

Syllabus of the educational component Technology of Veterinary Preparations

for students of higher education of the 4rd year of correspondence education (4.10 d)(2023/2024 year of study)

Educational program "Pharmacy" Specialties 226 "Pharmacy, industrial pharmacy"

Fields of knowledge 22 "Health care"

The second (master's) level of higher education

TEACHERS

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1. Name institution higher education and division: National pharmaceutical university, Department of Pharmaceutical Technology of Drugs.

2. Address: m. Kharkiv, St. Valentynivska, 4, 4th floor, t. 0572-67-91-84 .

3. Website: <http://atl.nuph.edu.ua/>

4. Information about teachers:

BURYAK Marina Valeriivna

Candidate of pharmaceutical sciences, associate professor of the drug technology department of the National Pharmaceutical University. Experience of scientific activity - 14 years, scientific and pedagogical activity - 11 years. Reads courses: "Pharmacy technology medicines", "Technology medicines pharmacy production", "Pharmacy-based Technology of Drugs", "Biopharmacy". Scientific interests: drug technology.

5. Consultations online according to the schedule posted on the department's website.

6. Abstract educational components: subject study educational components "Technology veterinary drugs" is question state market veterinary drugs and means protection animals in Ukraine, trends in the development of the production of veterinary drugs, the main provisions of the normative documentation and technology veterinary means in different medical forms pharmacy and industrial production.

7. The purpose of teaching the educational component: the educational discipline "Technology of veterinary drugs" is an optional discipline for the second (master's) level in the specialty 226 Pharmacy, industrial pharmacy, educational program "Pharmacy". Final control - credit.

8. Competences in accordance to educational programs

Soft-skills / General competences:

GC 6. Knowledge and understanding of the subject area and understanding of professional activity. GC 11. Ability to evaluate and ensure the quality of performed works.

Hard-skills / Professional (special) competences (PC):

PC 14. The ability to organize and carry out the production activities of pharmacies regarding the manufacture of medicinal products in various dosage forms according to the prescriptions of doctors and orders of medical institutions, including the justification of technology and the selection of auxiliary materials in accordance with the rules of Good Pharmacy Practice (GPP).

8. Software the results teaching (PRN):

To comply with the standards of sanitary and hygienic regime and requirements of safety equipment when carrying out professional activities.

PRN4. Demonstrate the ability to independently search, analyze and synthesize information from various sources and use these results to solve typical and complex specialized tasks of professional activity.

PRN 5. To position one's professional activity and personal qualities on the pharmaceutical labor market; formulate the goals of one's own activity taking into account public and industrial interests.

PRN 7. Execute professional activity with use creative methods and approaches .

PRN 26. Choose a rational technology, manufacture medicinal products in different dosage forms according to the prescriptions of doctors and orders of medical institutions, issue them to vacation Perform technological operations: weigh, measure, dose various medicinal products by weight, volume, etc. Develop and draw up technological documentation for the production of medicinal products in pharmacies.

The purpose of the educational discipline: the purpose of studying the discipline "Technology of veterinary зкузфкфешщті" is to deepen professional knowledge about the technology of drugs and veterinary drugs and animal protection products, including determining the impact of storage conditions and the type of packaging on their stability .

The format of the educational discipline: conducting lectures and practical classes for successful mastering of the discipline and further use of knowledge and skills in professional activities.

10. Status educational components: *Selective*

11. Prerequisites educational disciplines: is based on theoretical provisions such educational components, as "Math", "Physics", "Botany", "Anatomy i physiology animals", "Microbiology", "Physical and colloidal chemistry", and also "Pharmacognosy", "Pharmaceutical chemistry", "Pharmacology", "Medical and pharmaceutical commodity science", "Organization and economy pharmacy" etc. and is integrated with these disciplines.

12. Amount educational disciplines : 3.0 credit ECTS: 90 hours in total of which – 8 lectures, 24 hours – practical classes and 58 hours of independent work;

13. Organization teaching:

Format teaching educational components:

Teaching format of the educational component: lectures, practical classes.

Content of the educational component:

Content educational components: Content module 1.

Module 1 . Modern state veterinary pharmacy Technology veterinary drugs

Topic 1. Modern state veterinary pharmacy

The main ones concept and terms veterinary medicine: veterinary medicine, veterinary medicine, veterinary pharmacy, veterinary drugs, fodder, feed additives, animals, etc. The main tasks of veterinary medicine. State administration bodies in the field of veterinary medicine. History of development of veterinary medicine. The emergence of veterinary pharmacy. Problems of the technology of veterinary drugs as a science and educational component. International cooperation in the field of veterinary medicine of medicine International epizootic bureau, its tasks and functions. International Veterinary Code.

State normalization production and implementation veterinary drugs

State regulation of production and sale of veterinary drugs. The structure of the registration dossier. The current state of the market of veterinary drugs. The assortment of veterinary drugs on the modern market of Ukraine.

