

Abstract
of Specialist's Degree Program in 33.05.01 Pharmacy
(Internal Study Mode)
Terms, Workload of the Degree Program and Qualification of Graduates

Name	Qualification	Term of education including the holidays provided after the completion of the State Final Certification	Workload (in credits)
Specialist's degree program	Pharmacist	5 years	300

Purpose (Mission) of the Degree Program

The mission of the specialist's degree program in "Pharmacy" is training of professionally-oriented qualified personnel in the field of pharmacy, who possess scholarly knowledge, state-of-the-art technologies and professional competences associated with the readiness to implement set goals and objectives and allowing for a specialist pharmacist to be competitive and highly-demanded in the labor market.

Demand for Graduates

Graduates of the specialist's degree program in "Pharmacy" are in demand within the pharmaceutical industry, with pharmacy organizations, pharmacy chains and pharmacy depots, occupy positions of medicinal product promotion personnel in the pharmaceutical market, pharmacists-technologists, pharmacists-analysts, work in the quality control departments of pharmaceutical enterprises, forensic chemical laboratories, phytochemical laboratories, test laboratories in the system of state registration and certification of medicinal products, scientific laboratories for preclinical studies, laboratories of analysis of biologically active supplements, cosmetics, foodstuffs and other analytic laboratories. Graduates are in demand with pharmaceutical companies as medical representatives.

Requirements for Enrollment in the Degree Program

The persons with at least general secondary education who have passed entrance examinations in accordance with the Regulations for Admission to Higher Education Programs, namely bachelor's degree programs, specialist's and master's degree programs, are allowed for enrollment.

Graduate's Qualification Characteristic
Areas of Professional Activity

Areas of professional activity and fields of professional activity which the graduates who have completed the specialist's degree program can be engaged in include:

- 01 Education and science (in the field of scientific research);
- 02 Healthcare (in the field of circulation of medicinal products and other pharmacy goods);
- 07 Administrative, managerial and office activities (in the field of circulation of medicinal products).

Graduates can be engaged in professional activity in other areas and (or) fields of professional activity if their education level and acquired competences correspond to the employee's qualification.

Objects of Professional Activity

The objects of professional activity of graduates of the specialist's degree program in "Pharmacy" in accordance with the areas and fields of professional activity involve: medicinal products for human and veterinary use, other pharmacy goods, medicinal plant raw materials, biologically active substances, biological fluids and tissues, pharmaceutical activities, engineering processes in pharmaceutical production, legal entities, individuals.

Types of Professional Activity

Types of professional activity which graduates of the specialist's degree program are prepared for:

- pharmaceutical;
- expert and analytic;
- organizational and managerial.

Tasks of Professional Activity

The graduate who has completed the specialist's degree program is ready to carry out the following basic job tasks:

pharmaceutical activities:

- arrangement and implementation of the medicinal product manufacturing process;
- dispensing, sale and transfer of medicinal products and other pharmacy goods through pharmaceutical and medical organizations;
- implementation of pharmaceutical activities in the field of circulation of medicinal products for veterinary use;
- first-aid dressing in the pharmaceutical organization.

expert and analytic activities:

- monitoring of quality, efficiency and safety of medicinal products;
- carrying out of chemico-toxicological and forensic chemical studies;
- monitoring of the environmental situation in the production of medicinal products;
- validation (qualification) of pharmaceutical manufacturing.

organizational and managerial activities:

- planning and arrangement of resources provision for pharmaceutical organizations, including the arrangement and implementation of trading and purchasing activities;
- management of the supply of medicinal products and medical devices within the delivery of assistance to the population in case of emergency situations at the stages of medical evacuation;
- planning, organization and monitoring of chemico-toxicological laboratory activities;
- arrangement of the procurement of medicinal plant raw materials;
- arrangement of monitoring of the processes that have passed validation (qualification) of pharmaceutical manufacturing.

