

**NON-PROFIT JOINT STOCK COMPANY
KAZAKH NATIONAL AGRARIAN RESEARCH UNIVERSITY**

Faculty of Veterinary Medicine

CATALOG OF ELECTIVE DISCIPLINES

"6B09104- Veterinary medicine"

for the 2024-2029 academic year

Almaty, 2024

The catalog of elective disciplines was approved by the decision of the Educational and Methodological Council of Kaznmu (Protocol No. 4 of 01/02/2024) and the Academic Council of KazNAIU (Protocol No. 9 of 01/03/2024).

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Preface

The catalog of elective disciplines (CED) was formed by the Department of educational and methodological work of the Kazakh National Agrarian University in accordance with the state mandatory standard of higher education approved by the Ministry of Education and Science of the Republic of Kazakhstan dated August 18, 2022 No. 202 and the Educational Program.

The CED provides students with the opportunity to choose elective academic disciplines and teaching staff to form an individual educational trajectory. Based on the Educational Program and the CED, students develop individual curricula with the help of advisors.

The catalog table shows the disciplines of the compulsory and elective component of the cycle general education disciplines , university and elective disciplines of the cycle basic disciplines , profile disciplines and forms of elective disciplines with an alternative cycle . The CED form contains the names of disciplines in Kazakh, Russian and English with a brief description of the course, prerequisites, post-prerequisites, last name, first name and patronymic of program managers, the number of credits and semesters of study.

EDUCATIONAL PROGRAM: 6B09104 – VETERINARY MEDICINE

Degree awarded: veterinary specialist in the
Educational program
"6B09104- Veterinary Medicine" 1st year

Cycle	Code	Disciplines	Academic credits
1 term – 31 academic credits			
<i>Required component – 20 credits</i>			
GED	FL 1102	Foreign Language	5
GED	K(R)L1104	Kazakh (Russian) Language	5
GED	MSPK (SPCP) 1106	Module of socio-political knowledge (sociology, political science, cultural studies, psychology)	8
GED	PT 1107	Physical Training	2
<i>The university component – 11 credits</i>			
BD	HWTBOE 1201	Histology with the basics of embryology	6
BD	AOAAB 1202	Anatomy of Animals and Birds	5
2 term – 29 academic credits			
<i>Required component – 17 credits</i>			
GED	HK1101	History of Kazakhstan	5
GED	FL 1103	Foreign Language	5
GED	K(R)L1105	Kazakh (Russian) Language	5
GED	PT 1108	Physical Training	2
<i>The university component –12 credits</i>			
BD	AAB 1202	Anatomy of Animals and Birds	5
BD	LVT 1204	Latin Veterinary Terminology	5
BD	TP 1203	Training practice 1 (anatomy of animals and birds)	2

Code and name of the discipline	HWTBOE 1201 Histology with the basics of embryology
Teaching staff of the discipline	Dzhanabekova G.K., Zhylykshybayeva M.M. Onebaev J.M.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	6
Form of training	full-time
Semester/trimester	1
Prerequisites of the discipline	Biology, Zoology, chemistry (school programs)
Post-requirements of the discipline	Animal physiology. Animal biochemistry
The purpose of studying the discipline	to study the patterns of the finest structural organization and development of cells, tissues and organs in order to understand the general biological laws that determine the life of an organism The discipline studies the microscopic and submicroscopic structure and development of animal cells, tissues and organs, their development in phylogeny and ontogenesis, patterns of development of organisms in embryogenesis, in postnatal and mature periods of ontogenesis. Develops skills in using microscopic and electron microscopic techniques, "reading" drugs and conducting experiments on laboratory animals.
Content of the discipline	The discipline studies the microscopic and submicroscopic structure and development of animal cells, tissues and organs, their development in phylogeny and ontogenesis, patterns of development of organisms in embryogenesis, in postnatal and mature periods of ontogenesis. Develops skills in using microscopic and electron microscopic techniques, "reading" drugs and conducting experiments on laboratory animals.
The competence of the discipline	After mastering the discipline, the student must: - know the micro- and submicroscopic structure of cells, tissues, organs and organ systems of the animal body - be able to work with a microscope, prepare and read histological preparations of various cells, tissues and organs of the body systems - possess knowledge about the patterns of origin, development, microscopic and submicroscopic structure of the animal organism - be competent in determining the specific morphological features of the structure of an animal organism in species, breed, age aspects, in their differences and interrelation with the environment.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Жаңабеков, К. Жануарлар морфологиясы және латын терминологиясы [Мәтін]: 1-бөлім: оқулық / К. Жаңабеков, Г.К. Жаңабекова.- Алматы: Эверо, 2017.- 320 б. 2. Жаңабеков, К. Жануарлар морфологиясы және латын терминологиясы [Мәтін]: 2-бөлім: оқулық / К. Жаңабеков, Г.К. Жаңабекова.- Алматы: Эверо, 2017.- 356 б. 3. Сидихов, Б.М. Жануарлар анатомиясының топографиялық атласы [Мәтін] = Топографический атлас анатомии животных: 1-том. Бас, мойын, тұлға: оқу құралы / Б.М.

	Сидихов, Т.К. Мурзашев, К.Г. Есенғалиев.- Алматы: Эпиграф, 2016.- 336 б. 4. Бозымов, Қ.Қ. Ауыл шаруашылығы жануарларының морфологиясы [Мәтін]: оқу құралы / Қ.Қ. Бозымов, Қ.Г. Есенғалиев.- Алматы: Эверо, 2015.- 246 б. 5. Есенғалиев, К.Г. Жануарлар морфологиясы латын ветеринарлық терминологиясымен [Мәтін]: оқу құралы / К.Г. Есенғалиев, Т.К. Мурзашев, Б.М. Сидихов.- Алматы: Эверо, 2015.- 332 б. 6. Сүйектер жүйесі, бұлшық еттер және тері жабыны [Мәтін]: бейнелі оқу құралы / К.Жаңабеков, Г.К.Жаңабекова, Р.Ж.Жүнісова [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2015.- 154 б. 7. Исембергенова С.К., Джанабекова Г.К., Жылқышыбаева М.М. Анатомия и гистология сельскохозяйственных животных. А.2015. 8. Жаңабеков Г.К., Жылқышыбаева М.М., Джунусова Р.Ж. Цитоморфология оқу құралы. А.А.2016
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Code and name of the discipline	AAB 1202 Anatomy of Animals and Birds
Teaching staff of the discipline	Dzhanabekova G.K., Zhylkyshybayeva M.M., Utebaev J.M.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	10
Form of training	full-time
Semester/trimester	I, II
Prerequisites of the discipline	Biology, Zoology, chemistry (school programs)
Post-requirements of the discipline	Animal physiology. Animal biochemistry. Animal husbandry and animal feeding
The purpose of studying the discipline	to study the macro-and microscopic structure of organs and organ systems of domestic mammals, depending on species, sex and age; phylo-ontogenetic development of organs and body systems.
Content of the discipline	Studies the structure of the body of domestic animals and birds, the relationship between the organs of the trunk and the systems of internal organs and depends on the external environment, the method of feeding. Masters the location of joints, blood vessels, interconnections, nerves, lymph nodes. It forms the ability to carve the carcass of animals, birds, and prepare anatomical preparations.
The competence of the discipline	After mastering the discipline, the student must: know: the development, structure, topography of the body be able to: distinguish organelles and tissues on histological preparations. have the skills to manufacture histological and anatomical preparations. be competent: butchering an animal corpse, making anatomical preparations, will allow you to study the location of muscles and their relationship, the location of joints, blood vessels, nerves, lymph nodes
Final control form	Exam

Duration of the discipline	2 academic period (30 weeks)
List of literature	basic literature: 1. Жаңабеков, К. Жануарлар морфологиясы және латын терминологиясы. 1-бөлім: оқулық / К. Жаңабеков, Г.К. Жаңабекова.- Алматы: Эверо, 2017.- 320 б. 2. Жаңабеков, К. Жануарлар морфологиясы және латын терминологиясы.2-бөлім: оқулық / К. Жаңабеков, Г.К. Жаңабекова.- Алматы: Эверо, 2017.- 356 б. 3. Сидихов, Б.М. Жануарлар анатомиясының топографиялық атласы. Топографический атлас анатомии животных: 1-том. Бас, мойын, тұлға: оқу құралы / Б.М. Сидихов, Т.К. Мурзашев, К.Г. Есенғалиев.- Алматы: Эпиграф, 2016.- 336 б. 4. Бозымов, Қ.Қ. Ауыл шаруашылығы жануарларының морфологиясы [Мәтін]: оқу құралы / Қ.Қ. Бозымов, Қ.Г. Есенғалиев.- Алматы: Эверо, 2015.- 246 б. 5. Есенғалиев, К.Г. Жануарлар морфологиясы латын ветеринарлық терминологиясымен [Мәтін]: оқу құралы / К.Г. Есенғалиев, Т.К. Мурзашев, Б.М. Сидихов.- Алматы: Эверо, 2015.- 332 б. 6. Сүйектер жүйесі, бұлшық еттер және тері жабыны [Мәтін]: бейнелі оқу құралы / К.Жаңабеков, Г.К.Жаңабекова, Р.Ж.Жүнісова [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2015.- 154 б. 7. Исембергенова С.К., Джанабекова Г.К., Жылқышыбаева М.М. Анатомия и гистология сельскохозяйственных животных. А.2015. 8. Жаңабеков Г.К., Жылқышыбаева М.М., Джунусова Р.Ж. Цитоморфология оқу құралы. А.А.2016 9. Жаңабеков К., Жаңабекова Г.К., Жүнісова Р.Ж. «Жануарлар анатомиясы» Оқу құралы. «Айтұмар», 2013. 10. Жаңабеков Г.К., Жылқышыбаева М.М., Джунусова Р.Ж.Цитоморфология оқу құралы. А.А.2016 11. Боранова, Т.Ы. Жануарлар анатомиясы [Мәтін]: 2 бөлім. Спланхнология, ангиология, нейрология тараулары: оқу құралы / Т.Ы. Боранова.- Алматы: LP-Zhasulan, 2019.- 140 б. 12. Боев, В.И. Анатомия животных [Текст]: учебник / В.И. Боев, И.А. Журавлева, Г.И.Брагин.- М.: ИНФРА-М, 2019.- 352 с. additional references: 13. Исембергенова, С.К. Терминологический словарь по анатомии животных на латино-русско-казахско-английском языках [Текст]: для студ. вет. спец. / С.К. Исембергенова, М.М. Жылқышыбаева.- Алматы: Нур-Принт, 2015.- 324 с. 14. Mansour, M. Guide to ruminant anatomy [Текст]: dissection and clinical aspects / M. Mansour, R. Wilhite, J. Rowe.- USA: Wiley Blackwell, 2018.- 275 p. 15. Жануарлар мен құс анатомиясы пәні бойынша оқу тәжірибесін жүргізуге арналған бағдарлама [Мәтін] / К.Джанабеков, М.М.Жылқышыбаева, Р.Ж.Джунусова [ж.т.б.]; ҚазҰАЗУ.- Алматы: Айтұмар, 2022.- 63 б. 16. Программа поведения учебной практики по анатомии животных птиц [Текст] / К.Джанабеков,

	М.М.Жылкышыбаева, Р.Ж.Джунусова [и др.]; КазНАИУ.- Алматы: Айтұмар, 2022.- 43 с. 17. Жануарлар анатомиясы [Мәтін]: бойынша оқу тәжірибесін өткізуге арналған бағдарлама / К.Джанабеков, С.К.Исембергенова, Г.К.Джанабекова [ж.т.б.]; ҚазҰАЗУ.- Алматы: Айтұмар, 2021.- 63 б.
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Code and name of the discipline	LVT 1204 Latin Veterinary Terminology
Teaching staff of the discipline	Kambarbekov A.T.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	2
Prerequisites of the discipline	Foreign language (school curriculum). Cytology, histology and embryology of animals. Anatomy of animals and birds
Post-requirements of the discipline	Module 7 Animal pathology
The purpose of studying the discipline	student's mastery of the basics of the Latin language, writing out Latin terms and using them in professional activities
Content of the discipline	Teaches the use of Latin terms in veterinary practice, spelling and correct pronunciation of names of medicinal substances and injectable drugs in Latin. Forms the skill of correct use of Latin aphorisms and veterinary expressions, as well as the use of chemical nomenclature in Latin
The competence of the discipline	After mastering the discipline, the student must: Russian Russian - to know: students must read and write in Latin, translate veterinary terms from Russian into Latin and from Latin into Russian; - be able to: competently write out prescriptions and translate them, form names of chemical compounds in Latin; - be competent: in the field of rational construction of clinical veterinary terms; correct pronunciation of Latin terms; prescribing.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Жаңабеков К. Жануарлар морфологиясы және латын терминологиясы [Мәтін]: 1-бөлім: оқулық / К. Жаңабеков, Г.К. Жаңабекова.- Алматы: Эверо, 2017.- 320 б. 2. Жаңабеков К. Жануарлар морфологиясы және латын терминологиясы [Мәтін]: 2-бөлім: оқулық / К. Жаңабеков, Г.К. Жаңабекова.- Алматы: Эверо, 2017.- 356 б. 3. Латын ветеринариялық терминологиясы [Мәтін]: оқу құралы / Н.А.Заманбеков, Р.С.Саттарова, Ш.Б.Туржигитова [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2016.- 268 б. 4. Исембергенова С.К. Латино-русско-казахско-английский терминологический словарь по анатомии [Текст]: учебник / С.К. Исембергенова, М.М. Жылкышыбаева; КазНАУ.- Алматы: Айтұмар, 2016.- 202

