SYLLABUS OF THE EDUCATIONAL COMPONENT

ORGANIZATION OF BIOLOGICAL RESEARCH

speciality	**211 Veterinary medicine**	**mandatory or optional**	**Mandatory**
educational program	**Veterinary medicine**	**faculty**	**Veterinary medicine**
educational degree	**magistr**	**department**	**Internal diseases and clinical diagnosis of animals**

TEACHER

Kybkalo Dmytro Viktorovych

Higher education – specialty veterinary medicine

Academic degree – Doctor of Veterinary Sciences in specialty 16.00.01-diagnostics and therapy of animals

Academic title – professor

Work experience – 20 years

Indicators of professional activity on the subject of the course:

- Author of 3 monographs, more than 30 publications;
- experience of scientific work 23 years;
- co-author of 7 publications in Scopus and Web of Science.
- participant in scientific conferences
- head of scientific research.
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телефон	**0502209712**	**електронна пошта**	**diagnost_96@ukr.net**	**дистанційна підтримка**	**Moodle http://moodle.btu.kharkiv.ua/course/view.php?id=428**

GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

Objective	The purpose of the academic discipline is to study a wide range of issues in the field of higher education (its formation, reformation, development in individual countries, the creation of the European space of education and science in accordance with the Bologna Declaration), the role of science in the life of society (its development in different historical eras, the role of scientific prognosing, the role and place of a scientist in society), formation of a young scientist (choosing the topic of scientific work, mastering research methods and methodology, analysis of research material, its examination), familiarization with means of scientific and technical information, system of invention and patent science, problems of bioethics in scientific work, preparation of materials for publication and their official protection.
Format	lectures, practical classes, independent work, individual tasks, laboratory work, team work
Form of control	3 ECTS credits (90 hours): 14 hours of lectures, 30 hours of laboratory hours, 46 hours of independent work; current control (2 chapters); final control - differentiated assessment.
Requirements	timely completion of laboratory and practical tasks, activity, teamwork
Enrollment conditions	according to the curriculum

COMPLIANCE WITH THE EDUCATION STANDARD AND EDUCATIONAL PROGRAM

Competencia	**GC1 Ability to abstract thinking, analysis and synthesis** **GC 6 Skills of using information and communication technologies.** **GC7 Ability to conduct research at the appropriate level** **GC8 Ability to learn and master modern knowledge** **GC13 Ability to make decisions and act in a manner that is free from corruption and any other forms of dishonesty** **SC6 The ability to select, pack, fix and send samples of biological material for laboratory research.** **SC 18 Ability to use specialized software tools to perform professional tasks**	**Program learning outcomes**	**PLO 20 To have specialized software tools for performing professional tasks**

STRUCTURE OF THE EDUCATIONAL COMPONENT

Chapter 1. Methodology of scientific research					
Lecture 1	**Science and scientific research.** The main stages of the development of science. Classification of sciences. Science.	**LPL 1-2**	Elements of theory and methodology of scientific and technical creativity. Methodology of scientific research. Manifestations of scientific creativity Manifestations of technical creativity.	**Self work**	1.Classification of sciences. Basic sciences and superstructures. Integration and differentiation of sciences. Elements of science. 2.Knowledge and cognition. Sensory and rational cognition. Definition of concepts. Judgment. Condition Thinking. A scientific idea. Hypothesis. Law. Paradox. Theory. Axiom (postulate).
		LPL 3-4	Scientific research: purpose, objects and subjects. Classification of scientific research. Selection of the goal of scientific research.		
Lecture 2	**Systematicity in scientific knowledge.** Signs and principles of system definition. Classification of systems. Methodological foundations of system research.	**LPL 5-6**	Tasks and methods of theoretical research. Definition of working hypothesis. Setting goals, objectives, and tasks. Theoretical justification of the experiment.		
Lecture 3	**Methodology of scientific research**. Formulation of the topic, goal and tasks of scientific research. Methodology of experimental research. Rules and basic requirements for the design of scientific works	**LPL 7-8**	Modeling in scientific work. Basics of scientific modeling. Objects of research in veterinary medicine. Biotic aspects of the experiment.		
		LPL 9	Methodology of scientific research. Execution of situational tasks.		
Chapter 2. Analysis and processing of research data					
Lecture 4-5	**Statistical processing of experimental data.** Parametric methods of statistical analysis. Non-parametric methods of statistical analysis. Summarizing and recording the results of the experiment.	**LPL 10-11**	Processing of the results of experimental studies Obtaining empirical results. Statistical processing of results. Record the results of the experiment.	**Self work**	1.Methodology. Research methods. Method and technique. General, scientific and special methods. Axiomatic, hypothetical, historical and systemic methods. Scientific research. The purpose of scientific research. Object and subject of research. Classification of scientific research. Scientific direction. Complex problem, problem, topic, scientific questions (tasks). Assessment of feasibility of conducting research. 2.Levels of creativity. Discovery, invention, innovative proposal. Characteristics of a creative personality. Theories of analogy, similarities and dimensions. Stages of theoretical research. Terms and conditions. Mathematical modeling methodology. Mathematical model. Definition of the object and purpose of the research. Selection of a mathematical model class. Classification and structure of the experiment.
Lecture 5	**Invention and rationalization.** Invention and development of scientific creativity. Discoveries and inventions. Fundamentals of patent science.				
Lecture 6	**Presentation of research in the form of scientific papers.** Rules and general requirements for writing scientific papers. Publication of scientific papers. Peer review of scientific works.	**LPL 12-13**	Rules for the design of final papers. Drafting of scientific articles, theses and other printed works.		
		LPL 14	Designing a master's thesis.		
		LPL 15	Analysis and processing of research data Execution of situational tasks.		

