

Summary to the work program of the discipline
"PRACTICE IN PHARMACEUTICAL TECHNOLOGY»

the main educational program of higher education (specialty) in the specialty 33.05.01 Pharmacy

1. The purpose of the internship– participation in the formation of:

- general professional competencies (GPC-1 (1.1-1.4), GPC - 2 (2.2), GPC - 6 (6.2-6.3);
- professional competencies (PC-1 (1.1-1.4)).

2. The place of discipline in the structure of the OOP

2.1. Position of the academic discipline in the structure of the General Educational Program (GEP).

The practice refers to Block 2 of the PEP VO of the specialist in the specialty 33.05.01 Pharmacy, conducted on the 4th year in the 9th semester according to the schedule.

3. Requirements for the results of mastering the program of the discipline (module) for the formation of competencies

The study of the discipline is aimed at developing the following universal (UC) and/or general professional (OPK) or/and professional (PC) competencies among students:

No. p/n	Competency Code	The content of the competence (or part of it)	Code and name of the indicator of achievement of competence	As a result of studying the discipline, students should:		
				know	be able to	process
1.	GPC - 1	GPC -1. Able to use basic biological, physico-chemical, chemical, mathematical methods for the development, research and examination of medicines, the manufacture of medicines	<p>GPC-1.1. Applies the main biological methods of analysis for the development, research and examination of medicines and medicinal plant materials</p> <p>GPC-1.2. Applies basic physico-chemical and chemical methods of analysis for the development, research and examination of medicines and medicinal herbal raw materials</p> <p>GPC-1.3. Applies the main methods of physical and chemical analysis in the manufacture of medicines</p> <p>GPC-1.4. Applies mathematical methods and performs mathematical processing of data</p>	<ul style="list-style-type: none"> • technology of dosage forms obtained under the conditions of pharmaceutical production: powders, collections, granules, capsules, microgranules, microcapsules, dragees, tablets, aqueous solutions for internal and external use, solutions in viscous and volatile solvents, syrups, aromatic waters, tinctures, extracts , ophthalmic dosage forms, solutions for injections and infusions, suspensions for enteral and parenteral use, emulsions for enteral and parenteral use, 	<ul style="list-style-type: none"> • draw up basic technological and instrumental schemes for the production of finished medicines • draw up a material balance and carry out calculations taking into account the consumption rates of the entire technological process by stages • draw up a technological section of the industrial regulation for the production of finished dosage forms • carry out step-by-step control at the stages of manufacturing the finished product and during the holiday; • to standardize DF in terms of technological and biopharmaceutical indicators in 	<ul style="list-style-type: none"> • in the case of use in the manufacture of drugs that are subject to quantitative accounting, registration of the reverse side of the prescription) • basic information transformation technologies: text, spreadsheet editors; • technique of working on the Internet for professional activities; • skills in compiling technological sections of industrial regulations for the production of finished dosage forms, including technological and

			obtained during the development of medicines, as well as research and examination of medicines and medicinal plant materials	ointments, suppositories, patches, pencils, films, aerosols; <ul style="list-style-type: none"> • technology for the manufacture of medicines in a pharmacy: powders, aqueous solutions for internal and external use, solutions in viscous and volatile solvents, ophthalmic dosage forms, solutions for injections and infusions, suspensions for enteral and parenteral use, emulsions, aqueous extracts from medicinal plant raw materials, complex combined preparations with a liquid dispersion medium, ointments, suppositories; 	accordance with the current normative documents <ul style="list-style-type: none"> • make fragments of ND on LF • work independently with educational and reference literature; • ensure compliance with the rules of industrial hygiene, environmental protection, labor, safety 	instrumental schemes for the production of finished dosage forms; <ul style="list-style-type: none"> • develop an accounting policy, keep records of inventory items: cash and settlements, prepare reports for internal and external users of accounting information
2.	GPC -2	Able to apply knowledge about morphofunctional features, physiological states and pathological processes in the human body to solve professional problems	GPC-2.2. Explains the main and side effects of drugs, the effects of their combined use and interaction with food, taking into account morphofunctional features, physiological conditions and pathological processes in the human body	<ul style="list-style-type: none"> • technology of dosage forms obtained under the conditions of pharmaceutical production: powders, collections, granules, capsules, microgranules, microcapsules, dragees, tablets, aqueous solutions for internal and external use, solutions in viscous and volatile solvents, syrups, aromatic waters, tinctures, extracts, ophthalmic dosage forms, solutions for 	<ul style="list-style-type: none"> • draw up basic technological and instrumental schemes for the production of finished medicines • draw up a material balance and carry out calculations taking into account the consumption rates of the entire technological process by stages • draw up a technological section of the industrial regulation for the production of finished dosage forms • carry out step-by-step control at the stages of manufacturing the 	<ul style="list-style-type: none"> • in the case of use in the manufacture of drugs that are subject to quantitative accounting, registration of the reverse side of the prescription) • basic information transformation technologies: text, spreadsheet editors; • technique of working on the Internet for professional activities; • skills in compiling technological sections of