	5. Латинская ветеринарная терминология [Текст]: учеб. пособие / сост. Н.А.Заманбеков, Р.С.Саттарова Б.Д.Айтжанов [и др.]; КазНАУ.- Алматы: КазНАУ, 2016.- 304 с. 6. Латинская ветеринарная терминология [Текст]: учеб. пособие / сост. Н.А.Заманбеков, Р.С.Саттарова, Б.Д.Айтжанов [и др.]; КазНАУ; Фак. Технология и животноводства и ветеринария.- Алматы: КазНАУ, 2014.- 249 с. 7. Латын клиникалық және фармацевтикалық терминологиясы [Мәтін]: жоғары оқу орындарының ветеринария мамандықтары бойынша білім алатын студенттеріне арналған оқу құралы / Н.А. Заманбеков [ж.б.]; Қазақ Ұлттық Аграрлық университеті.- Алматы: Агроуниверситет, 2011.- 204 б. 8. Латинская ветеринарная терминология [Текст]: учебно-методическое пособие предназначено для студентов специальностей ветеринария / сост. А.Т.Камбарбеков, Н.А.Заманбеков, Т.Е.Тлеуалиева; КазНАУ;.- Алматы: КазНАУ, 2018.- 123 с.
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**Degree awarded: veterinary specialist in the
educational program
"6B09104- Veterinary Medicine" 2nd year**

Cycle	Code	Disciplines	Academic credits
3 term – 30 academic credits			
Required component – 2 credits			
GED	PC 2104	Physical culture	2
The university component – 21 credits			
BD	AP 2202	Animal physiology	5
BD	LAAAF 2205	Livestock Agriculture and Animal Feeding	6
BD	AE 2105	Agricultural economics	5
BD	AB 2201	Animal biology (histology, veterinary genetics, zoology)	5
Component of choice – 9 credits			
GED	LAC2103	Law and Anti-corruption Culture	5
	Eko 2103	Ecology	
	LS 2103	Life safety basics	
	Ent 2103	Entrepreneurship	
	FSR 2103	Fundamentals of Scientific Research	
	FFL 2103	Fundamentals of financial literacy	
BD	LWIVM 2204	Laboratory work in veterinary medicine	5
	APACC 2204	Analytical, physical and colloidal chemistry	
	VD 2204	Veterinary deontology	
	Bio 2204	Biophysics	
4 term – 33 academic credits			
Required component – 12 credits			
GED	Fil 2101	Philosophy	5
GED	ICT 2102	Information-Communication Technologies	5
GED	PC 2104	Physical Training	2
The university component – 21 credits			
BD	AB 2203	Animal biochemistry	5
BD	VMI 2206	Veterinary microbiology and Immunology	5
BD	VP 2207	Veterinary pharmacology	
BD	TP 2208	Training practice 2	2

Code and name of the discipline	APh 2202 Animal physiology
Teaching staff of the discipline	Zhylkyshbayeva M.M., Onebaev J.M.

Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	3
Prerequisites of the discipline	Cytology, histology and embryology of animals. Anatomy of animals and birds
Post-requirements of the discipline	Biochemistry of animals, Module 7. Pathology of animals
The purpose of studying the discipline	familiarization of students with the essence of vital processes (metabolism, respiration, nutrition, etc.) and the meaning of the function of individual organs and the chemical composition of the body, structure, properties of cells and metabolism and energy in a living organism.
Content of the discipline	The essence, branches and methods of physiology. The concept of the body. Functions and physiological processes, mechanisms of their regulation. Physiology of blood, circulation, respiration, digestion, metabolism, excretion, endocrine glands, lactation, reproduction, excitable tissues, central nervous system. Higher nervous activity and analyzers.
The competence of the discipline	- To know: the essence of vital processes and the importance of the function of individual organs and systems, with mechanisms that ensure the interaction of the body with the external environment; - To understand: to analyze the mechanisms of physiological processes, the basic patterns underlying the physiological functions of organs and systems, the mechanisms of regulation of physiological processes, normal physiological parameters of the body; apply some methods to assess the functional state of the body; to be competent: Knowing the peculiarities of the manifestation of physiological processes and their purposeful regulation in order to preserve the healthy state of animals and increase its productivity. To use knowledge to solve elementary tasks of organizing feeding, keeping and caring for animals, taking into account the conditions of their cultivation. Apply the acquired theoretical knowledge and skills in practical and research activities.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Жумадина, Ш.М. Физиология человека и животных [Текст]: учеб. пособие / Ш.М. Жумадина.- Алматы: Эверо, 2020.- 208 с 2. Большой практикум по физиологии человека и животных [Текст]: в 2-х т. Т.2: Физиология висцеральных систем: учеб. пособие / А.Д.Ноздрачев, А.Г.Марков, Е.Л.Поляков [и др.]; под ред. А.Д. Ноздрачева.- М.: Академия, 2019.- 542 с. 3. Головина, Н.А. Лабораторный практикум по физиологии рыб [Текст]: учеб. пособие / Н.А. Головина, Н.Н. Романова.-

	СПб.-М.-Краснодар: Лань, 2019.- 136 с.- (Бакалавриат и специалитет). 4. Головина, Н.А. Лабораторный практикум по физиологии рыб [Текст]: учеб. пособие / Н.А. Головина, Н.Н. Романова.- СПб.-М.-Краснодар: Лань, 2019.- 136 с.- (Бакалавриат и специалитет). 5. Sadenov, M.M. Physiology of animals [Текст]: textbook for the specialty of 5B120100-Veterinary medicine and 5B120200-Veterinary sanitation / M.M. Sadenov; The Ministry of agriculture of the Republic of Kazakhstan; Zhangir Khan west Kazakhstan ATU.- Almaty: Almanah, 2019.- 83 p. 6. Головина, Н.А. Лабораторный практикум по физиологии рыб [Текст]: учеб. пособие / Н.А. Головина, Н.Н. Романова.- СПб.-М.-Краснодар: Лань, 2019.- 136 с.- (Бакалавриат и специалитет). 6. Смолин, С.Г. Физиология и этология животных [Текст]: учеб. пособие / С.Г. Смолин.- 2-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2018.- 628 с.- (Ветеринария). 7. Дюльгер, Г.П. Физиология размножения и репродуктивная патология собак [Текст]: учеб. пособие / Г.П. Дюльгер, П.Г. Дюльгер.- 3-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2018.- 236 с. 8. Рахимжанова, Д.Т. Жануарлардың клиникалық физиологиясы [Мәтін]: оқу құралы / Д.Т. Рахимжанова; ҚР Білім және ғылым м-трлігі.- Алматы: Бастау, 2017.- 296 б. 9. Atlas of canine and feline urinalysis [Текст] / T.E.Rizzi, A.Valenciano, M.Bowles [и др.].- New Delhi: Wiley Blackwell, 2017.- 185 p. 10. humashev, Zh.Zh. Biochemistry of carbohydrates and lipids [Текст]: Educational-methodological manual on biochemistry of animals / Zh.Zh. Zhumashev, G.B. Kossaliyeva, S.N. Sarymbekova.- Almaty: CyberSmith, 2017.- 112 p. 11. Несипбаев, Т. Адам және жануарлар физиологиясы [Мәтін]: Оқулық-диалог / Т. Несипбаев; ҚР Білім және ғылым м-трлігі.- Алматы: ҚР Жоғарғы оқу орындарының қауымдастығы, 2015.- 456 б. 12. Несипбаев Т., Алданазаров С., Бегаилов Е., Несипбаева А. Физиология сельскохозяйственных животных. Учебное пособие. Алматы, 2015. additional references: 13. В.М Смирнов, А.В.Смирнов. Физиология сенсорных систем, высшая нервная и психическая деятельность. Москва, 2013.
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	14. Несипбаев Т., Алданазаров С., Бегаилов Е., Несипбаева А. Руководство к лабораторным занятиям по физиологии. Учебное пособие. Алматы, 2005. 15. Несипбаев, Т. Жануарлар физиологиясының зертханалық және тәжірибелік сабақтары [Мәтін]: оқулық / Т. Несипбаев, А.Қ. Несипбаева; Қазақстан Республикасы жоғары оқу орындарының қауымдастығы.- Алматы, 2014.- 152 б. 16. Шульговский, В.В. Физиология высшей нервной деятельности [Текст]: учебник / В.В. Шульговский.- 3-е изд., перераб.- М.: Академия, 2014.- 384с. 17. Герунова, Л.К. Физиология сердечно - сосудистой системы и лекарственная регуляция ее функций у животных [Текст]: учеб. пособие для вузов / Л.К. Герунова, В.И. Максимов.- СПб.: Лань, 2013.- 160 с 18. Несипбаев, Т. Адам және үй жануарлары физиологиясы [Мәтін]: оқулық / Т. Несипбаев, А.Қ. Несипбаева.- Алматы: ҚР Жоғарғы оқу орындарының қауымдастығы, 2012.- 436 б.
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Code and name of the discipline	Bio 2103 Biophysics
Teaching staff of the discipline	Izenbayeva S.B., Nurkamyt A.B.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	3
Prerequisites of the discipline	Physics, Biology (school programs)
Post-requirements of the discipline	Module 3. Professional communications
The purpose of studying the discipline	It forms an idea of the physical properties of biological objects, of the physical and physico-chemical processes occurring in them. They acquire skills in basic physical research methods, physical devices for diagnosing the physical and biophysical properties of objects.
Content of the discipline	formation of ideas, concepts, knowledge about the physical properties of biological objects, about the physical and physico-chemical processes occurring in them, for the development of special and related disciplines
The competence of the discipline	After mastering the discipline, the student must: know: the basic physical laws and physical principles of the study of biological objects and the physico-chemical processes occurring in them; be able to: basic techniques and physical methods used in the diagnosis of diseases; the use of the most important physical measuring instruments in practice used in veterinary and scientific laboratories; be competent: in acquiring new knowledge, generalizing, analyzing, perceiving information, setting goals and choosing ways to achieve them, necessary for daily professional activities.
Final control form	Exam

Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Өтесінов, Ж.Ө. Биометрия. Эмбриология. Биофизика [Мәтін]: 1 том: оқу құралы / Ж.Ө. Өтесінов.- Алматы: Эверо, 2020.- 332 б. 2. Спабекова, Р.С. Биологиялық физика [Мәтін]: лабораториялық практикум / Р.С. Спабекова; ҚР Білім және ғылым м-трлігі; М.Әуезов атын. Оңтүстік Қазақстан мем. ун-ті.- Қарағанды: Medet Group, 2018.- 148 б. 3. Спабекова, Р.С. Биофизика [Мәтін]: оқу құралы / Р.С. Спабекова; ҚР Білім және ғылым м-трлігі; М.Әуезов атын. Оңтүстік Қазақстан мем. ун-ті.- 2-бас.- Қарағанды: Medet Group, 2018.- 188 б. 4. Шарипова, С.А. Қоршаған ортаның биофизикалық мониторингі [Мәтін]: оқу құралы / С.А. Шарипова.- Қарағанды: Ақ Нұр, 2013.- 264 б. 5. Шарипова, С.А. Биофизический мониторинг окружающей среды [Текст]: учеб. пособие / С.А. Шарипова.- Караганда: Ақ Нұр, 2013.- 218 с. 6. Диллон, П. Биофизика. Физиологиялық негіздері [Мәтін]: оқулық / П. Диллон; ауд. К. Каримбаев, Б. Набиева, А. Нүркенова; ҚР білім және ғылым м-гі, ҚР жоғары оқу орындарының қауымдастығы.- Алматы, 2012.- 476 б. 7. Волькенштейн, М.В. Биофизика [Текст]: учеб. пособие / М.В. Волькенштейн.- 4-е изд., стереотип.- СПб.: Лань, 2012.- 608 с. additional references: 8. Белановский А. Основы биофизики и ветеринарии. М.: Дрофа, 2007 9. Детлаф А.А., Яворский Б.М. Курс физики. М.: Академия. 2007. -719 с. 10. Трофимова Т.И. Курс физики. М.: Академия, 2010, 557с. 11. Волькенштейн В.С. Сборник задач по общему курсу физики. М.: Наука. 2010. 12. Ремизов А.М. Медицинская и биологическая физика. М., Дрофа, 2010Ремизов А.Н., Потапенко А.Я. Курс физики. М.: Дрофа, 2006.

Code and name of the discipline	LWIVM 2103 Laboratory work in veterinary medicine
Teaching staff of the discipline	Barakhov B.B., Burkitbayeva A.
Discipline cycle	BD/UC
Training level	specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	3
Prerequisites of the discipline	Cytology, histology and embryology of animals. Anatomy of animals and birds possess: the skills of conducting qualitative and quantitative analyses using methods that do not require sophisticated modern equipment; - effective and efficient organization of any laboratory research and their independent conduct-promotion; -

	depending on the research results, draw conclusions and draw conclusions and make optimal decisions. be competent: in the supervision and control of traditional and modern methods of sanitary and hygienic research in accordance with and in accordance with modern requirements, decision-making and cost-effective proposals (recommendations).
Post-requirements of the discipline	Animal biochemistry. Veterinary microbiology and immunology
The purpose of studying the discipline	To familiarize with the main devices of laboratories of various types, laboratory devices, equipment and equipment
Content of the discipline	Veterinary laboratories. Safety precautions. Laboratory utensils. Laboratory equipment. Chemical reagents. Bacteriological nutrient media and paints. Laboratory animals, etc. necessary full-fledged information for laboratory research.
The competence of the discipline	After mastering the discipline, the student must: to know: - the graduate must be ready for professional activity as a veterinarian of medicine for laboratory diagnostics of diseases in veterinary laboratories and veterinary institutions; the device of laboratories of various types, laboratory devices, equipment and apparatus. be able to: - prepare the workplace, dishes, equipment for research and analysis in compliance with safety and fire safety regulations;
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: - Садуов, М.С. Лабораторное дело [Текст]: учеб. пособие / М.С. Садуов.- Алматы: КазНАУ, 2016.- 270 с. - Садуов, М.С. Зертханалық іс [Мәтін]: оқулық / М.С. Садуов; ҚР Білім және ғылым м-трлігі.- Алматы: TANDEM-2, 2016.- 464 б. - Садуов, М.С. Лабораторное дело [Текст]: учеб. пособие / М.С. Садуов.- Алматы: КазНАУ, 2017.- 270 с. - Лабораторные животные [Текст]: учеб. пособие / под общ. ред. А.А.Стекольников, Г.Г.Щербакова.- СПб.-М.-Краснодар: Лань, 2017.- 316 с. - Садуов, М.С. Зертханалық іс [Мәтін]: оқулық / М.С. Садуов; ҚР Білім және ғылым м-трлігі.- Алматы: TANDEM-2, 2018.- 464 б. additional references: - Кырыкбайұлы С., Садуов М. С., Махышев Т.А., Уразбекова Д.С., Жумагелдиев А.А. Лабораторное дело. Алматы, 2005,2009гг.. - Нурсейтова, З.Т. Сүт консервілерінің технологиясы пәнінен зертханалық жұмыстарды орындауға арналған [Мәтін]: әдістемелік нұсқаулар / З.Т. Нурсейтова, К.А. Уразбаева, А.К. Джанмулдаева.- Алматы: Эпиграф, 2016.- 85 б. - Кадим, И.Т. Тағам өнімдерінің сапасын анықтаудың зертханалық тәжірибесі [Мәтін] / И.Т. Кадим, А. Серикбаева, Г. Райымбек.- Алматы: Эверо, 2015.- 96 б. - Жұмагелдиев, А.А. Ветеринариялық қадағалау нысандарын радиациялық сараптау (сынама алу және дайындау) [Мәтін]:

	Ветеринариялық радиобиология пәнінен зертханалық сабақтар жүргізу үшін 5В120100-"Ветеринариялық медицина" және 5В120200-"Ветеринариялық санитария" маман. арн. оқу-әдістемелік нұсқау / А.А. Жұмагелдиев, А.Ж. Сахариянов.- Алматы: Айтұмар, 2015.- 35 б. 10. Кадим, И.Т. Лабораторный анализ качества пищевых продуктов [Текст]: лабораторное руководство / И.Т. Кадим, А. Серикбаева, Г. Райымбек.- Алматы: Эверо, 2015.- 96 с. 11. Kadim, Isam T. Laboratory manual for food analysis [Текст] / Isam T. Kadim, A. Serikbayeva, G. Raiymbek.- Almaty: Evero, 2015.- 96 p. Laboratory manual for food analysis [Текст]: практическое пособие / Kazakh National Agrarian University.- Almaty, 2014.- 70 p. 12. Жексенбаева, А.К. Лабораторный практикум по метеорологии [Текст] / А.К. Жексенбаева; Казахский национальный университет им.Аль-Фараби.- Алматы: Қазақ университеті, 2012.- 136 с.
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Code and name of the discipline	LAC 2103 Law and anticorruption culture
Teaching staff of the discipline	Abilkasymov E. D., Tolendi M. A.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	3
Prerequisites of the discipline	Human. Society. Right. (Secondary school program)
Post-requirements of the discipline	Module. Socio-political knowledge and a healthy lifestyle
The purpose of studying the discipline	increase the legal literacy of students in the field of anti-corruption legislation, the formation of an anti-corruption worldview, an anti-corruption standard of behavior, an intolerant attitude to any manifestation of corruption.
Content of the discipline	The concept of theories of state and law, their signs. Basic theories about the origin of the state and law. Objective law and subjective law. The relationship of law with politics, morality and economics. The functions of law. The interrelation of the concepts of the legal system, the system of norms and the law. The concept of normative legal acts, their general characteristics and types. The concept of the rule of law, their signs. The composition of the legal norm. Hypothesis, disposition, sanction and their types. Types of legal relations. The structure of legal relations. Legal capacity. Legal capacity. Subjects and objects of legal relations. The content of legal relations. Subjective rights and legal obligations. Individuals and legal entities. The composition of the offense. The subject, the objective and subjective sides of the offense. Legal responsibility, its types. Grounds for exemption from legal liability. Fundamentals of the constitutional law of the Republic of Kazakhstan. Fundamentals of administrative law. Fundamentals of labor law. Fundamentals of civil law. Fundamentals of criminal law. Fundamentals of

	environmental law. Fundamentals of land law. Fundamentals of international law. Theoretical and methodological foundations of the concept of "corruption", Subjects of anti-corruption and their powers, Ethical and typological features of corruption and the scope of its spread, Corruption as a factor violating human rights, Corruption as a threat to national security, Corruption offenses, Elements of corruption offenses, Appropriation of official powers, Forgery, Bribery.
The competence of the discipline	- to know the main provisions of the Constitution of the Republic of Kazakhstan; the main provisions of the current legislation of Kazakhstan; the system of public administration bodies and their terms of reference; the mechanism of interaction of substantive and procedural law, the essence of corruption and the causes of its origin, the measure of moral and legal responsibility for corruption offenses, current legislation in the field of anti-corruption; - understand the mechanism of interaction between substantive and procedural law; - apply apply the norms of civil law in specific situations; - be competent to analyze events and actions from the point of view of the field of legal regulation and be able to refer to the necessary normative acts; navigate the current legislation; using the law, protect their rights and interests, carry out professional activities based on developed legal awareness, legal thinking and legal culture; make decisions and perform legal actions in strict accordance with the law.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Ответственность за отдельные виды коррупционных правонарушений по новому уголовному Кодексу Республики Казахстан [Текст]: учеб. пособие / авт.-сост. А.Н.Ағыбаев; КазНУ им. аль-Фараби.- Алматы: Қазақ университеті, 2020.- 76 с. 2. Самалдықов, М.К. Сыбайлас жемқорлыққа қарсы әрекет етудің құқықтық негіздері [Мәтін]: практикум / М.К. Самалдықов; әл-Фараби атын. ҚазҰУ.- Алматы: Қазақ университеті, 2020.- 400 б 3. Бисенғали, Л. Основные вопросы противодействия коррупции [Текст]: учеб.-метод. пособие / Л. Бисенғали, А.А. Базилова; КазНУ им. аль-Фараби.- Алматы: Қазақ университеті, 2020.- 110 с. 4. Ағыбаев, А.Н. Парақорлық үшін қылмыстық жауаптылық [Мәтін]: оқу құралы / А.Н. Ағыбаев, А.Т. Қожаниязов.- Алматы: Эпиграф, 2019.- 160 б. 5. Мырзатаев, Н.Д. Сыбайлас жемқорлыққа қарсы күрес [Мәтін]: оқу құралы / Н.Д. Мырзатаев.- Алматы: Эпиграф, 2019.- 112 б. 6. Ағыбаев, А.Н. Ответственность за отдельные виды коррупционных правонарушений по новому уголовному Кодексу Республики Казахстан [Текст]: учеб. пособие / А.Н. Ағыбаев.- Алматы: Эпиграф, 2019.- 88 с.

	7. Сейтхожин, Б.У. Квалификация коррупционных преступлений: теория и практика применения [Текст]: учеб. пособие / Б.У. Сейтхожин, Б.Ш. Сарсембаев, А.Х. Феткулов.- Алматы: Эпиграф, 2019.- 204 с. 8. Сейтхожин, Б.У. Квалификация коррупционных преступлений: теория и практика применения [Текст]: учеб. пособие / Б.У. Сейтхожин, Б.Ш. Сарсембаев, А.Х. Феткулов.- Алматы: Эпиграф, 2019.- 204 с. 9. Турдалиев, Ә.О. Сыбайлас жемқорлықпен күрес стратегиясы [Мәтін]: оқу құралы / Ә.О. Турдалиев, Ж.Ж. Жағыпар.- Алматы: МонтеКристо, 2018.- 372 б. additional references: 10. Баймолдина, С.М. Актуальные проблемы борьбы с коррупцией и организованной преступностью [Текст]: учеб. пособие / С.М. Баймолдина.- Алматы: Эпиграф, 2016.- 184 с. 11. Закон Республики Казахстан "О противодействии коррупции" [Текст].- Алматы: Альманах, 2017.- 30 с.- (Юрид. б-ка). 12. Ашимбаева, А.Т. Национальная экономика Казахстана в условиях глобализации [Текст]: в 2 т.: Т.1 / А.Т. Ашимбаева.- Алматы: Б.и., 2015.- 408 с. Төлеев, М. Халықаралық терроризм Орталық Азия елдеріне төнетін қауіп-қатер ретінде: қазіргі заманның геосаясаты мен жаһандану контекстінде зерттеу [Мәтін]: моногр. / М. Төлеев.- Алматы: Нұр-Принт, 2015.- 185 б. 13. Тулеев, М. Международный терроризм как угроза безопасности стран Центральной Азии: исследование в контексте современной геополитики и глобалистики [Текст]: моногр. / М. Тулеев.- Алматы: Нур-Принт, 2015.- 174 с.
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Code and name of the discipline	Eco 2103 Ecology
Teaching staff of the discipline	Saikenov B.R., Sagidoldina J.E., Kuandykova E.M.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	3
Prerequisites of the discipline	Chemistry; Biology (school curriculum)
Post-requirements of the discipline	Module. Socio-political knowledge and a healthy lifestyle
The purpose of studying the discipline	Formation of ecological knowledge, obtaining in-depth knowledge about the fundamentals of sustainable development of nature and society, acquisition of theoretical and practical knowledge on modern methods of rational use of natural resources and environmental protection.
Content of the discipline	Ecology and its brief history of development. The concept of ecology. Ecology of populations-demecology. General information about the population. The structure and types of populations. Community ecology (synecology). The biosphere and its sustainability. The biosphere as a global ecosystem.

	Definition of the concept of nature. Classification of resources. The history of the interaction of nature and society. Social environmental problems of our time. The importance of efficient use of agricultural land. Green economy and sustainable development. Waste-free and low-waste production technologies.
The competence of the discipline	After mastering the discipline, the bachelor must: - to know the history of the formation of environmental science and its problems, nature protection and rational use of natural resources; - to understand and establish causal relationships between phenomena occurring in nature and society; - apply and use the acquired knowledge to solve the tasks set, in the analysis of environmental processes, setting priorities and objectives for the sustainable development of nature and society; - to be competent in the field of environmental protection and environmental management; in order to preserve the stability of the biosphere and biodiversity and the development of society without a catastrophic crisis; in determining the degree of environmental factors.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Сулейменова, Н.Ш. Экология природных ресурсов [Текст]: учеб. пособие / Н.Ш. Сулейменова, Б.Я. Махамедова, Р.А. Акылбекова.- Алматы: CyberSmith, 2021.- 168 с. 2. Зарубаев, Г.М. Экология и устойчивое развитие. Конспект лекций [Текст]: учебник / Г.М. Зарубаев, М.Г. Мухажанова.- 2-е изд., перераб. и доп.- Тараз: Формат-Принт, 2021.- 154 с. 3. Зәрубаев, Ғ.М. Экология: сөздік анықтама [Мәтін]: 1-вариант / Ғ.М. Зәрубаев, М.Ғ. Мұхажанова; ҚР Білім және ғылым м-трлігі; Тараз мем. пед. ун-ті.- Тараз: Сайдуллаев и Компания, 2021.- 32 б. 4. Зарубаев, Г.М. Экология: словарь-справочник [Текст]: 1-вариант / Г.М. Зарубаев, М.Г. Мухажанова; МОН РК; Тараз. гос. пед. ин-т.- Тараз: Сайдуллаев и Компания, 2021.- 40 с. 5. Колумбаева, С.Ж. Экология и устойчивое развитие [Текст]: учеб. пособие / С.Ж. Колумбаева, Р.М. Бильдебаева, М.А. Шарипова; КазНУ им. аль-Фараби.- Алматы: Қазақ университеті, 2020.- 153 с. 6. Баешова, А.К. Экология және тұрақты даму [Мәтін]: оқу құралы / А.К. Баешова, А.Б. Баешов; әл-Фараби атын. ҚазҰУ.- 2-бас., өнд., толықт.- Алматы: Қазақ университеті, 2020.- 225 б. 7. Abduova, A.A. Ecology and sustainable development [Текст]: training manual / A.A. Abduova.- Almaty: ЭСПИ, 2020.- 164 p. 8. Төлегенова, Д.К. Экологиялық ресурстар қоры [Мәтін]: оқу құралы / Д.К. Төлегенова, Ж.М. Гумарова; ҚР ауыл шар. м-трлігі; Жәңгір хан атын. Батыс Қазақстан АТУ.- Алматы: Альманах, 2019.- 106 б. 9. Мустафаева, Р.М. Экология [Мәтін]: оқу құралы / Р.М. Мустафаева.- Алматы: Альманах, 2019.- 495 б.