List of Professional Standards Corresponding to the Professional Activity of Graduates Who Have Completed the Degree Program

Item No	Code of professional standard	Name of professional standard
02 Healthcare		
1.	02.006	Pharmacist
2.	02.010	Specialist in industrial pharmacy in the field of research of medicinal products
3.	02.011	Specialist in validation (qualification) of pharmaceutical manufacturing
4.	02.012	Specialist in the field of pharmaceutical activity management
5.	02.013	Specialist in industrial pharmacy in the field of quality control of medicinal products

6.	02.015	Pharmacist-analyst
7.	02.016	Specialist in industrial pharmacy in the field of production of medicinal products
8.	02.032	Specialist in clinical pathology
9.	02.014	Specialist in industrial pharmacy in the field of quality assurance of medicinal products

General Characteristic of the Degree Program

Planned results of completing of the degree program (competences) and indicators of their achievement

In accordance with the aims of the degree program and types of tasks of professional activity, the graduate of specialist's degree program in "Pharmacy" shall have the following competences characterized by the indicators of their achievement:

Codes	Competences, indicators of competence achievement
UC-1	Able to critically analyze problem situations based on a system approach, to elaborate an action strategy
IA _{UC-1-1}	Analyzes a problem situation as a system, identifying its components and their interrelations
IA _{UC-1-2}	Identifies gaps in information required to solve a problem situation, and designs processes for their elimination
IA _{UC-1-3}	Critically assesses the reliability of information sources, handles conflicting information from different sources
IA _{UC-1-4}	Develops and substantively argues a problem situation solving strategy based on system and interdisciplinary approaches
IA _{UC-1-5}	Uses logical-methodological tools to critically assess up-to-date philosophical and social concepts in their subject area
UC-2	Able to manage the project at all stages of its life cycle
IA _{UC-2-1}	Formulates a project challenge based on the problem raised as well as the way to solve it through the implementation of project management
IA _{UC-2-2}	Develops the project concept within the outlined problem: formulates the goal, tasks, justifies the relevance, significance, expected results and possible scope of their application
IA _{UC-2-3}	Plans the necessary resources, including taking into account their changeability
IA _{UC-2-4}	Develops a project implementation plan with the use of planning tools
IA _{UC-2-5}	Monitors the project implementation progress, addresses deviations, makes further changes to the project implementation plan, and specifies the areas of responsibility of the project participants
UC-3	Able to organize and manage a team, developing a team strategy to achieve the set goal
IA _{UC-3-1}	Develops a collaborative strategy and, on its basis, arranges the selection of team members to achieve the set goal, assigning roles in the team
IA _{UC-3-2}	Plans and adjusts the teamwork proceeding from the interests, behaviours and opinions of team members; distributes task orders and delegates authority to team members
IA _{UC-3-3}	Settles conflicts and contradictions in business communication proceeding from the interests of all parties
IA _{UC-3-4}	Arranges for discussions on a given topic and consideration of the results of the teamwork with the involvement of opponents of the developed ideas

UC-4	Able to use state-of-the-art communication technologies, including in foreign language(s), for academic and professional interaction
IA _{UC-4-1}	Establishes and develops professional contacts according to the needs of cooperation, including the exchange of information and the elaboration of a single strategy of cooperation
IA _{UC-4-2}	Draws up and translates from a foreign language into Russian and from Russian into a foreign language, as well as edits various academic texts (reference papers, essays, reviews, articles, etc.), including those in a foreign language
IA _{UC-4-3}	Presents the results of academic and professional activities at various public events, including international ones, choosing the most relevant format
IA _{UC-4-4}	Holds the grounds and pursues the agenda in a well-argued and constructive manner in academic and professional discussions in Russian and in a foreign language
IA _{UC-4-5}	Chooses the style of communicating in Russian and in a foreign language depending on the goal and conditions of partnership; adapts speech, communication style and body language to the situations of interaction
UC-5	Able to analyze and take into account the cultural diversity in the process of inter-cultural collaboration
IA _{UC-5-1}	Interprets history of Russia in the context of world historical development
IA _{UC-5-2}	Analyzes the most important ideological and value systems formed in the course of historical development; justifies the relevance of their use in social and professional interactions
IA _{UC-5-3}	Makes social and professional interaction, given the peculiarities of main forms of scientific and religious consciousness, business and general culture of representatives of other ethnicities and religious denominations, different social groups
IA _{UC-5-4}	Ensures a non-discriminatory environment for interaction in the performance of job tasks
UC-6	Able to determine and implement priorities of their activities and ways to improve them based on self-assessment and lifelong learning
IA _{UC-6-1}	Assesses their resources and limits (personal, situational, temporary) and optimally uses them for successful completion of the task entrusted.
IA _{UC-6-2}	Determines priorities for professional growth and ways to improve their own activities based on self-assessment by the selected criteria.
IA _{UC-6-3}	Makes a flexible professional path using lifelong learning tools, given the accumulated experience of professional activities and dynamically changing requirements of the labor market
UC-7	Able to maintain an adequate level of physical fitness to ensure full-fledged social and professional activities
IA _{UC-7-1}	Chooses health-saving technologies to ensure wellness management, given the physiological make-up
IA _{UC-7-2}	Schedules their work and free time for an optimal combination of physical load and mental burden as well as performance assurance
IA _{UC-7-3}	Follows and promotes healthy lifestyle standards in various life situations and professional activities
UC-8	Able to create and maintain safe standards of living, including in case of emergencies
IA _{UC-8-1}	Analyzes factors of harmful effect of parts of the environment on living (facilities, engineering processes, materials, emergency and hazardous chemical substances, buildings and structures, natural and social phenomena)