				<p>injections and infusions, suspensions for enteral and parenteral use, emulsions for enteral and parenteral use, ointments, suppositories, patches, pencils, films, aerosols;</p> <ul style="list-style-type: none"> • technology for the manufacture of medicines in a pharmacy: powders, aqueous solutions for internal and external use, solutions in viscous and volatile solvents, ophthalmic dosage forms, solutions for injections and infusions, suspensions for enteral and parenteral use, emulsions, aqueous extracts from medicinal plant raw materials, complex combined preparations with a liquid dispersion medium, ointments, suppositories; 	<p>finished product and during the holiday;</p> <ul style="list-style-type: none"> • to standardize DF in terms of technological and biopharmaceutical indicators in accordance with the current normative documents • make fragments of ND on LF • work independently with educational and reference literature; • ensure compliance with the rules of industrial hygiene, environmental protection, labor, safety 	<p>industrial regulations for the production of finished dosage forms, including technological and instrumental schemes for the production of finished dosage forms;</p> <ul style="list-style-type: none"> • develop an accounting policy, keep records of inventory items: cash and settlements, prepare reports for internal and external users of accounting information
3.	GPC -6.	Able to understand the principles of operation of modern technologies and use them to solve problems of professional activity	<p>GPC-6.2. Carries out an effective search for information necessary to solve the problems of professional activity, using legal reference systems and professional pharmaceutical databases</p> <p>GPC-6.3. Uses specialized software for mathematical processing of observational and experimental data in</p>	<ul style="list-style-type: none"> • technology of dosage forms obtained under the conditions of pharmaceutical production: powders, collections, granules, capsules, microgranules, dragees, tablets, aqueous solutions for internal and external use, solutions in 	<ul style="list-style-type: none"> • draw up basic technological and instrumental schemes for the production of finished medicines • draw up a material balance and carry out calculations taking into account the consumption rates of the entire technological process by stages • draw up a technological section of the industrial 	<ul style="list-style-type: none"> • in the case of use in the manufacture of drugs that are subject to quantitative accounting, registration of the reverse side of the prescription) • basic information transformation technologies: text, spreadsheet editors; • technique of