	Зәрубаев, Ғ.М. Экологияға жолдар [Мәтін]: оқу құралы / Ғ.М. Зәрубаев, М.Ғ. Мұхажанова; ҚР Білім және ғылым м-трлігі; Тараз мем. пед. ун-ті.- Тараз: Формат-Принт, 2019.- 94 б. 10. Бейсенова, Р.Р. Жаратылыстанудың экологиялық аспектілері [Мәтін]: оқу құралы / Р.Р. Бейсенова, Г.Е. Саспугаева, Б.Н. Аубакирова; Л.Н.Гумилев атын. Еуразия ұлттық ун-ті.- Алматы: ССК, 2019.- 176 б. 11. Жанадилов, А.Ю. Учение об окружающей среде [Текст]: учебник / А.Ю. Жанадилов.- Алматы: ССК, 2018.- 508 с. 12. Қазақстан Республикасындағы мемлекеттік экологиялық бақылауды ұйымдастырудың әдістемелік негіздері [Мәтін]: оқу құралы / Е.С.Андасбаев, Ж.С.Әлімбеков, А.К.Кенжебеков, Ж.Ж.Қанағатов; ҚР Білім және ғылым м-трлігі.- Қарағанды: АҚНҰР, 2018.- 284 б additional references: 13.Оспанова Г.С. Экология: оқулық / Г.С Оспанова, Г.Т Бозшатаева.- 2-бас.- Алматы: Эпиграф, 2016.- 315 б. 14. Жайлыбай К.Н. Экология терминдерінің түсіндірме сөздігі оқу құралы / К.Н. Жайлыбай, С.Қ. Райымқұлова.- Алматы: Эпиграф, 2016.- 84 б. 15.Баубеков С.Ж. Табиғатты қорғаудағы экология негіздері оқулық / С.Ж. Баубеков, С.Т. Дуйсенбаева.- Алматы: Эверо, 2015.- 308 б. 16. Булекбаева К.Б. Экология және қоршаған ортаны қорғау оқулық / К.Б. Булекбаева.- Алматы: Эверо, 2015.- 157 б. 17. Экология және тұрақты даму оқулық / А.Қ.Саданов, Н.Ш.Сүлейменова, Н.С.Дәменова; ҚР Білім және ғылым м-трлігі.- Алматы: Эпиграф, 2015.- 404 б. 18. Экология және тұрақты даму оқулық stud.kz/referat/show/54107 19. Мамыш, М.М. Топырақ және өсімдік экологиясы [Мәтін]: оқулық / М.М. Мамыш.- Алматы: KazBookTrade, 2017.- 192 б. 20. Макконнелл, Р.Л. Қоршаған ортаны қорғау мәселелері: тұрақты болашаққа көзқарас [Мәтін]: оқулық / Р.Л. Макконнелл, Д.К. Абель; ағыл. тілінен ауд. Г.Б.Абиева, Г.Ж.Жомартова; ҚР Білім және ғылым м-трлігі.- 4-бас.- Алматы: Дәуір, 2017.- 320 б. 21. Баяшова, А.К. Экология және тұрақты даму [Мәтін]: оқу құралы / А.К. Баяшова, А.Б. Баяшов; әл-Фараби атын. ҚазҰУ.- 2-бас., өңд., толықт.- Алматы: Қазақ университеті, 2018.- 225 б.
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Code and name of the discipline	LSB 2103 Life safety basics
Teaching staff of the discipline	Khamitov N.M., Kalkabayeva A.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	3
Prerequisites of the discipline	Chemistry; Biology; Physics (school curriculum)

Post-requirements of the discipline	Module. Socio-political knowledge and a healthy lifestyle
The purpose of studying the discipline	The purpose of teaching the discipline "Life safety" is to give students systematic knowledge on the acquisition of skills necessary to create safe and harmless living conditions, on the interaction of man and the technosphere.
Content of the discipline	The science of comfortable and safe human interaction with the technosphere is a field of scientific knowledge that studies the dangers threatening humans and develops ways to protect against them in any human habitat. The academic discipline "Life Safety" combines the topics of safe human interaction with the environment, occupational safety and issues of protection from negative factors of emergency situations. The main purpose of the doctrine of life safety is to protect humans in the technosphere from the negative effects of anthropogenic and natural origin, to achieve comfortable living conditions. The solution to the problem of life safety is to ensure comfortable conditions for people's activities, their lives, and the protection of humans and their environment from the effects of harmful factors. A person pays for any harm with his health and life, which can be considered as system—forming factors in the “human - habitat” system, the end result of its functioning and the criterion of environmental quality.
The competence of the discipline	After mastering the discipline, students should: know: -theoretical foundations of human life safety in the environment; -legal and regulatory and technical bases of life safety; have an idea: - on the anatomical and physiological consequences of traumatic, harmful and damaging factors on humans; -on ways and means of increasing the stability of the functioning of business facilities in emergency situations; - on methods of forecasting emergencies and eliminating their consequences. have the skills to: -the basics of organizing and performing rescue and other urgent work -development of measures to improve the safety and environmental friendliness of production activities; -taking part in carrying out rescue and other urgent work in the aftermath of an emergency to be competent: -in planning and implementing measures to increase the sustainability of production activities of business facilities; -in planning measures to protect production personnel and the public in emergency situations; - in fulfilling the duties of the commander of the civil defense unit during rescue operations
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature:

	1. Хамитов, Н.М. Основы безопасности жизнедеятельности [Текст]: учеб. пособие / Н.М. Хамитов; КазНАУ.- Алматы: Айтұмар, 2020.- 120 с 2. Хамитов, Н.М. Тіршілік қауіпсіздігі негіздері [Мәтін]: оқу құралы / Н.М. Хамитов; ҚазҰАУ.- Алматы: Айтұмар, 2020.- 140 б. 3. Баубеков, С.Ж. Апаттан құтқару жұмыстары [Мәтін]: оқу құралы / С.Ж. Баубеков, К.С. Таукебаева.- Алматы: Эверо, 2020.- 196 б 4. Кривошеин, Д.А. Безопасность жизнедеятельности [Текст]: учеб. пособие / Д.А. Кривошеин, В.П. Дмитриенко, Н.В. Горькова.- СПб.: Лань, 2019.- 340 с. 5. Қыстаубаева, З.Т. Тіршілік қауіпсіздігі негіздері [Мәтін]: оқу құралы / З.Т. Қыстаубаева, А.Ш. Сарсембаева.- Алматы: ССК, 2019.- 272 б. 6. Еңбек қорғау және өмір тіршілігінің қауіпсіздігі [Мәтін]: оқу құралы / М.О.Байтуганова, Е.В.Комлева, Н.Ж.Нұрмағанбет, А.Р.Тусупханова; ҚР Білім және ғылым министрлігі.- Алматы: ССК, 2019.- 424 б. 7. Жилисбаева, Р.О. Охрана труда и техника безопасности на предприятиях [Текст]: учебник / Р.О. Жилисбаева, С.В. Хромцов.- 2-е изд.- Караганда: Medet Group, 2018.- 252 с. 8. Жилисбаева, Р.О. Кәсіпорындардағы техникалық қауіпсіздік және еңбекті қорғау [Мәтін]: оқулық / Р.О. Жилисбаева, С.В. Хромцов, Б.Р. Рашидова.- 2-бас.- Қарағанды: Medet Group, 2018.- 230 б. 9. Еңбек қорғау [Мәтін]: барлық маман. студ. дипломдық жобаның (жұмыстың) "Еңбек қорғау" бөлімін орындауға арн. әдістемелік нұсқау / Б.Ж.Жунусбаев, М.С.Тойлыбаев, Б.Е.Қашаған [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2018.- 23 б 10. Охрана труда [Текст]: метод. указания к выполнению раздела "Охрана труда" дипломного проекта (работы) для студ. всех спец. / Б.Ж.Жунусбаев, Е.Т.Сапарбаев, Х.М.Илямов [и др.]; КазНАУ.- Алматы: Айтұмар, 2018.- 23 с. 11. Учебно-методический комплекс дисциплины "Нормативные и правовые основы в безопасности жизнедеятельности" [Текст]: для студ. спец. "Безопасность жизнедеятельности и защита окружающей среды" / Б.Е.Тастемирова, А.К.Атыханов, К.Калым, А.Т.Оспанов; НАО КазНАУ.- Алматы: Айтұмар, 2018.- 114 с 12. Еңбекті қорғау және тіршілік қауіпсіздігі [Мәтін]: оқулық / Қ.Т.Жантасов, Е.Н.Кочеров, А.С.Наукенова, М.Қ.Жантасов.- Алматы: Эпиграф, 2016.- 588 б. additional references: 13. Безопасность жизнедеятельности. Учебное пособие, книга 1. – Алматы: Республиканские курсы ЧС и ГО, 2012. – 232с. 14.Безопасность жизнедеятельности. Учебное пособие, книга 2. – Алматы: Республиканские курсы ЧС и ГО, 2012. – 160с. 15.Безопасность жизнедеятельности / под ред. О.Н . Русака. – СПб.: Лань, М.: Омега-Л, 2014. – 448 с.
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	15. Баубеков, С.Д. Охрана труда и безопасность [Текст]: учебник / С.Д. Баубеков, М.Н. Немеребаев, С.З. Казахбаев.- Алматы: Эверо, 2015.- 308 с. 16. Законы Республики Казахстан в области чрезвычайных ситуаций. – Алматы: МЧС, Республиканские курсы ЧС и ГО, 2016. – 176с. 17. Приходько Николай Георгиевич. Безопасность жизнедеятельности [Электронный ресурс]: Курс лекций
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Code and name of the discipline	BZhA 2203 Biochemistry of animals
Teaching staff of the discipline	Bazilbaev S.M., Sarimbekova S., Salkhanova S.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	4
Prerequisites of the discipline	Animal physiology. Animal husbandry and animal feeding
Post-requirements of the discipline	Module. Animal pathology
The purpose of studying the discipline	formation of students' system, knowledge, skills and abilities in biochemistry, acquisition of basic knowledge of biochemical processes occurring in a living organism
Content of the discipline	Osmosis and osmotic pressure. Diffusion. Buffer systems. Vitamins are natural bioregulators. Enzymes, simple and complex enzymes. The most important coenzymes. Hormones are regulators of metabolic processes. Chemistry and metabolism of carbohydrates. The chemical nature and metabolism of lipids. The chemical nature and metabolism of proteins. Biochemistry of nucleic acids (replication and mutation). Protein biosynthesis and its regulation. The exchange of water and minerals.
The competence of the discipline	After mastering the discipline, the bachelor must: to know: chemical properties and structure of proteins, carbohydrates and lipids, chemical composition of bioregulators and classical methods of their research; to understand: to determine the chemical composition and properties of bioregulators, lipids, proteins and carbohydrates by modern research methods; apply: methods of analysis of biochemical studies; methods of independent study of the composition of biological objects and analysis of the results obtained; - to be competent: the experience of applying the acquired knowledge and skills to solve practical problems, possession of modern biochemical methods of analysis increases the competitiveness of a future specialist in the labor market.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Маршалл, В.Дж. Клиническая биохимия [Текст] / В.Дж. Маршалл, С.К. Бангерт; пер. с англ., под ред. С.А.Бережняка.- 6-е изд., перераб. и доп.- М.: БИНОМ, 2021.- 408 с.

	2. Сейтембетов, Т.С. Биологиялық химия [Мәтін]: оқулық / Т.С. Сейтембетов, Б.И. Төлеуов, А.Ж. Сейтембетова; жалпы ред. құраст. С.М.Әдекенов.- Алматы: Эверо, 2020.- 432 б. 3. Biochemistry [Текст]: educational and methodical manual / Sh.Daurenbekova, O.Kosulina, B.Oksikbayev [и др.].- Almaty: New book, 2020.- 336 p. 4. Жумашев, Ж.Ж. Биохимия иммуноглобулинов сельскохозяйственных животных [Текст]: моногр. / Ж.Ж. Жумашев, А.А. Камбаров.- Алматы: Эверо, 2017.- 204 с. 5. Zhumashev, Zh.Zh. Biochemistry of carbohydrates and lipids [Текст]: Educational-methodological manual on biochemistry of animals / Zh.Zh. Zhumashev, G.B. Kossaliyeva, S.N. Sarymbekova.- Almaty: CyberSmith, 2017.- 112 p. 6. Комов, В.П. Биохимия [Текст] / В.П. Комов, В.Н. Шведова.- 4-е изд., испр. и доп.- М.: Юрайт, 2015.- 640с. 7. Биохимия [Текст]: учебник для вузов / Л.В.Авдеева, Т.Л.Алейникова, Л.Е.Андрианова [и др.]; под ред. Е.С.Северина.- 5-е изд., испр. и доп.- М.: ГЭОТАР-Медиа, 2015.- 768 с. 8. Кэмпбелл, М. Биохимия [Текст]: 1-бөлім: оқулық / М. Кэмпбелл, Ш. Фаррелл; ауд. Б. С. Набиева; ҚР Білім және ғылым м-гі; ҚР жоғары оқу орын. қауымдастығы.- Алматы: [б. ж.], 2013.- 336 б. 9. Кэмпбелл, М. Биохимия [Текст]: 1-бөлім: оқулық / М. Кэмпбелл, Ш. Фаррелл; ауд. Б. С. Набиева; ҚР Білім және ғылым м-гі; ҚР жоғары оқу орын. қауымдастығы.- Алматы: [б. ж.], 2013.- 336 б. 10. Кэмпбелл, М. Биохимия [Текст]: 1-бөлім: оқулық / М. Кэмпбелл, Ш. Фаррелл; ауд. Б. С. Набиева; ҚР Білім және ғылым м-гі; ҚР жоғары оқу орын. қауымдастығы.- Алматы: [б. ж.], 2013.- 336 б. additional references: 11. Тұртабаев, С.К. Биохимия негіздері [Мәтін]: оқулық / С.К. Тұртабаев, А.К. Кабдрахимова, А.Ж. Еримова.- Алматы: Дәуір, 2012.- 336 б. 12. Қыдыржанова, А.А. Кесте және схема түріндегі биохимия [Мәтін]: оқу құралы / А.А. Қыдыржанова.- 2-ші бас.- Қарағанды: Ақ Нұр, 2013.- 118 б. Сеитов З.С. Биохимия: оқулық /3-бас., өзгерт., толықт. - Алматы: Медицина университеті, 2010.- 568 б. 13. Сейтембетов Т.С., Төлеуов Б.И., Сейтембетова А.Ж.. Биологиялық химия/оқулық- Алматы; Баспа: Эверо, 2011.-420 б 14. Тұртабаев С.Қ., Кабдрахимова Ә.К., Еримова А.Ж. Биохимия негіздері. Алматы: ЖШС РПБК «Дәуір», 2012.- 336б. 15. Қыдыржанова А.А. Биологиялық химия: оқулық.- Қарағанды: Ақ Нұр, 2013.- 380 б. 16. Қыдыржанова, А.А. Кесте және схема түріндегі биохимия: оқу құралы. 2-ші бас.- Қарағанды: Ақ Нұр, 2013.- 118 б.
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Code and name of the discipline