IA _{UC-8-2}	Identifies hazardous and harmful factors within the activity undertaken, including toxic and highly toxic substances, biological agents and radioactive substances
IA _{UC-8-3}	Addresses problems related to safety violations and takes part in actions to prevent emergencies at the workplace
IA _{UC-8-4}	Explains the rules of conduct in case of natural and man-made emergencies, administers first aid, describes the ways of being engaged in rehabilitation measures
UC-9	Able to make reasoned economic decisions in various areas of life
IA _{UC-9-1}	Makes decisions on personal financial management based on knowledge of basic categories and concepts of market economy, regularities of behavior of different economic entities
IA _{UC-9-2}	Participates in the implementation of economic activities of the unit, considering the theoretical basis of business activities based on knowledge of economic patterns and relations
UC-10	Able to form an intolerant attitude towards corrupt conduct
IA _{UC-10-1}	Understands the meaning of basic legal categories, the essence of corrupt conduct, forms of its manifestation in various fields of public life
IA _{UC-10-2}	Identifies and assesses risks of corruption, shows intolerant attitude towards corrupt conduct
IA _{UC-10-3}	Knows how to correctly analyze, interpret and apply the rules of law in various fields of social activities, as well as in anti-corruption management. Undertakes social and professional activities based on a developed legal consciousness and formed legal culture
GPC-1	Able to use basic biological, physical and chemical, chemical, mathematical methods for medicinal product development, research and expertise, medicinal product manufacturing
IA _{GPC-1-1}	Applies basic biological methods of analysis for development, research and expertise of medicinal products and medicinal plant raw materials
IA _{GPC-1-2}	Applies basic physical and chemical, chemical methods of analysis for development, research and expertise of medicinal products, medicinal plant raw materials and biological objects
IA _{GPC-1-3}	Applies basic methods of physical and chemical analysis in the manufacture of medicinal products
IA _{GPC-1-4}	Applies mathematical methods and carries out mathematical processing of data obtained in the course of the development of medicinal products as well as research and expertise of medicinal products, medicinal plant raw materials and biological objects
GPC-2	Able to apply knowledge of morphofunctional features, physiological states and pathologic processes in human body to solve professional tasks
IA _{GPC-2-1}	Analyzes pharmacokinetic and pharmacodynamic properties of medicinal product based on the knowledge of morphofunctional features, physiological states and pathologic processes in human body
IA _{GPC-2-2}	Explains primary and side effects of medicinal products, effects due to their co-use and interaction with food taking into account morphofunctional features, physiological states and pathologic processes in human body

