSP) rules in health facilities
	SC 17. Ability to monitor the effectiveness and safety of the use of medicinal products by the population according to their clinical and pharmaceutical characteristics, as well as subjective attributes and objective clinical, laboratory and instrumental criteria for patient examination
	SC 18. Ability to ensure the rational use of prescription and over-the-counter medicinal products in accordance with physico-chemical, pharmacological characteristics, biochemical, pathophysiological features of a particular disease and pharmacotherapeutic regimens of its treatment
	SC 19. Ability to provide premedical aid to patients and victims in extreme situations

	<p>SC 20. The ability to provide counseling and pharmaceutical care during the selection and release of an over-the-counter medicinal product by assessing the risk / benefit ratio, compatibility, indications and contraindications based on the health status of a particular patient, taking into account the biopharmaceutical, pharmacokinetics, pharmacodynamics and physico-chemical properties of the medicinal product</p>
	<p>SC 21. Ability to conduct sanitary and educational work among the population in order to prevent common diseases of internal organs, prevent dangerous infectious and parasitic diseases, as well as to promote the timely detection and maintenance of adherence to the treatment of these diseases in accordance with their medical and biological characteristics and microbiological characteristics</p>
<p>7 General and Special Program Learning Outcomes (GPLO & SPLO)</p>	
	<p>GPLO 1. To conduct professional activities in social interaction based on humanistic and ethical principles; to identify future professional activities as being socially important for human health.</p> <p>GPLO 2. To apply knowledge of general and professional disciplines in professional activities.</p> <p>GPLO 3. To keep to the sanitary and hygiene regulations and safety requirements when carrying out professional activities.</p> <p>GPLO 4. To use results of independent search, analysis and synthesis of information from different sources for solving typical tasks of professional activity.</p> <p>GPLO 5. To position their professional activities and personal qualities in the pharmaceutical market; to formulate goals of own activity taking into account social and industrial interests</p> <p>GPLO 6. To argue information for decision making, to be responsible for them in standard and non-standard professional situations; adhere to the principles of deontology and ethics in professional activities.</p> <p>GPLO 7. To carry out professional activities using creative methods and approaches.</p> <p>GPLO 8. To carry out professional communication in modern Ukrainian literary language, use oral communication skills in a foreign language, analyze texts of professional orientation and translate foreign sources of information.</p> <p>GPLO 9. To carry out professional activity using information technologies, “Information databases”, navigation systems, Internet resources, software and other information and communication technologies</p> <p>GPLO 10. To keep to the rules of communication in professional interaction with colleagues, management, consumers, to work effectively in a team.</p> <p>GPLO 11. To use methods for assessing performance indicators; to identify reserves for improving labor productivity.</p> <p>GPLO 12. To analyze information obtained as a result of scientific research, to generalize, systematize and use it in professional activity.</p> <p>SPLO 1. To plan and implement professional activities on the basis of Ukrainian legal acts and recommendations of appropriate pharmaceutical practice</p> <p>SPLO 2. To develop and process technological documentation for the manufacturing (production) of drugs in pharmacies and pharmaceutical companies.</p> <p>SPLO 3. To choose rational technology, to make medicines in different medical forms on prescriptions of doctors and orders of medical establishments, to issue them for leave. To perform technological operations: to weigh, measure, dosage various medicines by weight, volume, etc..</p> <p>SPLO 4. To substantiate the technology and organize the production of medicines at the pharmaceutical companies.</p> <p>SPLO 5. To organize and conduct rational harvesting of medicinal plant raw material</p> <p>SPLO 6. To implement a complex of organizational and managerial measures for the provision of population and health care facilities with medicines and other products of the pharmacy range</p> <p>SPLO 7. To carry out all kinds of registration in pharmacy establishments, administrative office work. To carry out the processes of product analysis, to provide entrance control of the quality of medicinal products and document their results.</p> <p>SPLO 8. Calculate the main economic activity indexes of pharmacies, as well as taxes</p>