VMI 2206 Veterinary Microbiology and immunology

Teaching staff of the discipline	Kirkimbayeva J.S., Biyashev B.K.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	4
Prerequisites of the discipline	Cytology, histology and embryology of animals. Veterinary hygiene and sanitation
Post-requirements of the discipline	Module 10 Infectious animal pathologies
The purpose of studying the discipline	Purpose: to provide students with knowledge and practical skills in general microbiology (the study of various groups of saprophytic and pathogenic microorganisms, their morphology, systematics and physiology, the influence of environmental factors on the vital activity of microorganisms and the role of microorganisms in the transformation of substances in nature, in animal nutrition (microflora of the gastrointestinal tract), in industrial processes; in private microbiology (the role of microorganisms in the pathological process (pathogens of infectious diseases), and immunology (The concept of infection and immunity, the mechanism and types of immune response).
Content of the discipline	The discipline includes the following subsections: morphology and physiology of microorganisms, their resistance to various physico-chemical and biological factors, genetics and distribution in the external environment, participation in the occurrence and course of the infectious process; patterns of formation of resistance of a macroorganism to infectious diseases (immunity); biological properties of certain types of microbes – pathogens of infectious diseases and methods of laboratory diagnostics, as well as biologics for the specific prevention and treatment of these diseases.
The competence of the discipline	to know: the definition of infection, immunity, the genetics of microorganisms; the role of microorganisms in the circulation of substances and in the infectious pathology of animals; the basics of bacteriological and serological diagnosis of infectious diseases, the main properties of pathogens. to understand: an overview of the study of pathogens of infectious diseases of animals, to find differences, to characterize the morphology and physiology of microorganisms, their resistance to various physico-chemical and biological factors. to apply: methods of preparation of nutrient media for bacteria, to work with cultures of microorganisms, morphological, tinctorial, biochemical, antigenic and virulent properties of pathogens of infectious diseases of animals. be competent: on the issues of carrying out therapeutic and preventive measures. the use of bacteria in the national economy and biotechnology; the occurrence and course of infections, the patterns of formation of immunity, the principles of obtaining and the mechanism of action of biological products for the diagnosis, prevention and treatment of infectious diseases of animals.
Final control form	Exam

Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Алмагамбетов, К.Х. Прикладная микробиология [Текст] / К.Х. Алмагамбетов.- Нур-Султан: Фолиант, 2020.- 256 с. 2. Госманов, Р.Г. Основы микробиологии [Текст]: учебник / Р.Г. Госманов, А.К. Галиуллин, Ф.М. Нургалиев.- СПб.: Лань, 2020.- 144 с.- 3. Кисленко, В.Н. Ветеринарная иммунология (теория и практика) [Текст]: учебник / В.Н. Кисленко.- М.: ИНФРА-М, 2018.- 214 с.- 4. Бияшев, К.Б. Ветеринарная микробиология и иммунология [Текст]: учебник / К.Б. Бияшев, Б.К. Бияшев.- 2-е изд.- Алматы: Эверо, 2017.- 464 с. 5. Ветеринарная микробиология и вирусология [Текст]: учеб. пособие / С.Е.Ермагамбетова, К.Б.Бияшев, Б.К.Бияшев, Ж.С.Киркимбаева; МСХ РК; НАО "КазНАУ".- Алматы: КазНАУ, 2017.- 220 с. 6. Кисленко, В.Н. Микробиология [Текст]: учебник / В.Н. Кисленко, М.Ш.Азаев.- М.: ИНФРА-М, 2017.- 272 с 7. Толысбаев, Б.Т. Ветеринариялық санитарлық микробиология [Мәтін]: оқулық / Б.Т. Толысбаев, К.Б. Бияшев, Р.Ж. Мықтыбаева; жалпы ред. басқ. Б.Т.Толысбаев.- 2-бас., стереотип.- Алматы: Альманах, 2017.- 591 б. 8. Толысбаев, Б.Т. Микробиология және иммунология [Мәтін]: оқулық / Б.Т. Толысбаев, К.Б. Бияшев.- 3-бас., стереотип.- Алматы: Альманах, 2017.- 497 б. 9. Сайдулдин, Т. Ветеринариялық иммунология [Мәтін]: оқу құралы / Т. Сайдулдин.- Алматы: Полиграфия-Сервис К, 2017.- 366 б. 10. Құлдыбаев, М.М. Микробиологиялық пәнінің практикалық сабақтары [Мәтін]: оқулық / М.М.Құлдыбаев; ҚР білім және ғылым м-гі.- Алматы: KazBookTrade, 2017. 11.Бияшев, К.Б. Ветеринарная микробиология и иммунология [Текст]: учебник / Б.К. Бияшев.- 2-е изд.- Алматы: Нур-Принт, 2015.- 417 с. 12. Сегизбаева, А.С. Микробиология [Текст]: учеб. пособие / А.С. Сегизбаева; МОН РК.- Алматы: Отан, 2015.- 175 с additional references: 13. Жакыпбекова, Б.О. Ветеринариялық микробиология және вирусология [Мәтін]: 1 том: оқулық / Б.О. Жакыпбекова, М.С. Оспанова, К.С. Курбанова; ҚР Білім және ғылым м-трлігі.- Алматы: New book, 2020.- 252 б. 14. Жакыпбекова, Б.О. Ветеринариялық микробиология және вирусология [Мәтін]: 2 том: оқулық / Б.О. Жакыпбекова, М.С. Оспанова, К.С. Курбанова; ҚР Білім және ғылым м-трлігі.- Алматы: New book, 2020.- 264 б. 15. Частная ветеринарно-санитарная микробиология и вирусология [Текст]: учеб. пособие / Р.Г.Госманов, Р.Х.Равилов, А.К.Галиуллин [и др.].- СПб.: Лань, 2019.- 316 с 16. Новицкий, А.А. Краткий словарь микробиологических, иммунологических и эпизоотологических терминов [Текст] /

	А.А. Новицкий, И.П. Иванов, С.Н. Саримбекова; МСХ РК; НАО "КазНАУ".- Алматы: Айтумар, 2019.- 235 с. 17. Тлепов, А.А. Микробиология: учеб. пособие для вузов / А.А Тлепов.- Алматы: Эверо, 2015.- 312 с. 18.Бияшев К.Б., Бияшев Б.К. Ветеринарная микробиология и иммунология [Текст]: учебник / К.Б. Бияшев, Б.К. Бияшев.- 2-е изд.- Алматы: Эверо, 2017.- 464 с.
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Code and name of the discipline	AE 2105 Agrarian Economics
Teaching Staff of discipline	Yessengaziyeva Saule, Aitmukhanbetova Damira
Cycle of discipline	BD/EC
Level of study	Specialty
Educational program	for all agricultural educational program
Number of academic credits	5
form of education	Full-time
Semester	4
Prerequisites of the discipline	Economics and Law
Postrequisites of the discipline	Module 4 Fundamentals of animal science and sanitation
The purpose of studying the discipline	The study of the main theories, concepts and key problems of the modern agricultural economy, the formation of students' knowledge about the role and importance of the agricultural sector in ensuring the growth of economic processes and phenomena occurring in the agricultural sector.
The content of the discipline	Features of agriculture as a branch of the economy and the specifics of agrarian relations. Entrepreneurship in the agribusiness system and its relationship with other areas of activity. Land resources of agricultural production and the efficiency of their use. Fixed and working capital of agricultural production and the efficiency of their use. Labor resources and labor productivity of agricultural production. wages in the enterprise. Production costs and production costs. Gross and marketable agricultural output, forms of its implementation. Marketing in agricultural production. Investments and capital investments in agricultural production. State programs to support agriculture. Business plan as a business planning tool. Economic efficiency of agricultural production.
Competence of the discipline	After studying the discipline, the bachelor must: - to know the features of agricultural production, directions for the efficient use of resources in the agro-industrial complex; - to understand the mechanisms of effective economic activity in the agro-industrial complex; - to apply methods of economic analysis of production in the agro-industrial complex; - to be competent in the economics and management of the agro-industrial complex in market conditions.
Form of final control	Exam
Duration	1 academic period (15 weeks)
References	1. Sundetuly, Zh. Fundamentals of creative economy in agriculture [Text]: textbook. allowance / J. Sundetuly, A. Ismailova, A. Nukesheva.- Almaty: Lantar Trade, 2019.- 184 p. 2. Economics and organization of agricultural cooperation [Text]: textbook. allowance / under total. ed. T.I.Espolova, U.K.Kerimova

	G.R.Madieva [and others]; Ministry of Agriculture of the Republic of Kazakhstan; NJSC "KazNAU"; Research Institute of Agribusiness and Consulting.- Almaty: Gylym Ordasy, 2017.- 344 p. 3. Tazhibaeva Zh.O. Agroönerkäsiptik keshennin economics [Matin]: workshop / Zh.O. Tazhibaeva.- Almaty: TechSmith, 2018.- 144 p. 4. Isabekov B.N. Innovation zhane kasipkerlik [Matin]: okulyk / B.N. Isabekov, L.K. Mukhambetova; QR Bilim zhane gylym m-trligi.- Astana: Basp. Zh., 2017.- 680 b. 5. Nurgaliyeva A.A. Agribusiness Uyim-dastyru. Oku kuraly. Almaty: Economy, 2015 6. Umbetaliev A.D. Agrarian sector of economics [Matin]: oku kuraly / A.D. Ymbetaliyev; QR Bilim zhane gylym m-trligi; Shymkent un-ti.- Shymkent: Alem, 2014.- 196 p. 7. Bekenova G.Y. Agrarian economy. Oku kuraly. Almaty. "Taugul Print" baspasy, Almaty, 2013.
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Code and name of the discipline	FSR 2103 Fundamentals of scientific research
Teaching staff of the discipline	Omarbekova U. Zh., Khusainov D. M.
Discipline cycle	GED /OC
Training level	Specialty
Educational program	6B09104 - Veterinary
Number of academic credits	5
Form of training	full-time
Semester/trimester	III
Prerequisites of the discipline	Cytology, histology and embryology of animals. Anatomy of animals and birds
Post-requirements of the discipline	Private veterinary microbiology. Veterinary toxicology and toxicological analysis. Pathological anatomy of animals.
The purpose of studying the discipline	mastering by students of veterinary of methodological actions, techniques and preparation of scientific documentation in the field of veterinary medicine
Content of the discipline	Methodological approaches in the study of disease, etiology and pathogenesis. Methodological approaches in the study of the main pathological changes and inflammation. Methods of conducting a clinical examination of animals. Basic methods of studying non-infectious diseases, diseases of the respiratory and digestive organs. Basic methods of studying infection, prevention measures. Basic methods of studying parasitic diseases. Outstanding scientists and the main achievements of veterinary science. Veterinary medicine and veterinary science in modern Kazakhstan, its problems, solutions, development prospects. Methodology of experimental research. The order of registration of scientific reports. Plan-program, justification of measuring instruments, conducting an experiment, processing and analyzing experimental data. General methodological criteria for conducting experiments on animals. Features of biological material for data processing.
The competence of the discipline	After mastering the discipline, the student must:

	know:- methodological approaches in the study of disease, animal examination, - methodological approaches to the study of non-infectious and contagious diseases;- methodology of scientific research; - rules for drawing up scientific documentation; be able to: distinguish between the main stages of scientific research and experiment; - make a plan and design a thesis in accordance with GOST; understand: the method of recognizing diseases, its causes, the method of conducting animal examinations: the method of studying non-infectious diseases; the method of studying infectious diseases; the method of studying parasitic diseases; apply: the methodology of conducting scientific research; the methodology of drawing up the design of the results of scientific research according to GOST 7.32.2001. be competent: in the field of methodology and scientific documentation in veterinary medicine.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	1. Омарбекова, У.Ж., Хусаинов Д.М. Ветеринариядағы әдістемелер және ғылыми құжаттар [Мәтін]: оқу құралы / У.Ж. Омарбекова, Д.М. Хусаинов; ҚР ауыл шар. м-трлігі.- Алматы: Printmaster, 2021.- 216 б. 2. Хусаинов Д.М., Омарбекова, У.Ж., Методология и научные документации в ветеринарии [Мәтін]: оқу құралы / У.Ж. Омарбекова, Д.М. Хусаинов; ҚР ауыл шар. м-трлігі.- Алматы: Printmaster, 2021.- 312 б. 3. Методы и средства научных исследований [Электронный ресурс]: учеб. пособие / Ю. Н. Колмогоров, А. П. Сергеев, Д. А. Тарасов и др.; Уральский Федеральный ун-т.- Екатеринбург: Изд-во Уральского ун-та, 2017.- 152 с. http://lib.kaznau.kz/Res/ebook_1017/index.html 4. Методология научных исследований в ветеринарии и зоотехнии [Электронный ресурс]: учебник / Н. А. Слесаренко, И. С. Ларионова, Е. Н. Борхунова.- Санкт-Петербург: Лань, 2020.- 296 с. http://lib.kaznau.kz/Res/ebook_738/index.html 5. Кентбаева, Б.А. Методология научных исследований [Электронный ресурс] / Б.А. Кентбаева [и др.]; КазНАУ.- Алматы: Айтумар, 2014.- 211 с. http://lib.kaznau.kz/Res/Kentbaeva_B.A._Metodologiya_nauchnyh_issledovaniy.pdf 6. Каракаев, А.К. Основы патентоведения и научных исследований [Электронный ресурс]: учеб. пособие для вузов / А.К. Каракаев [и др.]; МОН РК; Павлодарский гос.ун-т им. С. Торайгырова.- Павлодар; Кереку, 2017.- 164 с. http://lib.kaznau.kz/Res/ebook_1052/index.html 7. Методология научного исследования [Текст]: учебник / под ред. Н.А.Слесаренко.- 3-е изд., стер.- СПб.: Лань, 2019.- 268 с. http://lib.kaznau.kz/Res/ebook_613/index.html

Code and name of the discipline	Ent 2103 Entrepreneurship
Teaching staff of the discipline	Beisenova G. Sh., Kuralbaeva R. E., Kabi Sh. M.