IA _{GPC-2-3}	Takes into account morphofunctional features, physiological states and pathologic processes in human body when selecting over-the-counter medicinal products and other pharmacy goods
GPC-3	Able to perform professional activities taking into account specific economic, environmental, social factors within the system of statutory regulation in the field of circulation of medicinal products
IA _{GPC-3-1}	Follows standards and rules established by competent public authorities in solving tasks of professional activity in the field of circulation of medicinal products
IA _{GPC-3-2}	Takes into account economic and social factors which have impact on financial and economic activities of pharmaceutical organizations
IA _{GPC-3-3}	Takes labor actions taking into account their impact on environment not allowing causing of environmental hazard
IA _{GPC-3-4}	Determines and interprets basic environmental performance indicators of the state of the manufacturing environment in the production of medicinal products
GPC-4	Able to perform professional activities in accordance with ethical standards and moral principles of pharmaceutical ethics and deontology
IA _{GPC-4-1}	Able to be involved in interaction in the system “pharmaceutical professional - customer in pharmacy organization” in accordance with standards of pharmaceutical ethics and deontology
IA _{GPC-4-2}	Able to be involved in interaction in the system “pharmaceutical professional - medical professional” in accordance with standards of pharmaceutical ethics and deontology
GPC-5	Able to administer first aid to customers in the pharmaceutical organization in case of medical emergencies until the ambulance crew arrives
IA _{GPC-5-1}	Establishes the fact of medical emergency for customer of pharmacy organization when first aid administering is required including after affecting of chemical terrorism agents and hazardous chemical substances
IA _{GPC-5-2}	Takes measures in administering first aid to customers in case of medical emergencies until the ambulance crew arrives
IA _{GPC-5-3}	Uses medical means of protection, prevention, provision of medical assistance and treatment of affecting of toxic substances of different nature, radioactive substances and biological means
GPC-6	Able to understand the operating principles of state-of-the-art IT solutions and apply them in solving tasks of professional activity
IA _{GPC-6-1}	Uses state-of-the-art IT solutions when interacting with the parties to the circulation of medicinal products requirements of information security in compliance with the requirements of information security
IA _{GPC-6-2}	Effectively searches information required for solving tasks of professional activity using legal inquiry systems and professional pharmaceutical databases
IA _{GPC-6-3}	Uses dedicated software for mathematical processing of data on observations and experiments in solving tasks of professional activity
IA _{GPC-6-4}	Applies basic knowledge of the underlying principles, methods, and properties of IT solutions when selecting software for solving job tasks

IPC-1	Able to manufacture medicinal products and be engaged in new technologies of production of finished medicinal products
IA _{IPC-1-1}	Takes measures for preparing workplace, process equipment, medicinal substances and excipients for the manufacture of medicinal products in accordance with prescriptions and (or) requirements
IA _{IPC-1-2}	Manufactures medicinal products and is involved in pharmaceutical preparation within pharmacy and batch production in accordance with established rules and taking into account compatibility of medicinal substances and excipients controlling quality at every stage of engineering process
IA _{IPC-1-3}	Packs, marks and (or) prepares the manufactured medicinal products for dispensing
IA _{IPC-1-4}	Records data on manufacture of medicinal products in the prescribed manner and is engaged in quantitative accounting of groups of medicinal products and other substances that are subject to such accounting
IA _{IPC-1-5}	Manufactures medicinal products including batch production in field conditions within the delivery of assistance to the population in case of emergency situations
IA _{IPC-1-6}	Selects excipients of dosage forms taking into account impact of biopharmaceutical factors
IA _{IPC-1-7}	Makes calculations of quantity of medicinal substances and excipients for production of all types of modern dosage forms
IA _{IPC-1-8}	Performs stages of an engineering process of production of medicinal products of industrial production
IPC-2	Able to solve tasks of professional activity in the course of dispensing and sale of medicinal products and other pharmacy goods through pharmaceutical and medical organizations
IA _{IPC-2-1}	Carries out pharmaceutical expertise of prescriptions and requirements and invoices as well as their registration and assessment of statutory prices in the prescribed manner
IA _{IPC-2-2}	Sells and releases medicinal products for medical use and other pharmacy goods to individuals as well as releases them to units of medical organizations controlling compliance with the procedure for dispensing of medicinal products for medical use and other pharmacy goods
IA _{IPC-2-3}	Engaged in office administration in respect of management of cash records, organizational-administrative documents, reporting documents in the course of retail sale
IA _{IPC-2-4}	Engaged in office administration in respect of management of cash records, organizational-administrative documents, reporting documents in the course of wholesale trade
IA _{IPC-2-5}	Carries out pre-sale preparation, arranges and lays out medicinal products in the sales room and (or) in the windows of the pharmacy organization departments
IPC-3	Able to provide pharmaceutical informing and consulting in the course of dispensing and sale of medicinal products for medical use and other pharmacy goods
IA _{IPC-3-1}	Assists customers of pharmacy organization providing information and consulting in choosing medicinal products and other pharmacy goods as well as regarding their rational use taking into account biopharmaceutical characteristics of dosage forms
IA _{IPC-3-2}	Informs medical professionals of medicinal products, their synonyms and analogues, possible side effects and interactions taking into account biopharmaceutical characteristics of dosage forms
IA _{IPC-3-3}	Makes decision on replacing the prescribed medicinal product with synonymous or similar medicinal products in the prescribed manner based on information on groups of medicinal products and synonyms within the same international generic name and prices for them taking into account biopharmaceutical characteristics of dosage forms