	<p>and fees. Form all types of prices (wholesale, purchasing and retail) for medicines and medical products.</p> <p>SPLO 9. Ability to develop, implement and apply management approaches in the professional activities of pharmacies, wholesale intermediaries, manufacturing companies and other pharmaceutical organizations in accordance with the principles of Good Pharmacy Practice and the Global Framework for FIP.</p> <p>SPLO 10. Ability to organize and carry out general and marketing management by assortment, innovation, price, marketing and communicative policies of the subjects of the pharmaceutical market on the basis of marketing research results and taking into account market processes in the national and international markets.</p> <p>SPLO 11. To take into account data on socioeconomic processes in the society for the pharmaceutical provision of the population, to determine the effectiveness and availability of pharmaceutical aid in terms of medical insurance and reimbursement of the cost of drugs.</p> <p>SPLO 12. To apply modern methods of quality control of medicinal products and medicinal plant raw material in professional activity.</p> <p>SPLO 13. To carry out all kinds of medicines quality control: make quality certificates, taking into account the results of the control carried out.</p> <p>SPLO 14. To identify the main organoleptic, physico-chemical, chemical and pharmaco-technological characteristics of drugs, to substantiate and choose methods for standardization, to perform statistical processing of results in accordance with the requirements of the State Pharmacopoeia of Ukraine.</p> <p>SPLO 15. To select biological objects of analysis, to carry out the determination of xenobiotics and their metabolites in biological environments, and to evaluate the results obtained taking into account the distribution of toxins in the body</p> <p>SPLO 16. Determine the influence of environmental factors: moisture, temperature, light, etc. on the stability of medical products and medical products.</p> <p>SPLO 17. To use data from clinical, laboratory and instrumental studies to monitor the effectiveness and safety of the use of drugs.</p> <p>SPLO 18. Determine the influence of factors affecting the processes of absorption, distribution, deposit, metabolism and withdrawal of the medicinal product and are conditioned by the state, the peculiarities of the human body and the physico-chemical properties of the drug.</p> <p>SPLO 19. Provide emergency medical aid to emergency patients and victims of extreme situations.</p> <p>SPLO 20. To determine the advantages and disadvantages of medicinal products of various pharmacological groups taking into account their biopharmaceutical, pharmacokinetic and pharmacodynamic characteristics; To recommend pharmaceutical products and pharmacy products to consumers with advisory services.</p> <p>SPLO 21. To conduct sanitary-educational work in the professional activity in case of outbreaks of infectious diseases.</p>
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8 – Resources for the Program Implementation

Staffing	<p>The educational process under the educational-professional curriculum “Pharmacy, Industrial Pharmacy” at the faculty is provided by 17 departments of the university, 136 scientific and pedagogical workers, including 18 doctors of sciences (13.2%), 88 candidates of sciences (64.7%), incl. 13 candidates of pharmaceutical sciences, 16 professors (11.8%) and 56 associate professors (41.2%).</p> <p>All research and teaching staff involved in the implementation of the educational process of the educational program are full-time employees of BSMU, perform at least four types and results listed in paragraph 30 of the License Terms of educational activities. Some teachers have practical experience</p>
Material and technical resources	<p>Provision of training facilities and laboratories meets the needs. There are 83 classrooms and laboratories equipped with 64 units of multimedia equipment, including 35 multimedia projectors, 3 multimedia (interactive) boards (panels), 10 LCD TVs and 16 laptops.</p> <p>Computer technology is widely used in university departments. There are 17 computer classes at the university. Educational and control computer programs are widely used in the educational process.</p>

Information, educational and methodological resources	<p>The official website of BSMU https://www.bsmu.edu.ua/ contains information about educational programs, educational activities, admission rules, etc. Departments that train masters of pharmacy have their own web pages. The official website of the Faculty of Pharmacy https://ff.bsmu.edu.ua/ contains information about the faculty, educational process, scientific life, admission requirements, etc.</p> <p>The distance learning server of Bukovynian State Medical University (http://moodle.bsmu.edu.ua/) allows the student to get acquainted with the educational material via the Internet, which can be presented in the form of information resources (text, video, animation, presentation, electronic manual, etc.), complete the task and send it for review, pass electronic testing, etc.</p> <p>The departments have a full range of educational and methodological support of academic disciplines, including guidelines and development of seminars and practical classes, and methodical instructions for independent work of students.</p> <p>Use of the BSMU library fund, which includes: the central library and two branches in dormitories. The central library includes: the department of acquisition and processing of literature, reference and bibliographic department, reading room for teaching staff, universal subscription (including foreign literature) and 7 reading rooms for students. The branches of the library include subscriptions to educational literature, a universal subscription and a reading room for students. The library has rooms for bookstores and catalogs. The reading rooms have 311 seats and are provided with Internet access</p>
9 – Academic mobility	
National credit mobility	<p>National (internal) credit mobility is carried out in accordance with the Law of Ukraine “On Higher Education” and agreements of higher educational establishments of Ukraine.</p>
International credit mobility	<p>International (external) credit mobility is carried out in accordance with the Law of Ukraine “On Higher Education” and agreements of higher educational establishments of Ukraine and other countries.</p>
Training of foreign higher education applicants	<p>Education of foreign students is carried out in accordance with the requirements of the legislation.</p> <p>License to expand educational activities to train foreigners and stateless persons in the specialty 226 “Pharmacy, Industrial Pharmacy”, educational degree “Master” (Order of the Ministry of Education and Science of Ukraine “On licensing of education” from 01.08.2019 948-1, protocol of the Licensing Commission of the Ministry of Education and Science of Ukraine №145 dated 01.08.2019)</p>