BASIC LITERATURE AND ADDITIONAL MATERIALS

Literature

Basic literature

1. Методологія та організація наукових досліджень: Навч. посіб. для студ. – магістр. усіх спец. / за ред. І.С. Добронравової (ч.1), О.В.Руденко (ч.2). К., ВПЦ «Київський університет». – 2018.
2. Добронравова І.С., Білоус Т.М., Комар О.В. Новітня західна філософія науки. Підручник. К., 2008.. http://www.philsci.univ.kiev.ua/biblio/index.html
3. БазилевичВ.Д. Інтелектуальна власність: підручник/В.Д. Базилевич .-3-тє вид, перероб. та допов.-К:Знання,2014 .-671 с.
4. Інтелектуальна власність в Україні:збірник законодавчих і нормативних актів : (офіційний текст) .-Київ: Паливода А.В.,2015 .-208 с.
5. Колесников О. В. Основи наукових досліджень: Навч. посіб. / О. В. Колесников. – К.: Центр учбової літератури, 2011. – 144 с.
6. Інтелектуальна власність в Україні: збірник законодавчих і нормативних актів : (офіційний текст) .-Київ: Паливода А.В.,2015 .-208 с.
7. Основи методології та організації наукових досліджень: Навч. посіб. Для студентів, курсантів, аспірантів і ад'юнтів / за ред. А. Є. Конверського. К.: Центр учбової літератури, 2010. 352 с.
8. Цивільне право України: Підручник: У 2-х кн. Загальна частина / За ред. О.Дзери, Н. С. Кузнєцової, Р. А. Майданика. - 3-тє вид., переоб. і доп. - К. : Юрінком Інтер, 2010 - 976 с.

Additional literature

1. Власенко Л., Ладанюк А., Кишенько В. Методологія наукових досліджень: навч. посіб. - К.: Вид-во Ліра-К, 2018. - 352 с.
2. Данильян О.Г., Дзоьбань О.П. Методологія наукових досліджень: підруч. - К.: Право, 2019. - 368 с.
3. Євтушенко М., Хижняк М. Методологія та організація наукових досліджень: навч. посіб. - К.: Вид-во «Центр учбової літератури», 2019. - 350 с.
4. Колесников О. В. Основи наукових досліджень: Навч. посіб. / О. В. Колесников. - К.: Центр учбової літератури, 2011. - 144 с.
5. Корягін М.В., Чік В.Ю. Основи організації наукових досліджень: навч. посіб.- К.: Алерта, 2019. - 492 с.
6. Кримський С. Б. Запити філософських смислів / С. Б. Кримський; Під сигнатурою Софії. - К. : Видавничий дім «Києво-Могилянська академія», 2008, 718 с. - С. 444 - 717.
7. Тверезенко // Право України. - 2011. - № 3. - С. 139 - 148.

Methodical

1. Карташов М.І. Боровков С.Б. „Методичні вказівки до лабораторних занять: з основ наукових досліджень" Харків.: ХДЗВА, 2009. –40 с.
2. Боровков С.Б. Методичні вказівки до лабораторних занять: розділ „Експериментальні дослідження з основами статистики Харків.: ХДЗВА, 2009. –36 с.

EVALUATION SYSTEM

SYSTEM		SCORE	ACTIVITY THAT EVALUATED
Final estimation	100 score ECTS (standart)	up 50	50% from total score by chapters
		up 50	final score
Rating of section	100 score sum up	up 50	test
		up 20	oral answers in laboratory-practical classes
		up 30	he result of mastering the block of independent work

NORMS OF ACADEMIC ETHICS AND CHARITY

All participants in the educational process (including those seeking education) must adhere to the code of academic integrity and the requirements prescribed in the provision "On academic integrity of participants in the educational process of SBU": show discipline, education, respect each other's dignity, show kindness, honesty, responsibility