IPC-4	Able to take part in monitoring of quality, efficiency and safety of medicinal products and medicinal plant raw material
IA _{IPC-4-1}	Carries out pharmaceutical analysis of pharmaceutical substances, excipients and medicinal products for medical use in accordance with the quality standards and detects substandard, counterfeit and falsified medicinal products
IA _{IPC-4-2}	Supervises preparation of reagents and volumetric solutions
IA _{IPC-4-3}	Standardizes prepared volumetric solutions
IA _{IPC-4-4}	Carries out pharmacognostic analysis of medicinal plant raw material and herbal medicinal products
IA _{IPC-1-5}	Informs according to the procedure established by the legislation about nonconformity of medicinal product for medical use to the established requirements or nonconformity of data on efficiency and safety of medicinal product to the data on medicinal product specified in the instruction for its use
IA _{IPC-4-6}	Records, handles and interprets the results of tests performed on medicinal products, starting materials and packaging materials
IPC-5	Able to carry out clinical laboratory researches of the third category of complexity including based on implementation of new research methods and techniques
IA _{IPC-5-1}	Carries out analysis of toxic substances using high-tech physical and chemical, biological and chemical analysis methods
IA _{IPC-5-2}	Interprets the results of forensic chemical and chemico-toxicological expertise taking into account processes of biotransformation of toxic substances and opportunities of analytical research methods in accordance with the current regulatory documentation
IA _{IPC-5-3}	Assesses quality of clinical laboratory researches of the third category of complexity and interprets assessment results
IA _{IPC-5-4}	Draws up reports on carried out clinical laboratory researches
IPC-6	Able to take part in planning and arrangement of resources provision of pharmaceutical organization
IA _{IPC-6-1}	Determines economic indicators of stock of medicinal products and other pharmacy goods
IA _{IPC-6-2}	Chooses the best suppliers and arranges procurement processes based on the results of research of market of suppliers of medicinal products for medical use and other pharmacy goods
IA _{IPC-6-3}	Controls execution of contracts of supply of medicinal products for medical use and other pharmacy goods
IA _{IPC-6-4}	Carries out acceptance inspection of incoming medicinal products and other pharmacy goods checking and drawing up accompanying documents in the prescribed manner
IA _{IPC-6-5}	Carries out the withdrawal of medicinal products and other pharmacy goods that have become unusable, products with expired shelf life, falsified, counterfeit and substandard products from circulation
IA _{IPC-6-6}	Engaged in quantitative accounting of medicinal products in the prescribed manner
IA _{IPC-6-7}	Arranges control of availability and storage conditions of medicinal products for medical use and other pharmacy goods
IA _{IPC-6-8}	Arranges activities of pharmaceutical organizations using current methods

IA _{IPC-6-9}	Manages activities of pharmaceutical organizations in accordance with the applicable legislation
IA _{IPC-6-10}	Conducts marketing researches in the pharmaceutical market
IA _{IPC-6-11}	Implements effective product, price, sales, communication policies of pharmaceutical organizations
IPC-7	Able to arrange preparation of medicinal plant raw material taking into account rational use of medicinal plant resources
IA _{IPC-7-1}	Uses sound methods of collection, primary processing and drying of medicinal plant raw material taking into account protection and reproduction of wild medicinal plants
IA _{IPC-7-2}	Ensures good practice of production of medicinal plant raw material (cultivation of medicinal plants)