LIST OF COMPONENTS OF THE EDUCATIONAL PROGRAM

Code of the course	Components of the educational program	Number of credits	Form of final control
1	2	3	4
<i>GENERAL TRAINING CYCLE</i>			
EC 1.	Ukrainian Language (Professional Use)	3,0	credit
EC 2.	History of Ukraine and Ukrainian culture	3,0	credit
EC 3.	Philosophy	3,0	credit
EC 4.	Foreign Language	3,0	FMC
EC 5.	Foreign Language (Professional Use)	3,0	FMC
EC 6.	Higher mathematics and statistics	3,5	credit
EC 7.	Biological physics with physical methods of analysis	4,5	FMC
EC 8.	Biology with basics of genetics	4,0	FMC
EC 9.	Human anatomy and physiology	5,0	FMC
EC 10.	Latin language	3,0	FMC
EC 11.	Microbiology with basics of immunology	5,0	FMC
EC 12.	Informational technologies in pharmacy	5,0	credit
EC 13.	Pathological physiology	5,0	FMC
EC 14.	Organic chemistry	8,0	FMC
EC 15.	General and non-organic chemistry	6,0	FMC
EC 16.	Analytical chemistry	8,0	FMC
EC 17.	Pharmaceutical botany	5,0	FMC
EC 18.	Biological chemistry	6,0	FMC
EC 19.	Computer modeling in pharmacy	3,0	credit
	Total :	86,0	
<i>PROFESSIONAL AND TRAINING CYCLE</i>			
Professional preparation			
EC 20.	Hygiene in pharmacy and ecology	3,0	credit
EC 21.	Ethics and deontology in pharmacy	3,0	credit
EC 22.	Drug technology	12,0	FMC
EC 23.	Life safety; basics of bioethics and biosafety	3,0	credit
EC 24.	Extreme medicine	3,0	FMC
EC 25.	Introduction into pharmacy	3,0	FMC
EC 26.	Pharmacognosy	8,5	FMC
EC 27.	Pharmacotherapy with pharmacokinetics	3,0	FMC
EC 28.	Pharmacology	8,5	FMC
EC 29.	Pharmaceutical chemistry	13,0	FMC
EC 30.	Physical and colloid chemistry	4,0	FMC
EC 31.	Pharmacoeconomics	3,0	FMC
EC 32.	Management and economics in pharmacy	6,0	FMC
EC 33.	Clinical pharmacy with pharmaceutical care	9,0	FMC
EC 34.	Pharmaceutical and medical merchandising	4,0	FMC