Good manufacturing practice requirements for the preparation of non-sterile and sterile veterinary medicinal products. Basic requirements for the premises of the pharmacy, its employees, etc. Peculiarities of issuing prescriptions for veterinary drugs in accordance with the order of the State Committee of veterinary medicine of Ukraine

No. 97 dated 03.06.2008 Principles of dosage of medicinal products in veterinary practice. Factors affecting the dosage of medicinal substances for animals.

Topic 2. Solid veterinary dosage forms.

Veterinary dosage forms: classification, ways introduction, principles of selection of dosage forms for treatment of animals.

Powders in veterinary practice. Requirements for them. Dusty Characteristic. Application in veterinary practice. Premixes as a specific veterinary dosage form. Classification of premixes by composition, purpose, depending on the pharmacological group of substances. Biologically active and auxiliary substances in the composition of prefixes. Value of antioxidants, detergents and others in premixes. Introduction of premixes into animal feed and use in veterinary practice.

Briquettes. Application in veterinary practice

Topic 3. Veterinary drugs with liquid dispersive environment

liquid medical forms for internal use in veterinary practice (solutions, mixtures, drops, syrups) and external use (ear and Liquid specific dosage forms for external use in veterinary practice (concentrates for bathing, solutions for irrigation, point causing, for processing little boy washing udder etc), concentrates for impregnation, etc. Shampoos in veterinary practice.

Topic 4. Soft veterinary dosage forms. Medicines for rectal and vaginal use.

Characteristic soft medical forms Classification. Application for treatment animals Characteristics of rectal dosage forms used in veterinary practice.

Medicines for vaginal use. Porridges and boluses as veterinary dosage forms. Rules for prescribing boluses and porridges. Calculations of medicinal and auxiliary substances for the preparation of boluses and porridges. Technology and application of boluses and porridges in veterinary medicine.

Medical plasters, their classification by functional purpose, composition and aggregate state. Application for treatment of animals.

Topic 5. Specific veterinary dosage forms. Medicinal products under pressure in veterinary practice.

Characteristics of medicinal products under pressure, positive aspects of their use in veterinary practice. Classification by action and application. Specific veterinary dosage forms. Stripes Characteristic. Use for the treatment of bees. Collars as a veterinary medicinal form. Characteristics, use in veterinary medicine. Peculiarities of their use in veterinary practice. Dietary rations. Application in veterinary practice.

Intrauterine solid medicinal forms (pills, capsules, sticks). Requirements DFU to them Foaming tablets in the form of sticks. Application for treatment of animals. Intra-scar solid medical means Definition. Characteristic.

Characteristics of liquid medicinal forms for intrauterine use in the treatment of animals (solutions, suspensions, emulsions). Peculiarities of application in veterinary practice. Intramammary veterinary drugs.

Intrauterine foam medical for veterinary of medicine

Module control of CM 1

Semester credit of module 1.

1. Types and forms of control:

Knowledge control at each lesson :

Types and forms of control: Current control: oral survey, compilation of test tasks, solution of situational (calculation) problems.

Control of content modules: compilation of test tasks, solution of situational (calculation) problems.

Semester control form: semester credit.

Conditions for admission to the control of content modules: for admission to the control of a certain content module, it is necessary to score a minimum number of points for the relevant topics.

Conditions for admission to the semester control: current rating of 60 or more points, absence of missed laboratory and practical classes, fulfillment of all requirements stipulated by the work program of the educational component.

2. Evaluation system for the educational component:

The evaluation system for the educational component:

The results of the semester control in the form of a semester credit are evaluated on a 100-point, undifferentiated scale ("passed", "failed") and on the ECTS scale. The results of semester control in the form of a semester exam are evaluated according to the ECTS scale, a 100-point scale and a four-point scale ("excellent", "good", "satisfactory", "less than arbitrary").

Points from education components are calculated according to the following ratio :

Kinds assessment	Maximum quantity points (% of quantity points for the module - for content modules)
Module 1	
Content module 1: Solid dosage forms - assessment of topics (1-6) (work in classes 1-4): (oral examination, preparation of test tasks, solution of situational (calculation) tasks); - control of content module 1 (compilation of test tasks, solution of situational (calculation) tasks)	100 (100 %)
Semester control of the module	100

3. Policies of the educational component:

Academic Integrity Policy. It is based on the principles of academic integrity stated in the POL "On measures to prevent cases of academic plagiarism at the National University of Ukraine". Writing off when evaluating the success of a student of higher education during control measures in practical and seminar classes, control of content modules is prohibited (including using mobile devices). The detection of signs of academic dishonesty in the student's written work is a reason for the teacher not to enroll it.