Mandatory part (name, workload, final discipline assessment)

1. World History – 1 credit (36 hours), in-class work – 18 hours, pass-fail test
2. History of Russia – 1 credit (36 hours), in-class work – 14 hours
3. Biology – 3 credits (108 hours), in-class work – 48 hours, pass-fail test
4. Philosophy – 5 credits (180 hours), in-class work – 82 hours, pass-fail test, examination
5. Foreign Language – 10 credits (360 hours), in-class work – 160 hours, pass-fail test, examination
6. Legal Studies – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
7. General and Inorganic Chemistry – 6 credits (216 hours), in-class work – 150 hours, graded test, examination
8. Mathematics – 3 credits (108 hours), in-class work – 46 hours, graded test
9. Computer Science – 3 credits (108 hours), in-class work – 48 hours, pass-fail test
10. Physiology with Basics of Anatomy – 6 credits (216 hours), in-class work – 96 hours, pass-fail test, examination
11. Physical Training and Sports – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
12. Economic Theory – 3 credits (108 hours), in-class work – 60 hours, examination
13. Physics – 3 credits (108 hours), in-class work – 48 hours, graded test
14. Botany – 7 credits (252 hours), in-class work – 112 hours, pass-fail test, examination
15. Bioethics – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
16. Pharmacy Statistical Methods – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
17. Analytical Chemistry – 10 credits (360 hours), in-class work – 176 hours, examination
18. Organic Chemistry – 12 credits (432 hours), in-class work – 196 hours, examination
19. Microbiology – 6 credits (216 hours), in-class work – 96 hours, pass-fail test, examination
20. Colloid Chemistry – 3 credits (108 hours), in-class work – 48 hours, graded test
21. Pathology – 6 credits (216 hours), in-class work – 96 hours, pass-fail test, examination
22. Biological Chemistry – 6 credits (216 hours), in-class work – 96 hours, pass-fail test, examination
23. Medical Support of Civil Defense Measures and Disaster Medicine – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
24. First Aid – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
25. Physical Chemistry – 5 credits (180 hours), in-class work – 78 hours, examination
26. Pharmacognosy – 10 credits (360 hours), in-class work – 160 hours, pass-fail test, course work, examination
27. Pharmaceutical Chemistry – 17 credits (612 hours), in-class work – 272 hours, pass-fail test, course work, examination
28. Pharmacology – 6 credits (324 hours), in-class work – 144 hours, pass-fail test, examination
29. Basics of Ecology and Nature Protection – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
30. Management and Economy of Pharmacy – 16 credits (576 hours), in-class work – 254 hours, pass-fail test, course work, examination

31. Formulation of Dosage Forms of Pharmacy Manufacture – 9 credits (324 hours), in-class work – 146 hours, pass-fail test, course work, examination
32. Health and Wellness – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
33. Toxicological Chemistry – 6 credits (216 hours), in-class work – 96 hours, pass-fail test, examination
34. Clinical Pharmacology – 8 credits (288 hours), in-class work – 128 hours, pass-fail test, examination
35. Information Technology in Professional Activity – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
36. Pharmaceutical Consulting and Informing – 3 credits (108 hours), in-class work – 48 hours, pass-fail test
37. Toxicology and Medical Protection – 2 credits (72 hours), in-class work – 32 hours, graded test
38. Pharmacy History – 3 credits (108 hours), in-class work – 46 hours, pass-fail test

The part formed by participants of educational relations (name, workload, final discipline assessment)

39. Introduction to a Profession – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
40. Latin – 4 credits (144 hours), in-class work – 64 hours, graded test
41. Culture Studies – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
42. Business Communication – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
43. Logic and Theory of Argumentation – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
44. General Hygiene – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
45. Homeopathic Pharmacy – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
46. Problems of Detection of Falsified Medicinal Products – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
47. Formulation of Dosage Forms of Industrial Production – 9 credits (324 hours), in-class work – 144 hours, pass-fail test, course work, examination
48. Medical and Pharmaceutical Commodity Science – 6 credits (216 hours), in-class work – 112 hours, pass-fail test, examination
49. Biotechnology – 3 credits (108 hours), in-class work – 48 hours, pass-fail test
50. Project Management and Teambuilding – 2 credits (72 hours), in-class work – 32 hours, pass-fail test
51. Pharmacy Marketing – 5 credits (180 hours), in-class work – 80 hours, pass-fail test, examination