EC 35.	Pharmaceutical management and marketing	6,0	FMC
EC 36.	Toxicological and forensic chemistry	4,0	FMC
EC 37.	Drug toxicology	3,0	FMC
EC 38.	Biopharmacy and pharmaceutical biotechnology	3,0	FMC
EC 39.	Standardization of medicines and quality systems in pharmacy	3,0	FMC
EC 40.	Technology of medicinal cosmetics	3,0	FMC
EC 41.	Social pharmacy	3,0	credit
EC 42.	Labor protection in the field.	3,0	credit
EC 43.	Pharmaceutical law	3,0	FMC
EC 44.	Emergency and urgent medical aid	2,0	FMC
EC 45.	Fundamentals of the organization of medical support of the population and troops	1,0	FMC
	Total	120,0	
Practical training			
EC 46.	First medical aid and introductory medical practice	3,0	FMC
EC 47.	Field practice in medical botany	3,0	FMC
EC 48.	Field practice in pharmacognosy	3,0	FMC
EC 49.	Practice in drug technology	6,0	FMC
EC 50.	Pharmaceutical chemistry practice	3,0	FMC
	Total	18,0	
Elective components of the curriculum			
	Elective subjects – 1st year (3 subjects)	13,0	credits
	Elective subjects – 2nd year (2 subjects)	8,0	credits
	Elective subjects – 3rd year (2 subjects)	12,0	credits
	Elective subjects – 4th year (1 subject)	6,0	credit
	Elective subjects – 5th year (2 subjects)	9,0	credits
	Field pharmaceutical practices (block 1 – block 3)*	27,0	FMC
Total amount of elective components		75,0	
	Attestation	1,0	
TOTAL AMOUNT OF THE EDUCATIONAL PROGRAM		300,0	

* *Block 1.* Field practice in the organization of economics in pharmacy or industrial practice in management in pharmacy;

Block 2. Production practice in management and marketing in pharmacy or production practice in marketing strategy of business in pharmacy;

Block 3. Industrial practice in clinical pharmacy or industrial practice in pharmaceutical care

STRUCTURAL AND LOGICAL SCHEME OF THE EDUCATIONAL AND PROFESSIONAL CURRICULUM “PHARMACY”

Second (master's) level of higher education in the specialty

226 “Pharmacy, Industrial Pharmacy” professional area 22 “Health Care”

I YEAR		II YEAR		III YEAR		IV YEAR		V YEAR	
1 semester	2 semester	3 semester	4 semester	5 semester	6 semester	7 semester	8 semester	9 semester	10 semester
Foreign language		Foreign language <i>(professional use)</i>							
Ukrainian language <i>(professional use)</i>									
	Philosophy								
Latin language									
History of Ukraine and Ukrainian culture									
	Life safety; basics of bioethics and biosafety		Hygiene in pharmacy and ecology			Labor protection in the field			
		First medical aid and introductory medical practice		Emergency and urgent medical aid					
			Fundamentals of the organization of medical support of the population and troops	Emergency medicine					
Higher mathematics and statistics	Biological physics with physical methods of analysis	Microbiology with basics of immunology							
Biology with basics of genetics		Physical and colloid chemistry		Biological chemistry					
Human anatomy and physiology		Pathological physiology		Pharmacology		Clinical pharmacy with pharmaceutical care			
						Pharmacotherapy with pharmacokinetics			
						Drug toxicology			
Introduction into pharmacy							Pharmaceutical and medical merchandising		
	Ethics and deontology in pharmacy					Management and economics in pharmacy			
							Pharmaceutical management and marketing		
		Informational technologies in pharmacy		Computer modeling in pharmacy			Pharmacoeconomics	Standardization of medicines and quality systems in pharmacy	

Field pharmaceutical practices

General and non-organic chemistry		Organic chemistry		Pharmaceutical chemistry				
		Analytical chemistry					Toxicological and forensic chemistry	
		Pharmaceutical botany		Pharmacognosy			Field practice in pharmacognosy	
			Field practice in medical botany					
				Drug technology				Technology of medicinal cosmetics
					Pharmaceutical law			Social pharmacy

FORMS OF ATTESTATION OF HIGHER EDUCATIONAL APPLICANTS

Attestation of applicants for the second (Master's) level of higher education according to the educational-professional training curriculum in the specialty 226 “Pharmacy, Industrial Pharmacy” is carried out by means of control of the degree of achievement of the ultimate objectives of educational and professional training in compliance with the principles of formation and implementation of a system of tools for diagnosing the quality of knowledge, assessing the formation of their competencies.

Attestation of persons obtaining a master's degree in the specialty 226 “Pharmacy, Industrial Pharmacy” professional area “22 Health Care” is carried out in the form of a qualifying examination in accordance with the unified state qualification exam (USQE) for applicants for the master's degree in specialties of the professional area “22 Health Care”, approved by the resolution of the Cabinet of Ministers of Ukraine on March 28, 2018 №334.

USQE consists of the following components: integrated test exam “KROK”; Professional English exam

Each of the components of the qualifying examination is the same for students studying under the state order and for students studying at the expense of individuals or legal entities.