Policy regarding class attendance . A student of higher education is obliged to attend classes (POL "On the organization of the educational process of the National Academy of Sciences of Ukraine") according to the schedule (<https://nuph.edu.ua/roGClad-zanyat/>), to observe ethical norms of behavior.

Policy regarding deadlines , working out, rating increase, liquidation of academic debt. The completion of missed classes by a student of higher education is carried out in accordance with the POL "Regulations on the completion of missed classes by students and the procedure for eliminating academic differences in the curricula of the National Academy of Sciences" in accordance with the schedule for making up missed classes established by the department

. Increasing the rating and liquidating academic debt from the educational component is carried out by the students in accordance with the procedure specified in the POL "On the procedure for evaluating the results of training of students of higher education at the National Academy of Sciences". Applicants of higher education are obliged to comply with all deadlines set by the department for the completion of written works from the educational component. Works that are submitted late without valid reasons are assessed at a lower grade - up to 20% of the maximum number of points for this type of work.

Policy on appeals of assessment from the educational component (appeals). Applicants of higher education have the right to contest (appeal) the evaluation of the educational component obtained during control measures. The appeal is carried out in accordance with the POL "Regulations on appealing the results of the semester control of the knowledge of students of higher education at the National Academy of Sciences".

17. Informational and educational and methodical software disciplines:

Mandatory literature	
	<ol style="list-style-type: none"> 1. Tykhonov O. I., Yarnykh T. G., Rukhmakova O. A. Pharmacy - based technology of drugs : the manual for applicants of higher education. 2019. Kharkiv : NUPh Golden Pages. – 301 p 2. Technology of veterinary preparations: method. rec. for preparation for the control of the content module / T. G. Yarnykh [et al.] ; under the editorship T. G. Yarnykh. - Kharkiv: NUPh, 2023. - 30 p. 3. Technology of veterinary preparations: method. rec. for independent work of students of higher education/ T. G.

	Yarnykh [etc.] ; under the editorship T. G. Yarnykh. - Kharkiv: NUPh, 2023. - 48 p.
Additional literature for in-depth study of the educational component	<ol style="list-style-type: none"> 1. State Pharmacopoeia of Ukraine / SE "Ukrainian Scientific Pharmacopoeia Center for the Quality of Medicinal Products". 1st edition Kharkiv: State Enterprise "Ukrainian Scientific Pharmacopoeial Center for the Quality of Medicinal Products", 2014. Vol. 2. 724 p. 2. State Pharmacopoeia of Ukraine / SE "Ukrainian Scientific Pharmacopoeia Center for the Quality of Medicinal Products". 2nd edition Kharkiv: State Enterprise "Ukrainian Scientific Pharmacopoeia Center for the Quality of Medicines", 2015. Vol. 3. 732 p. 3. State Pharmacopoeia of Ukraine / SE "Ukrainian Scientific Pharmacopoeia Center for the Quality of Medicinal Products" 2nd ed. Kharkiv: State enterprise "Ukrainian Scientific Pharmacopoeia Center for the Quality of Medicinal Products". 2015. Vol. 1. 1128 p.
Current electronic informative resource (journals, websites, etc.) for in-depth study educational components	<ol style="list-style-type: none"> 1. Сайт кафедри аптечної технології ліків: www.atl.nuph.edu.ua 2. Центр дистанційних технологій НФаУ – http://pharmel.kharkiv.edu 3. Електронний архів бібліотеки НФаУ . http://lib.nuph.edu.ua
System distance learning Moodle	https://pharmel.kharkiv.edu/moodle/course/view.php?id=329

18. Technical and software educational component:

laboratories are equipped with pharmacy furniture, equipment and devices for dosing and manufacturing pharmaceuticals (turntables for medicinal and auxiliary liquids, burette units, capsule machines, universal thermal cabinet ED-53 - 3 units, magnetic stirrers (BINDER, Germany) - 2 units, homogenizers Salent Crusher M (Heidolph instruments GmbH&Co. KG) and Daihan Homogenizer with Direct Controller HG-15A (Daihan Scientific, Korea), laminar cabinet Streamline SCR-2A1, electronic scales AXIS BTU-2100, electronic scales TBE - 3 units, pH meter "pH-305" and pH-150 MI, Granum R40 microscope (R40003) with Granum DCM 310 digital video camera, rotary evaporator, sterile filtration unit, LabAnakyt DM 0412 clinical centrifuge, sterilizer ГП-40 – 1 unit, distiller DE-10, device PTS 3E for determining the solubility of suppositories (PHARMA TEST, Germany), measuring cup PWSW 0 for determining the solubility of suppositories (PHARMA TEST, Germany), colorimeter medical, laboratory and auxiliary dishes, packaging materials, medicinal and auxiliary substances, LRS. Means of communication, Internet access, interactive whiteboard, computers - 57 units, printers - 15 units, scanner - 1 unit, Misubishi EX-10 multimedia projectors - 3 units.