Elective disciplines in physical training and sports (name, workload, final discipline assessment)

52. Elective Physical Training and Sports: General Physical Preparedness – 328 hours, in-class work – 168 hours, pass-fail test
53. Elective Physical Training and Sports: Fitness – 328 hours, in-class work – 168 hours, pass-fail test
54. Elective Physical Training and Sports: Badminton – 328 hours, in-class work – 168 hours, pass-fail test
55. Elective Physical Training and Sports: Basketball – 328 hours, in-class work – 168 hours, pass-fail test
56. Elective Physical Training and Sports: Table Tennis – 328 hours, in-class work – 168 hours, pass-fail test
57. Elective Physical Training and Sports: Health-Improving Physical Activities – 328 hours, in-class work – 168 hours, pass-fail test

Elective disciplines (name, workload, final discipline assessment)

58. Basics of Molecular Biology – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
59. Immunophysiology – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
60. Culture of Spoken Russian – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
61. Communication Psychology – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
62. General and Medical Parasitology – 2 credits (72 hours), in-class work – 16 hours, pass-fail test

63. Undeclared Infections – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
64. Current Methods in Analytical Chemistry – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
65. Chemistry of Substances of Plant and Animal Origin – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
66. Immunopathology – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
67. Occupational Hygiene – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
68. Medicinal Plants of Eastern Asia and the Mediterranean Region – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
69. Physical Chemistry in Modern Pharmacy – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
70. Modern Techniques of Pharmaceutical Substances Identification – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
71. Pediatric Dosage Forms – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
72. Procurement Arrangement for State and Municipal Needs – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
73. Cosmetic Products in Today's Market – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
74. Modern Aspects of Chemico-Toxicological Analysis of Narcotic, Psychotropic and Other Toxic Substances – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
75. Equivalence of Medicinal Products: Problems and Solutions – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
76. Basics of Pharmacoeconomics – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
77. Basics of Preclinical Studies – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
78. Principles and Methods of Obtaining Biological Preparations – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
79. Pharmaceutical Analysis of Dosage Forms – 2 credits (72 hours), in-class work – 16 hours, pass-fail test

Optional subjects (name, workload, final discipline assessment)

80. Methods of Detection of Impurities in Medicinal Products – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
81. Formulation of Veterinary Dosage Forms – 2 credits (72 hours), in-class work – 16 hours, pass-fail test
82. Quality Control of Excipients – 2 credits (72 hours), in-class work – 16 hours, pass-fail test

Practices (name, workload, final assessment)

83. Pharmaceutical Propedeutic Practice – 1 credit (36 hours), pass-fail test
84. Practice in First-Aid Dressing – 1 credit (36 hours), pass-fail test
85. Practice in General Pharmaceutical Technology – 2 credits (72 hours), graded test
86. Practice in Pharmacognosy – 5 credits (180 hours), graded test
87. Practice in Quality Control of Medicinal Products – 6 credits (216 hours), graded test
88. Practice in Management and Economics of Pharmaceutical Organizations – 12 credits (432 hours), graded test
89. Practice in Pharmaceutical Consulting and Informing – 6 credits (216 hours), graded test
90. Practice in Pharmaceutical Technology – 6 credits (216 hours)
91. Practice in Botany – 3 credits (108 hours), graded test

State final certification

92. Preparation for and Passing of State Examination – 3 credits (108 hours), in-class work – 15 hours, examination

Resources Provision of the Degree Program

The degree program is provided with **learning and teaching documentation**, as well as materials in all disciplines (modules) and practices, including electronic educational-methodical complexes posted in electronic information and educational environment of the University.

The University has facilities and resources that are in compliance with applicable fire safety rules and regulations and ensure all types of the disciplinary and interdisciplinary preparation, practical and scientific research works of students, provided for by the curriculum.