The qualifying exam is conducted on the following principles:

- academic integrity;
- objectivity;
- transparency and publicity;
- independence;
- intolerance of corruption and bribery;
- integration into the international educational and scientific space;
- unity of methodology for evaluating results.

The KROK exam is conducted in two test stages - KROK 1 and KROK 2. “KROK 1. Pharmacy” is an exam in general scientific disciplines, which is formed after studying the basic fundamental disciplines that are part of the test exam. “KROK 2. Pharmacy” is an exam in professionally-oriented disciplines, which in content correspond to the educational-professional training program and is part of the final certification of students at the final year.

In case of successful completion of each component of USQE at each test stage, the student is issued a certificate. Information on certificates is entered in the Register of Certificates of Specialists with Higher Education in the professional area “22 Health Care”, which is owned by the state, precisely the Ministry of Health.

Practically-oriented final exams (in the disciplines “Pharmaceutical Chemistry”; “Pharmacognosy”; “Drug Technology”; “Clinical Pharmacy”; “Management and Economics in Pharmacy”) are a tool for assessing the general and special competencies of graduates in close to professional activities.

THE LIST OF REGULATORY DOCUMENTS, THE EDUCATIONAL-PROFESSIONAL CURRICULUM IS BASED ON

1. Law of Ukraine “On Higher Education” 01.07.2014 №1556-VII.
2. Law of Ukraine “On Education” 01.07.2014 №2145-VIII.
3. Law of Ukraine “On Licensing of Certain Types of Economic Activity” 02.03.2015 № 222-VIII.
4. Decision of the Cabinet of Ministers of Ukraine dated 29.04.2015 № 266 “On Approval of Professional Areas and Specialties Training Applicants for Higher Education”
5. Licensing terms concerning implementation of educational activity approved by the Resolution of the Cabinet of Ministers of dated on 30.12.2015, № 1187
6. National Qualification Frame. Supplement to the Decision of the Cabinet of Ministers of Ukraine dated on 23.11.2011, № 1341.
7. The order to implementation of a unified state qualification exam for the Masters, applicants for higher education, on specialties in the professional area “22 Health Care”, approved by the Resolution of the Cabinet of Ministers of Ukraine dated on 28.03.2018, № 334.
8. Order of the Ministry of Education and Science of Ukraine “Some Issues of Publishing Information about Activities of Higher Education Institutions” dated on 19.02.2015 №166
9. Order of the Ministry of Education and Science of Ukraine “On approval of the Regulations on accreditation of educational programs, which provide training for applicants for higher education” dated on 11.07.2019 № 977
10. National Classifier of Ukraine: Classifier of Professions DK 003: 2010 (approved and entered into force by the order of Derzhspozhyvstandart of Ukraine dated 28.07.2010 № 327).
11. Recommendations of the National Agency for Quality Assurance in Higher Education regarding the introduction of an internal quality assurance system (decision of the National Agency for Quality Assurance in Higher Education dated on 26.06.2019, protocol № 6).
12. Recommendations for higher education institutions on the development and implementation of the university system of academic integrity (decision of the National Agency for Quality Assurance in Higher Education of October 29, 2019, protocol № 11).

ACADEMIC INTEGRITY

In pursuance of Art. 42 of Section V of the Law of Ukraine “On Education”, Art. 1 of the Law of Ukraine “On Higher Education” and in order to determine the general moral and ethical principles and rules of conduct to be guided in their activities by persons working and studying at the university, the Code of Academic Integrity was approved at Bukovinian State Medical University (order № 04-O dated on October 20, 2017).

A Commission on Academic Integrity (hereinafter - the Commission) was established in order to monitor the compliance of the staff of the moral and legal norms of this Code at BSMU. The Commission has the right to receive and consider applications for violations of the Code and to make proposals to the university administration to impose appropriate penalties.

A member of the group who has witnessed or has good reason to believe that a violation of this Code has occurred must notify the Commission. No unfounded or unsigned complaints will be accepted. Violation of the norms of this Code involves the submission of proposals by the Commission to the Rector of the University on disciplinary action.

**Guarantor of the curriculum,
Head of the project group:**
Head of Pharmacy Department,
Candidate of Pharmaceutical Sciences
Associate professor

O.V. Gerush