Cycle	BS /UC
Training level	Specialty
Educational program	all educational programs
Number of academic credits	5
Form of training	full - time
Term	3
Prerequisites of the discipline	Economic theory, Law and anti-corruption culture
Post-requirements of the discipline	Graduation thesis
The purpose of the discipline	Studying the basics of entrepreneurship, forms an entrepreneurial mindset and the ability to see opportunities for the realization of potential
Content of the discipline	Legal framework in the field of entrepreneurship of the Republic of Kazakhstan; Organizational and legal forms and types of entrepreneurship; State support of entrepreneurship in the Republic of Kazakhstan; Economic content of entrepreneurship; Market analysis and research
Competencies of the discipline	Business plan; Financial basis of entrepreneurship; Price and pricing; Taxation of entrepreneurial activity After mastering the discipline, the bachelor must: know understand the role of entrepreneurship in the economic management system; - to understand the essence of economic phenomena and processes at the level of an individual organization, their interrelation and interdependence, to be able to systematize and model them; - learn the formation of the work of entrepreneurship; - know the best practices of methods of analysis and evaluation of the effectiveness of entrepreneurship. - be able to detail, systematize and model the studied economic processes in entrepreneurship; - to identify the influence of factors that determine the behavior of performance indicators and to study the legal regulation of entrepreneurship; - possess the skills of analytical work of business and entrepreneurship; - business and entrepreneurship pricing implementation skills.
Form of final control	Exam
Duration of training	1 academic period (15 weeks)
	Basic literature 1. Pereverzev M.P. Entrepreneurship and business [Text]: textbook / M.P. Pereverzev, A.M. Luneva; edited by M.P.Pereverzev. - M.: INFRA-M, 2019.- 176 p. 2. Organization of production and entrepreneurship in agriculture: textbook / M.P.Tushkanov, L.D.Cherevko, L.B.Vinnichuk [et al.]; edited by M.P.Tushkanov.- M.: INFRA-M, 2020.- 270 p.- (Higher education. Bachelor's degree). 3. Kuratko, D.F. Entrepreneurship: theory, process, practice [Text] / D.F. Kuratko; S.A.Nurova lane; OF "National Translation Bureau".- 8th ed.- Almaty: National Translation Bureau, 2019.- 514 p.

	4. Isabekov, B.N. Innovations and entrepreneurship [Text]: textbook / B.N. Isabekov, L.K. Mukhambetova; MES RK.- Astana: B.I., 2017.- 704 p. 5. Umbitaliev, A.D. Entrepreneurship [Text]: textbook / A.D. Umbitaliev.- Shymkent: SKSU named after M.Auezov, 2015.- 376 p. Additional literature 1. The Entrepreneurial Code of the Republic of Kazakhstan (with amendments and additions as of 01.04.2023) 2. On taxes and other mandatory payments to the budget (Tax Code) / Code of the Republic of Kazakhstan dated December 25, 2017 No. 120-VI SAM.
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Code and name of the discipline	VD 2204 Veterinary deontology
Teaching staff of the discipline	Махмытов А.К.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	3
Prerequisites of the discipline	Anatomy of animals and birds
Post-requirements of the discipline	Module 9 Non-infectious animal pathology
The purpose of studying the discipline	to provide students with knowledge and practical skills on customer service in the clinic, establishing relationships and achieving mutual understanding
Content of the discipline	Bioethics and practical medicine. Euthanasia. The customer service cycle at the clinic. The Code of Customer relations. Nuances of customer service. The main features of a good listener. Non-verbal communication. Tests for non-verbal communication. How to make a client feel special. Establishing relationships and reaching mutual understanding.
The competence of the discipline	After mastering the discipline, the student must: to know: the professional ethics of a doctor and the principles of deontology;- have a theoretical background and rules for the admission of animals;- competently evaluate the results of clinical and laboratory studies; understand: knowledge of foreign and Latin languages to obtain professional information from foreign and domestic sources; apply: a decision based on rational motives; - the ability to achieve reasonable goals as a result of a decision. be competent: in establishing international contacts for professional development and exchange of experience;
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Психология и этика делового общения [Текст]: учебник для бакалавров / под ред. В.Н.Лавриненко, Л.И.Чернышевой.- 6-е изд., перераб. и доп.- М.: Юрайт, 2013.- 591 с

	2. Организационное поведение [Текст]: учебник / О.К.Минева, С.А.Арутюнян, Е.А.Белик, Е.В.Крюкова.- М.: Альфа-М: ИНФРА-М, 2020.- 256 с. 3. Imangaliyev, A.K. Veterinary deontology [Мәтін]: handbook / A.K. Imangaliyev; KazNAU.- Almaty: Aytumar, 2016.- 91 p. 4. Омарбекова, Г.Қ. Ветеринариялық деонтология [Мәтін]: оқулық / Г.Қ. Омарбекова, А.Қ. Иманғалиев, А.Қ. Махмұтов; ҚазҰАУ коммерц. емес АҚ.- Алматы: Айтұмар, 2016.- 104 б. 5. Ветеринарная деонтология [Текст]: учебное пособие / К.К. Муралинов [и др.].- Алматы: Айтумар, 2013.- 202 с. 6. Профессиональная этика и деонтология ветеринарной медицины [Текст]: учеб. пособие / Под ред. А.А. Стекольниковой.- СПб. - М. - Краснодар: Лань, 2015.- 448 с. 7. Муралинов, К.К. Ветеринарная деонтология [Текст]: учебник / К.К. Муралинов, А.К. Махмұтов, Ж.К. Муралинова.- Алматы: Нур-Принт, 2015.- 168 с. additional references: 8. К. К. Муралинов, М. Н. Джуланов, А. К. Иманғалиев [и др.].- Ветеринарная деонтология [Текст]: учеб. / Алматы: КазНАУ, 2011.- 2006 с. 9. Ілгекбаева, Г.Д. Зоопсихология [Мәтін]: ветеринариялық медицина мамандығы студенттеріне арналған оқу құралы / Г.Д. Ілгекбаева; ҚР білім және ғылым м-гі; ҚазҰАУ.- Алматы, 2011.- 244 б.
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Code and name of the discipline	VP 2207 Veterinary pharmacology
Teaching staff of the discipline	Zamanbekov N.A., Kobdikova N.K.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	10
Form of training	full-time
Semester/trimester	4, 5
Prerequisites of the discipline	Animal physiology. Animal Biochemistry
Post-requirements of the discipline	Veterinary toxicology and toxicological analysis. Module 12 Veterinary safety
The purpose of studying the discipline	in-depth, comprehensive study of the effects of drugs on living organisms, their physico-chemical properties; teach how to use rational methods of treatment, diagnosis and prevention using modern methods of detecting poisoning.
Content of the discipline	Studies the essence and features of the action of medicinal substances; the patterns of their absorption and distribution in the body, pharmacodynamics and pharmacokinetics, pharmacological control of the quality and safety of medicines; the study of the mechanisms of action of medicines and the theoretical foundations of their rational use in healthy and sick animals; indications and contraindications to their use the most rational doses, methods of application.
The competence of the discipline	After mastering the discipline, the bachelor must: - to know: properties of medicinal substances, rules of storage and release; regularity of absorption and distribution in the body;

	mechanism of pharmacological action of medicinal products and their biotransformation in animals and birds; - understand: calculation of the required amount and concentration of antimicrobial and parasitic substances, taking into account the type, sex and physiological condition of the animal; laboratory results; - apply: knowledge about the peculiarities of the action of drugs; patterns of their absorption and distribution in the body, pharmacodynamics and pharmacokinetics, methods of pharmacological quality control and safety of medicines; - be competent: mastering the principles of developing various dosage forms, dosage of medicines for different types of farm animals and birds; issues of pharmacodynamics and pharmacokinetics of medicines; when questions arise about the toxicodynamics and toxicokinetics of toxic substances; during registration and storage of toxic and medicinal products.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Фармакология [Мәтін]: оқулық / Б.Д.Айтжанов, Н.А.Заманбеков, Ә.М.Өтенов [ж.т.б.]; ҚР Білім және ғылым м-трлігі; ҚазҰАУ.- Алматы: Нур-Принт, 2016.- 495 б. 2. Тулеметова, С.Е. Фармакология [Мәтін]: оқу құралы / С.Е. Тулеметова.- Алматы: Эпиграф, 2016.- 332 б. 3.Тулеметова, С.Е. Фармакология [Мәтін]: оқу құралы / С.Е. Тулеметова.- Алматы: Эпиграф, 2016.- 332 б. 4. Заманбеков, Н.А. Ветеринариялық фармация [Мәтін]: оқу құралы / Н.А. Заманбеков; ҚР Білім және ғылым м-трлігі; ҚазҰАУ.- Алматы: Альманах, 2017.- 384 б 5. Zamanbekov N.A., Kobdikova N.K., Veterinary pharmacy, praktikum, Almaty, Aytumar, 2017y 6. Заманбеков Н.А., Кобдикова Н.К., Организация и управление ветеринарной фармации; учебное пособие, Алматы, 2015г. 7. Заманбеков, Н.А. Ветеринарная фармация [Текст]: практикум: учеб. пособие / Н.А. Заманбеков, Н.К. Кобдикова, Е.М. Корабаев.- Алматы: Айтумар, 2015.- 286 с. 8. Қорабаев Е.М. және т.б. Токсикология, Алматы, 2016 ж 9. Заманбеков, Н.А. Ветеринарная фармация [Текст]: практикум: учеб. пособие / Н.А. Заманбеков, Н.К. Кобдикова, Е.М. Корабаев.- Алматы: Айтумар, 2015.- 286 с. 10. Кухар, Е.В. Основы фармакогнозии [Текст]: учеб. пособие / Е.В. Кухар, Г.Т. Есжанова; МСХ РК.- Алматы: New book, 2020.- 284 с. additional references: 11. Katzung, Bertram, Basic fnd Clinical Pharmacology.- New-York, 2015y. 12. Токсикология. Hans–Werner Vohr, Немецкий, 2010г. Тоқтаубайұлы, А. Қазақтың дәрілік тағамдары [Мәтін]: 1-кітап. Деніңе қуат, дертке шипа / А. Тоқтаубайұлы.- Алматы: Қазақ энциклопедиясы, 2017.- 84 б.

	13. Фитофармакология [Мәтін]: метод. указания для выполнения лабораторно-практ. занятий и самостоятельных работ для студ. 3-курса спец. 5В120100-Ветеринария / разраб. Н.А.Заманбеков, Н.К.Кобдикова, Е.М.Корабаев, Г.К.Тулупова; МСХ РК; НАО "КазНАУ".- Алматы, 2017.- 141 с
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EDUCATIONAL PROGRAM: 6B09104 – VETERINARY MEDICINE

**Degree awarded: veterinary specialist in the
educational program
"6B09104- Veterinary Medicine" 3rd year**

Cycle	Code	Disciplines	Academic credits
5 term – 30 academic credits			
<i>The university component – 30 credits</i>			
BD	VP 3302	Veterinary pharmacology	5
BD	PP 3208	Pathological physiology	5
BD	VV 3204	Veterinary virology	5
BD	PVM 3205	Private veterinary microbiology	5
BD	VHS 3201	Veterinary hygiene and sanitation	5
CD	VO 3301	Veterinary obstetrics	5
6 term – 30 academic credits			
<i>The university component – 25 credits</i>			
BD	VTTA 3206	Veterinary toxicology and toxicological analysis	5
BD	PAA 3209	Pathological anatomy of animals	5
BD	CDA 3203	Clinical diagnostics of animals	5
CD	VG 3302	Veterinary gynecology	5
BD	PP 3303	Production practice 1	5
<i>Component of choice – 5 credits</i>			
BD	AV3207	Applied Virology	5
	SSVD 3207	Standardization and certification of veterinary drugs	

Code and name of the discipline (english)	PV 3207- “Applied Virology”
Discipline teacher	Yermagambetova S.Y., c.v.s., professor
Cycle of discipline	BD/UK
Level of study	Specialty
Educational program	6B09104 – « Veterinary medicine »
Number of academic credits	5
Form of study	full-time
Semester/trimester	6
Discipline prerequisites	animal morphology, animal physiology, microbiology and virology
Postrequisites of the discipline	epizootology and infectious diseases, animal pathology, parasitology and invasive diseases
The purpose of studying the discipline	As a result of mastering the discipline, the student must gain knowledge about viral diseases and, having mastered theoretical knowledge, skillfully use them in practical activities - in the indication (isolation), identification (determination of the type) of the virus.
Contents of the discipline	Master modern laboratory diagnostic methods - electron microscope, ELISA, PCR and rapid test systems, theoretical and practical, skillfully recognize viral diseases, skillfully make a diagnosis, understand the problems of specific prevention of viral infections.
Competence of the discipline	After mastering the discipline, the student must: Know: basic methods for diagnosing viral diseases using modern virological and molecular genetic research methods; Be able to: isolate and identify viruses that cause infectious diseases in animals; correctly apply and rationally use vaccines, serums and diagnostics; carry out therapeutic and preventive measures; Be competent: in the occurrence and course of the infectious process; patterns of formation of animal body resistance to infectious diseases; biological properties of certain types of viruses - causative agents of infectious diseases and laboratory diagnostic methods, as well as the use of biological products for the specific prevention of viral diseases and the formation of antiviral immunity.
Final control form	Exam
Duration of discipline	1 academic period (15 weeks)
Bibliography	1. Baryshnikov, P.I. Veterinary virology [Text]: textbook. allowance / P.I. Baryshnikov. - M.: FORUM, 2015. - 96 2. Shcherbakov P.N., Tulemisova Zh.K., Ermagambetova S.E., Shcherbakova T.B. Veterinary virology [Text]: textbook. manual /