			solving problems of professional activity	viscous and volatile solvents, syrups, aromatic waters, tinctures, extracts , ophthalmic dosage forms, solutions for injections and infusions, suspensions for enteral and parenteral use, emulsions for enteral and parenteral use, ointments, suppositories, patches, pencils, films, aerosols; <ul style="list-style-type: none"> • technology for the manufacture of medicines in a pharmacy: powders, aqueous solutions for internal and external use, solutions in viscous and volatile solvents, ophthalmic dosage forms, solutions for injections and infusions, suspensions for enteral and parenteral use, emulsions, aqueous extracts from medicinal plant raw materials, complex combined preparations with a liquid dispersion medium, ointments, suppositories; 	regulation for the production of finished dosage forms <ul style="list-style-type: none"> • carry out step-by-step control at the stages of manufacturing the finished product and during the holiday; • to standardize DF in terms of technological and biopharmaceutical indicators in accordance with the current normative documents • make fragments of ND on LF • work independently with educational and reference literature; • ensure compliance with the rules of industrial hygiene, environmental protection, labor, safety 	working on the Internet for professional activities; <ul style="list-style-type: none"> • skills in compiling technical sections of industrial regulations for the production of finished dosage forms, including technological and instrumental schemes for the production of finished dosage forms; • develop an accounting policy, keep records of inventory items: cash and settlements, prepare reports for internal and external users of accounting information
4.	PC-1.	Capable of manufacturing medicines for medical use	PC-1.1. Carries out activities to prepare the workplace, technological equipment, medicinal and excipients for the manufacture of medicinal products in accordance with prescriptions and	<ul style="list-style-type: none"> • technology of dosage forms obtained under the conditions of pharmaceutical production: powders, collections, granules, capsules, 	<ul style="list-style-type: none"> • draw up basic technological and instrumental schemes for the production of finished medicines • draw up a material balance and carry out calculations taking into account the 	<ul style="list-style-type: none"> • in the case of use in the manufacture of drugs that are subject to quantitative accounting, registration of the reverse side of the prescription)

			<p>(or) requirements</p> <p>PC-1.2. Produces medicinal products in accordance with established rules and taking into account the compatibility of medicinal and excipients, controlling quality at all stages of the technological process</p> <p>PC-1.3. Packs, labels and (or) issues manufactured medicinal products for dispensing</p> <p>PC-1.4. Registers data on the manufacture of medicinal products in the prescribed manner, including keeping a subject-quantitative record of groups of medicinal products and other substances subject to such accounting</p>	<p>microgranules, microcapsules, dragees, tablets, aqueous solutions for internal and external use, solutions in viscous and volatile solvents, syrups, aromatic waters, tinctures, extracts , ophthalmic dosage forms, solutions for injections and infusions, suspensions for enteral and parenteral use, emulsions for enteral and parenteral use, ointments, suppositories, patches, pencils, films, aerosols;</p> <ul style="list-style-type: none"> • technology for the manufacture of medicines in a pharmacy: powders, aqueous solutions for internal and external use, solutions in viscous and volatile solvents, ophthalmic dosage forms, solutions for injections and infusions, suspensions for enteral and parenteral use, emulsions, aqueous extracts from medicinal plant raw materials, complex combined preparations with a liquid dispersion medium, ointments, suppositories; 	<p>consumption rates of the entire technological process by stages</p> <ul style="list-style-type: none"> • draw up a technological section of the industrial regulation for the production of finished dosage forms • carry out step-by-step control at the stages of manufacturing the finished product and during the holiday; • to standardize DF in terms of technological and biopharmaceutical indicators in accordance with the current normative documents • make fragments of ND on LF • work independently with educational and reference literature; • ensure compliance with the rules of industrial hygiene, environmental protection, labor, safety 	<ul style="list-style-type: none"> • basic information transformation technologies: text, spreadsheet editors; • technique of working on the Internet for professional activities; • skills in compiling technological sections of industrial regulations for the production of finished dosage forms, including technological and instrumental schemes for the production of finished dosage forms; • develop an accounting policy, keep records of inventory items: cash and settlements, prepare reports for internal and external users of accounting information
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4. Volume of academic discipline and types of educational work

The total complexity of the discipline is 3 credits. units (108 academic hours)

Type of study work	Labor intensity		Labor intensity by semesters (ACh)
	volume in credit units (CU)	volume in academic hours (AH)	
			7
Classroom activities (total):	not provided		
Lectures (L)	not provided		
Practical exercises (PZ)	not provided		
Seminars (C)	not provided		
Consultation with practice leader (C)	not provided		
Independent work (SR)	3	108	108
Intermediate certification (PA): credit			
TOTAL LABOR CAPACITY	3	108	108

5. Sections of the discipline and formed competencies

No. p / p	Competency Code	Name of the discipline section
1	GPC -1.	pharmaceutical technology practice
2	GPC -2	pharmaceutical technology practice
3	GPC -6.	pharmaceutical technology practice
4	PC-1.	pharmaceutical technology practice