The list of facilities and resources, learning and teaching support, required for implementation of the degree program, includes the following: special rooms in the form of classrooms for conducting lecture-type activities, seminar-type activities, course work development (course work execution), group and individual tutorials, current control and midterm assessment. There are also rooms for independent work and rooms for storage and preventative maintenance of training equipment. Special rooms are equipped with designated furniture and teaching aids intended for presentation of teaching information to a large audience. Laboratories are equipped with laboratory equipment depending on the degree of complexity. Sets of demonstration equipment and illustrative study guides providing for topic-based illustrations and corresponding to discipline (module) programs, working educational programs of disciplines (modules), are offered for lecture-type activities.

Rooms for students' independent work are equipped with computer hardware with the possibility of connecting to the Internet network and access to electronic information and educational environment of the organization. Furthermore, students' independent work is arranged with the use of electronic resources of the University.

The library fund is provided with the required number of printed publications, moreover, there is an access to electronic library systems.

The University has the necessary licensed software package the composition of which is given in working programs of disciplines (modules) and is subject to annual update.

The students are provided with an access (remote access), including in the event of doing electronic learning, applying distance learning technology, to today's professional databases and inquiry and communications systems the composition of which is determined in working programs of disciplines (modules) and is subject to annual update.

During the whole period of studying every student and a teacher are provided for with an unlimited access (including the remote one) to electronic library systems and to electronic information and educational environment of the University from any place with the available Internet connection.

Electronic information and educational environment of the University provides for:

- the access to curricula, working programs of disciplines (modules), practices, editions of electronic library systems and electronic learning resources specified in working programs;
- recording of progress of the educational process, results of midterm assessment and results of the degree program completion;
- the formation of electronic portfolio of the student, including the preservation of student's works and grades for these works by any participants of the educational process;
- interaction between participants of the educational process, as well as synchronous and (or) asynchronous communication via Internet.

Functioning of electronic information and educational environment complies with the requirements of the legislation of the Russian Federation in the field of education and is provided for with the relevant means of information and communication technologies and qualification of the University employees who use and maintain it.

Staffing of the Degree Program

Implementation of the specialist's degree program is ensured by the senior academic staff of the organization, as well as by persons engaged in the implementation of the specialist's degree program under the terms of the civil contract.

The percentage of the academic staff (reduced to integer rates) having education that corresponds to the profile of the discipline (module) taught in the total number of the academic staff implementing the specialist's degree program is at least 70 %.

The percentage of the academic staff (reduced to integer rates) having a degree and (or) an academic rank in the total number of the academic staff implementing the specialist's degree program is at least 65 %.

The percentage of staff (reduced to integer rates) among the heads and employees of organizations whose activities are related to the specialization (profile) of the specialist's degree program (having at least 3 years of work experience in this professional field) in the total number of staff implementing the specialist's degree program is at least 10%.

Uniqueness and Competitive Advantages of the Program

This degree program has a relevant focus on training of professionally-oriented qualified personnel in the field of pharmacy, who possess scholarly knowledge, state-of-the-art technologies and professional competences associated with the readiness to implement set goals and objectives and allowing for a specialist pharmacist to be competitive and highly-demanded in the labor market. The program has been created in cooperation with employers and it takes into account current scientific trends. As part of the manufacturing practice, specialists acquire professional skills and experience in professional activity based at pharmaceutical organizations in St. Petersburg, the Northwestern Federal District and other regions of the Russian Federation. The key employers engaged in the educational process are JSC "St. Petersburg Pharmacies", LLC "ERKAFARM NORTH-WEST", LLC "NEVIS Pharmacies". Modern scientific and technical developments, information and educational technologies are used in the teaching and learning process. The content of the program represents the needs of today's labor market, graduate's readiness to be engaged in active and creative professional activity in the field of the organization of provision of medicinal products as well as system of quality assurance of medicinal products at all stages of life cycle. In addition, active career guidance counseling involving employers is carried out with students within the educational process, this allows graduates to get involved in the work processes of organizations more quickly. As a result of education, the graduate has forming professional values, understanding of the essence of their profession, its social and professional significance, major problems of healthcare and the field of circulation of medicinal products.