	P.N. Shcherbakov, Zh.K. Tulemisova, S.E. Ermagambetova, T.B. Shcherbakova; MES RK; Ministry of Agriculture of the Republic of Kazakhstan; KazNAU; Ural. state acad. vet. medical - Almaty: Nur-Print, 2015. - 177 p. 3 Ermagambetova S.E., Biyashev K.B., Biyashev B.K., Kirkimbaeva Zh.S., Veterinary microbiology and virology. Tutorial. Printing house of the Ministry of Agriculture of the Republic of Kazakhstan; NJSC "KazNAU". Almaty: KazNAU, 2017. 220 p. 4. Ermagambetova S.E., Biyashev K.B., Biyashev B.K., Kirkimbaeva Zh.S. Veterinary microbiology and virology: Non-commercial joint-stock company KazNAU.-Almaty: KazNAU, 2017.-203p. 5. Saparbekova, A.A. Microbiology and virology [Text] textbook/ A.A. Saparbekova.-Almaty: New book, 2018.-188p 6. Gosmanov R.G. Private veterinary and sanitary microbiology and virology [Text]: textbook / R.G. Gosmanov, Ravilov R.Kh., Galiullin A.K. [and others] St. Petersburg: Lan, 2019 7. Ermagambetova S.E., Biyashev K.B., Kirkimbaeva Zh.S., Biyashev B.K., Oryntaev K.B., Sarybaeva D.A. LECTURE COURSE in the discipline MV2003 "Veterinary microbiology and virology" (section "Virology") Almaty, 2018 8. Ermagambetova S.E., Biyashev K.B., Kirkimbaeva Zh.S., Biyashev B.K., Oryntaev K.B., Sarybaeva D.A., Zholdasbekova A.E., Shayakhmet E.B. Diagnosis of viral infections (in three languages). Textbook Printing house "Aitumar", 2020.143p. 9. Ermagambetova S.E., Biyashev K.B., Kirkimbaeva Zh.S., Biyashev B.K., Oryntaev K.B., Sarybaeva D.A., Zholdasbekova A.E., Shayakhmet E.B. Veterinary virology (in three languages). Textbook Printing house "Aitumar", 2020.143p. 10. Myrzabekova Sh.B., Biyashev K.B., Tulemisova Zh.K., Tulkibaev K.A. Workshop on veterinary virology. Almaty, 2006. 11. Myrzabekova Sh.B., Tulkibaev K.A., Kasanova G.T., Ermagambetova S.E. Educational and methodological manual on "Interactive training in private virology". "Nur-Print". Almaty. - 2007. 12. Myrzabekova Sh.B., Tulkibaev K.A., Ermagambetova S.E., Kasanova G.T. Educational and methodological manual for the discipline diagnosis of viral infections. Almaty, 2007 13. Shcherbakov P.N., Tulemisova Zh.K., Ermagambetova S.E. Course of lectures on the discipline Veterinary Virology Almaty, Aitumar printing house, 2013. 59P. 14. Ermagambetova S.E., Kirkimbaeva Zh.S., Oryntaev K.B. LECTURE COURSE on the discipline DVI-3307 "Diagnostics of viral infections" Almaty, printing house "Almanac", 2018 15. Ermagambetova S.E., Kirkimbaeva Zh.S. LECTURE COURSE on the discipline PV- "Applied Virology" for the educational program 6B09101 – "Veterinary Medicine". Printed at the KazNAU printing house, Almaty, 2023. 110 p.
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Code and name of the discipline	PM 3225 Private veterinary microbiology
Faculty of disciplines	Kirkimbaeva Zh.S., Biyashev B.K.
Cycle of discipline	BD/UK
Level of study	Specialty
Educational program	6B09104- Veterinary medicine
Number of academic credits	5
Form of study	Full-time
Semester/trimester	2nd year, 3rd semester
Discipline prerequisites	Biology, histology (microscope design and microscopy techniques), veterinary microbiology and immunology
Prerequisites of the discipline	Pathological anatomy, epizootology, veterinary and sanitary examination
The purpose of studying the discipline	Purpose: to provide students with knowledge on the properties of pathogens and practical skills in the bacteriological diagnosis of infectious animal diseases using classical and new research methods.
Contents of the discipline	In this discipline, students become familiar with the structure, equipment and requirements for a bacteriological laboratory, rules for working with pathogens and maintaining laboratory documentation. They will study the biological properties (morphology, tinctorial, cultural, physiological-biochemical, antigenic and pathogenic properties) of bacterial pathogens in animals and birds, and consider the pathogenesis of diseases in connection with the pathogenicity factors of the pathogens. They will determine the features of bacteriological diagnostics using the example of individual diseases of animals and birds, consider the methods of bacteriological research used in veterinary medicine, which are developed on the basis of modern regulatory and directive documents of the Ministry of Agriculture of the Republic of Kazakhstan, will master the principles of a unified approach when conducting diagnostic studies, and will be able to modify standard procedures step-by-step diagnostics, will gain an understanding of the requirements of ISO/IEC 17025 "General requirements for the competence of testing and calibration laboratories".
Competence of the discipline	Using unified, standardized methods for research, students will be able to identify pathogens of infectious diseases of a bacterial nature and interpret research results when making a diagnosis. - demonstrate work with bacterial cultures; - apply microbiological research methods; - interpret the results of bacteriological research methods using classical and innovative diagnostic methods; - choose serological and express diagnostic methods for identifying infectious diseases.
Final control form	Exam
Duration of discipline	1 academic period (15 weeks)
Bibliography	List of basic literature 1. Biyashev K.B., Biyashev B.K. Veterinary microbiology and immunology. Almaty, 2015. 2. Kirkimbaeva Zh.S. "Private Microbiology". - Nur-print, 2011, 187 p.

	3.Kolychev, N.M. Veterinary microbiology and mycology [Text]: textbook. / N.M. Kolychev, R.G. Gosmanov.- St. Petersburg: Lan, 2014.- 624 p. 4.Kislenko, V.N. Veterinary microbiology and immunology: Workshop: textbook / V.N. Kislenko.-SPb. - M. - Krasnodar: Lan, 2012.- 364 p. 5. Biyashev K.B., Biyashev B.K. Veterinary microbiology and immunology. Textbook. Almaty, 2015 6. Biyashev K.B., Biyashev K.B., Kirkimbaeva Zh.S., Ermagambetova S.E., Oryntaev K.B. Contagious diseases of farm animals. Workshop. Almaty, 2018. List of additional literature 7. Tlepov, A.A. Microbiology: textbook. manual for universities / A.A Tlepov. - Almaty: Evero, 2015. - 312 p. 8. Kolyakov, Ya.E. Veterinary microbiology: textbook for universities / Ya.E. Kolyakov.- M.: Kolos, 1965.- 432 p. 9. Zemskov, M.V. Fundamentals of general microbiology, virology and immunology: textbook. allowance / M.V. Zemskov, M.I. Sokolov, V.M. Zemskov. - 2nd ed., revised. and revised - M.: Kolos, 1977. - 312 p. 10. Gosmanov, R.G. Workshop on veterinary microbiology and mycology: textbook / R.G. Gosmanov, N.M. Kolychev, A.A. Barskov.- St. Petersburg. - M. - Krasnodar: Lan, 2014.- 381 p. 11. Smulders, Frans J.M. Food safety assurance and veterinary public health: Volume 6. Foodborne viruses and prions and their significance for public health / Frans J.M. Smulders, B. Nqrrung, H. Budka.- Netherland: Wageningen Academic Publishers, 2013.- 375 p. 12. Biyashev B.K., Veterinary microbiology and immunology, 2007. 13. Radchuk N.A. and others. Veterinary microbiology and immunology. - M.: Agropromizdat, 1991. 14. Kislenko, V.N. Veterinary microbiology and immunology: Workshop: textbook / Krasnodar: Lan, 2012.- 364 pp., 15.Tlepov, A.A. Microbiology textbook. manual for universities. - Almaty: Evero, 2015.- 312 p. 16. Biyashev B.K. Course of lectures on veterinary microbiology. Almaty, 2018 Guidelines 17. Biyashev K.B., Biyashev K.B., Kirkimbaeva Zh.S., Ermagambetova S.E., Oryntaev K.B. Guidelines for laboratory and practical classes in microbiology for students in the specialty 5B1200100-Veterinary microbiology. Almaty, 2018.
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Code and name of the discipline	PPh 3233 Pathological physiology
Teaching staff of the discipline	Baimurzayeva M.S. Mukhitdinova G.E.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	5
Prerequisites of the discipline	Module. The structure and vital functions of the animal body

Post-requirements of the discipline	Veterinary toxicology and toxicological analysis. Pathological anatomy of animals
The purpose of studying the discipline	in the training of a future veterinarian is the study of the basic patterns of occurrence, development and outcomes of pathological processes, mechanisms of development and recovery, obtaining fundamental information about the essence of the disease and the laws of its development; forming the basic basis for the clinical thinking of a future veterinarian.
Content of the discipline	Pathological physiology is a science that studies the vital activity of a sick animal organism. She studies the general patterns of pathological processes that underlie any disease, regardless of the cause that caused it, the individual characteristics of the body, specific environmental conditions, and research methods. Pathological physiology – creates a scientific and theoretical basis for clinical disciplines and practical activities of a veterinarian. It is the main theoretical discipline of veterinary specialties. The course of pathological physiology reveals the mechanisms of dysfunction of individual organs and body systems, general pathological and compensatory-adaptive processes characteristic to varying degrees for all diseases; the course of private pathology studies the pathogenesis of pathology of organs and body systems
The competence of the discipline	After mastering the discipline, the bachelor must: know: the basic concepts of general nosology; - classification and mechanism of action of the main etiological factors; - the role and significance of the causes, conditions and reactive properties of the body in the occurrence, development and completion of diseases; - causes, mechanisms of typical disorders of organs and physiological systems, their manifestations and significance for the body in the development of various diseases; -etiology, pathogenesis, manifestations and outcomes of diseases of organs and systems, principles of pathogenetic therapy; - connection of pathology with other biological and veterinary disciplines; - the importance of an experiment in the study of pathological processes; its possibilities, limitations and prospects; to apply: the acquired knowledge in the study of clinical disciplines and in subsequent treatment and preventive activities; -correctly interpret the most significant manifestations of diseases, changes in symptoms in the process of disease development; - to conduct a pathophysiological analysis of clinical, laboratory, and experimental data and formulate conclusions based on them about the most likely causes and mechanisms of the development of pathological processes, principles and methods of their detection, treatment and prevention; - process and analyze the results of experiments and interpret them correctly;

	understand: acquired scientific and theoretical knowledge in veterinary toxicology in future professional activities be competent: in matters of general nosology, etiology, the mechanism of development of typical pathological processes, animal diseases, the role of reactivity and resistance of the body in the occurrence, development and outcome of pathological processes, laboratory research, analysis, interpretation of research results.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Жумадина, Ш.М. Физиология человека и животных [Текст]: учеб. пособие / Ш.М. Жумадина.- Алматы: Эверо, 2020.- 208 с. 2. Sadenov, M.M. Physiology of animals [Текст]: textbook for the specialty of 5B120100-Veterinary medicine and 5B120200-Veterinary sanitation / M.M. Sadenov; The Ministry of agriculture of the Republic of Kazakhstan; Zhangir Khan west Kazakhstan ATU.- Almaty: Almanah, 2019.- 83 p. 3. Большой практикум по физиологии человека и животных [Текст]: в 2-х т. Т.2: Физиология висцеральных систем: учеб. пособие / А.Д.Ноздрачев, А.Г.Марков, Е.Л.Поляков [и др.]; под ред. А.Д. Ноздрачева.- М.: Академия, 2019.- 542 с. 4. Алимбеков, С.А. Патологиялық физиология және патологиялық анатомия [Мәтін]: оқу-әдістемелік құрал / С.А. Алимбеков; ҚР Білім және ғылым м-трлігі; Абай атын. ҚазҰПУ.- Алматы: Альманах, 2017.- 185 б. 5. Патологическая физиология и патологическая анатомия животных [Текст]: учеб. / А. В. Жаров, Л. Н. Адамушкина, Т. В. Лосева [и др.]; под ред. А. В. Жарова.- Изд. 2-е, перераб. и доп.- СПб.: Лань, 2014.- 416 с. 6. Патологическая физиология и патологическая анатомия животных [Текст]: учеб. / А. В. Жаров, Л. Н. Адамушкина, Т. В. Лосева [и др.]; под ред. А. В. Жарова.- Изд. 2-е, перераб. и доп.- СПб.: Лань, 2014.- 416 с. 7. Утянов А.М. Практикум по патологической физиологии животных Алматы. 2014 8. Байматов, В.Н. Практикум по патологической физиологии [Текст]: учеб. пособие для вузов / В.Н. Байматов.- СПб.: Лань, 2013.- 352 с.

Code and name of discipline	VP 3302 Veterinary pharmacology
Teaching staff of the discipline	Zamanbekov N.A., Kobdikova N.K. Turzhigitova Sh.B.
The cycle of discipline	major / optional component
Level of study	Specialty
Educational program	6B09104-Veterinary medicine
Number of academic credits	10
Form of study	full-time
Semester / trimester	4, 5
Discipline Prerequisites	animal physiology, animal biochemistry, veterinary hygiene and sanitation

Post-requisites of discipline	Veterinary toxicology and toxicological analysis, surgical surgery of animals, internal non-infectious diseases of animals
The purpose of studying the discipline	It is a comprehensive study by students of the state of pharmacological features of new medicinal substances in our country and abroad; the effectiveness of their use in order to normalize, increase the body's resistance to diseases, maintain physiological functions of the body, treat, prevent animal diseases and increase productivity.
The content of the discipline	Clinical pharmacology, being an integral part of pharmacology, studies in more depth the issues of pharmacotherapy of specific animal pathologies, focusing the attention of doctors on etiopathogenesis (pathological targets), clinical signs and syndromes, taking into account the pharmacokinetics and pharmacodynamics of the medicinal substance. The concept of medicinal substances (L.P.). The composition and properties of L.P. Diagnostic L.P. Drugs affecting the nervous system. Substances that regulate the function of individual organs and systems. Substances acting on the vascular system. Antimicrobial and antiparasitic substances. Anthelmintic, insecticidal and acaricidal substances
Competence of the discipline	After mastering the discipline, the student must: know: properties, rules of storage and release of medicinal and toxic substances; patterns of their absorption and distribution in the body; pharmacodynamics and pharmacokinetics of medicinal substances; patterns of excretion; essence and features of the action of medicinal substances; indications and contraindications to their use; the most rational doses; acceptable forms and methods of application; understand: prescribe treatment taking into account the type, age, gender and physiological condition of the animal; calculate concentrations and needs for antimicrobial and antiparasitic drugs; prescribe medicines in the form of prescriptions; make dosage forms; inject them to animals and evaluate the effect of the medicinal substance on the body; apply: skills: - preparation of dosage forms; - administration and application of medicinal substances to animals; determination of solubility of medicinal substances in solvents; scientific justification of the choice of drugs for treatment and understanding the essence of the action of various medicinal substances in the body of animals; prescribing medicinal substances; be competent: in the preparation of various dosage forms and prescriptions; principles of dosing medicines to various types of farm animals and birds; - in matters of pharmacodynamics and pharmacokinetics and mechanisms of action of medicinal substances;
Form of final control	Exam
Duration of discipline	1 academic period (15 weeks)
Bibliography	Main: 1. Фармакология : оқулық / Б.Д.Айтжанов, Н.А.Заманбеков, [ж.т.б.].- Алматы: Агроуниверситет, 2022.- 1 том -252 б, 2 том - 284б

	2. Ветеринарная фармакология и токсикология учебное пособие Заманбеков Н.А., Кобдикова Н.К., Корабаев Е.М., и др. «Айтұмар» 2022г. 3. Veterinary pharmacology and toxicology tutorial Заманбеков Н.А., Кобдикова Н.К., Корабаев Е.М., и др. «Айтұмар» 2022г. 4. Заманбеков, Н.А. Ветеринариялық фармация [Мәтін]: оқу құралы / Н.А. Заманбеков; ҚР Білім және ғылым министрлігі; ҚазҰАУ.- Алматы: Альманах, 2017.- 384 б. 5. Соколов, В.Д. Фармакология [Электронный ресурс]: учебник / В.Д. Соколов [и др.].- СПб.-М.: Лань, 2013.- 576с: 7. В.Г. Кулес, А.К. Стародубцев, Клиническая фармакология и фармакотерапия, Изд. ГЭОТАР-Медиа, М., 2006г. 8. Е.А. Биртранов и др. «Руководство по клинической токсикологии». Алматы: Издательство «Алаш» 2006; С. 173-174.
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Code and name of the discipline	VTТА 3206 Veterinary toxicology and Toxicological analysis
Teaching staff of the discipline	Korabaev E.M., Kobdikova N.K.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	2
Prerequisites of the discipline	Pharmacology. Propaedeutics of non-communicable animal diseases
Post-requirements of the discipline	Module 6 Animal pathology
The purpose of studying the discipline	in-depth, comprehensive study of the toxic effects of drugs and toxins on living organisms, their physico-chemical properties; teach how to use rational methods of treatment, diagnosis and prevention using modern methods of detecting poisoning.
Content of the discipline	studying the mechanisms of action of medicines and the theoretical foundations of their rational use in healthy and sick animals; indications and contraindications for studying the effects of pesticides, mineral fertilizers, poisonous plants, feed additives, patterns of absorption, distribution and accumulation of toxic substances and their compounds, the effects of the most effective doses; mastering methods of diagnosis, prevention and antidototherapy for poisoning animals
The competence of the discipline	After mastering the discipline, the bachelor must: - to know: properties of medicinal and toxic substances, rules of storage and release; development and implementation of measures to prevent poisoning of animals, assessment of the effects of toxic substances in real situations, the mechanism of toxic effects of toxic substances; their toxicodynamics and toxicokinetics; the main groups of various medicinal and toxic substances; permissible levels of toxic substances; Basic principles of poisoning assessment, prevention and antidototherapy.

	- understand: assessment of the effects of drugs and toxins on the body; standardization of medicines and biological preparations; take preventive measures against poisoning of animals in different cases and in a timely manner, and in case of poisoning, evaluate poisoning based on anamnesis, clinical signs and results of pathological and anatomical studies, laboratory results; - apply: theoretical knowledge in the field of veterinary toxicology in future production activities, application of theoretical knowledge and skills in production activities, knowledge of toxicokinetics and toxicodynamics of toxic substances, accounting, effective medicines and toxic substances. application - be competent: in matters of toxicodynamics and toxicokinetics of toxic substances; in registration and storage of toxic and medicinal products.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Кармалиев, Р.С. Ветеринарная токсикология [Текст]: учеб. пособие / Р.С. Кармалиев; МСХ РК; Зап.-Казахст. АТУ им. Жангир хана.- Алматы: Альманах, 2019.- 283 с 2. Заманбеков, Н.А. Ветеринариялық фармация [Мәтін]: оқу құралы / Н.А. Заманбеков; ҚР Білім және ғылым м-трлігі; ҚазҰАУ.- Алматы: Альманах, 2017.- 384 б 3. Токсикология [Мәтін]: оқулық / Е.М.Қорабаев, Н.А.Заманбеков, Ә.М.Өтепов [ж.т.б.]; ҚР Білім және ғылым м-трлігі.- Алматы: Нур-Принт, 2016.- 328 б. 4. Ветеринариялық фармакология және токсикология [Мәтін]: 5В120100-"Ветеринариялық медицина" маман. бойынша оқу құралы / құраст. Н.А.Заманбеков, Е.М.Қорабаев, Н.К.Көбдікова [ж.т.б.]; ҚазҰАУ.- Алматы: ҚазҰАУ, 2016.- 150 б. 5. Фармакология, токсикология және токсикологиялық талдау [Мәтін]: 5В120200-"Ветеринариялық санитария" маман. бойынша оқу құралы / құраст. Н.А.Заманбеков, Е.М.Қорабаев, Н.К.Көбдікова [ж.т.б.]; ҚазҰАУ.- Алматы: ҚазҰАУ, 2016.- 128 б. 6. Ветеринарная фармакология и токсикология [Мәтін]: учеб. пособие / Н.А.Заманбеков, Н.К.Кобдикова, Е.М.Корабаев [и др.]; КазНАУ.- Алматы: КазНАУ, 2016.- 259 с. 7. Фармакология [Мәтін]: оқулық / Б.Д.Айтжанов, Н.А.Заманбеков, Ә.М.Өтепов[ж.т.б.].-Алматы: Агроуниверситет, 2016.- 495 б. 8. Фармакология, токсикология и токсикологический анализ [Текст]: учеб. пособие / Н.А.Заманбеков, Н.К.Кобдикова, Е.М.Корабаев [и др.]; КазНАУ.- Алматы: КазНАУ, 2016.- 299 с. 9. Veterinary pharmacology and toxicology [Текст]: tutorial / N.A.Zamanbekov, N.K.Kobdikova, E.M.Korabaev [и др.]; KazNAU.- Almaty: KazNAU, 2016.- 253 p.

	10. Pharmacology, toxicology and toxicological analysis [Текст]: tutorial / N.A.Zamanbekov, N.K.Kobdikova, E.M.Korabaev [и др.]; KazNAU.- Almaty: KazNAU, 2016.- 275 p. 11. Заманбеков, Н.А. Ветеринарная фармация [Текст]: практикум: учеб. пособие / Н.А. Заманбеков, Н.К. Кобдикова, Е.М. Корабаев.- Алматы: Айтумар, 2015.- 286 с. 12. Айтжанов Б.Д., Заманбеков Н.А., Утянов А.М., Кобдикова Н.К., Корабаев Е.М., Байниязов А.А. Фармакология – Оқулық, Алматы, 2016.-494 б. additional references: 13. Katzung, Bertram, Basic fnd Clinical harmacology.- New-York, 2015y. 14. Заманбеков Н.А., Кобдикова Н.К., Организация и управление ветеринарной фармации; учебное пособие, Алматы, 2015г. 15. Қорабаев Е.М. және т.б. Токсикология, Алматы, 2011ж. 16. Аляутдин Р.Н., Фармакология, учебное пособие, ГЕОТАР, 2012 г.
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Code and name of the discipline	PAA 3209 Pathological anatomy of animals
Teaching staff of the discipline	Nurgazy B.O., Amirgalieva S.S., Maulanov A.Z., Bazhanova A.S., Kenzhebekova Zh.Zh.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	10
Form of training	full-time
Semester/trimester	6,7
Prerequisites of the discipline	Module 2 Structure and vital activity of the animal organism.
Post-requirements of the discipline	Module 10 Infectious pathologies of animals. Module 12 Veterinary safety.
The purpose of studying the discipline	formation of professional thinking of veterinarians, determination of the stage of occurrence, development of structural changes in the body, pathological processes and etiology and pathogenesis of the disease.
Content of the discipline	Organopathology of animals. Comparative pathomorphology of viral diseases of animals. Comparative pathomorphology of bacterial diseases of animals. Comparative pathomorphology of animal mycoses. Comparative pathomorphology of protozootic and helminthic animal diseases. The procedure and methods of slaughtering animal corpses. Features of obtaining pathomaterials for histological, bacteriological, virological, and toxicological studies. Registration of the documentation of the pathanatomic slaughter.
The competence of the discipline	Features of the topographic anatomy of animals. After mastering the discipline, the bachelor must: to know: - the role of the causes of occurrence, development and, finally, the state of the environment and the internal environment, reactive properties. Basic concepts of general nosology; - causes, mechanisms, manifestations, morphological meanings of typical pathological processes; - causes, mechanisms, clinical and

	morphological manifestations of damage to organs and body systems; understand: pathomorphological, histological and histochemical examination of changes in the body of animals, in accordance with the requirements, as well as be able to slaughter animals; to apply: - to properly conduct research and pathomorphological diagnosis of animal corpses according to the methodology; - registration of a protocol based on the results of a slaughter examination and drawing up a conclusion on the death of animals; - the correct receipt of pathological material for laboratory examination, its fixation and dispatch; - to carry out a comprehensive pathomorphological diagnosis with the isolation of animal diseases during slaughter research, as well as pathohistological research. be competent: a veterinary pathologist who is able to carry out all manipulations according to the methodological instructions.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Ө. Ығылманұлы Ветеринариялық патологиялық анатомия. Алматы, 2017, 1,2,3 том. 2. Абрикосов, А. И. Основы общей патологической анатомии / - М.: Государственное издательство медицинской литературы, 2015. - 486 с. 3. Абрикосов, А. И. Патологическая анатомия / А.И. Абрикосов, А.И. Струков. - М.: Государственное издательство медицинской литературы, 2014. - 360 с. 4. Автандилов, Г. Г. Основы количественной патологической анатомии / Г.Г. Автандилов. - Москва: Наука, 2016. - 240 с. 5. Нұрғазы Б.Ө. Соттық ветеринария. Алматы, «Эпиграф», 2017, 392 б. 6. Ығылманұлы Ө. Ветеринариялық патологиялық анатомия. Алматы, "Cyber Smith", 3 том, 2017. 7. Нұрғазы Б.Ө. Жануарлар патологиясы. Алматы, «Айтұмар», 2017, 398 бет. 8. Нұрғазы Б.Ө. Жануарлар патологиясы. Дәрістер жинағы. Оқу құралы, «Printplus», Алматы, 2019, 12 б.т. 9. Жаров А.В. Патологическая анатомия животных. М., КолосС, 2014. 10. Латыпов Д.Г., Залялов И.Н. Вскрытие и патологоанатомическая диагностика болезней животных. – Лань, 2015. 11. Кунаков А., Серегин И., Таланов Г., Забашта А. Судебная ветеринарно-санитарная экспертиза. -Озон-ги, 2018. 12. Нұрғазы Б.Ө. Сойып-зерттеу және соттық ветеринария. Алматы, 2012. additional references: 13. Латыпов Д.Г., Залялов И.Н. Основы судебно-ветеринарной экспертизы. – Санкт-Петербург, Лань, 2015. 14. Ө. Ығылманұлы Ветеринариялық патологиялық анатомия. Алматы, 2010.

	15. Ибажанова А.С., Кенжебекова Ж.Ж. Жануарлар патологиясы дәрістер жиынтығы, оқу құралы, 2011 жыл, Алматы, «Мастер принт» баспасы. 16. Шишков В.П., Жаров А.В. Патологическая анатомия сельскохозяйственных животных. Изд.4-е. – М.: Колос, 2003. 17. Жаров А.В., Иванов И.В., А.П. Стрельников. Вскрытие и патологоанатомическая диагностика болезней сельскохозяйственных животных.–Москва, К, 2003.
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Code and name of the discipline	SSVP 3207 Standardization and Certification of Veterinary Preparations
Teaching staff of the discipline	Akhmetsadykov N.N., Khusainov D.M., Batanova Zh.M.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	6
Prerequisites of the discipline	Veterinary microbiology and immunology
Post-requirements of the discipline	Module 12 Veterinary safety
The purpose of studying the discipline	. Pharmacology to provide students with the necessary knowledge, skills and abilities in the standardization and certification of veterinary preparations of forms (powders, fees, solutions, suspensions, emulsions, infusions and decoctions, ointments and pastes, liniments, pills, suppositories, tablets, pills, granules, capsules, as well as manufacturing technologies of medicinal substances from vegetable, animal raw materials and microbial origin).
Content of the discipline	Rules for the organization of production and quality control of medicines (GMP). Pharmaceutical quality assurance system. Organization of quality control of veterinary drugs. Quality assurance. Requirements for personnel in the production of veterinary drugs. The main requirements for equipment in the production of veterinary drugs. Requirements for the production process, raw materials, labeling and packaging, finished products, and production residues. Normative documents on standardization and types of standards. Responsibility for violation of mandatory requirements of the standards. The essence and content of certification. Basic terms and concepts. Testing laboratories. Forms of participation in certification systems.
The competence of the discipline	After mastering the discipline, the student must: know:- basic requirements for production buildings, premises, equipment, personnel, production processes, raw materials, veterinary drugs, packaging and labeling, documentation in accordance with the standard for the production process of veterinary drugs; understand: monitoring compliance with standards in the manufacture and quality control of veterinary drugs in accordance with the standards for the production of veterinary drugs;

	apply: skills to verify the compliance of veterinary drugs with the requirements of regulatory documentation standardization and certification; be competent: in matters of compliance with the requirements for the production of veterinary drugs in accordance with the standards for the production of veterinary drugs.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Ахметсадыков, Н.Н. Стандартизация и сертификация ветеринарных препаратов [Текст]: учебник / Н.Н. Ахметсадыков, Д.М. Хусаинов, Ж.М. Батанова; КазНАИУ.- Алматы: Айтұмар, 2021.- 480 с. 2. Асылбеков, Б.Ж. Сертификаттау [Мәтін]: оқу құралы / Б.Ж. Асылбеков.- Алматы: New book, 2020.- 132 б. 3. Асылбеков, Б.Ж. Сертификаттау [Мәтін]: оқу құралы / Б.Ж. Асылбеков.- Алматы: New book, 2020.- 132 б. 4. Кухар, Е.В. Основы фармакогнозии [Текст]: учеб. пособие / Е.В. Кухар, Г.Т. Есжанова; МСХ РК.- Алматы: New book, 2020.- 284 с. 5. Международные требования к технологии производства и оценке качества ветеринарных препаратов [Текст]: учебник / Д.Хусаинов, О.Беркинбай, Г.Шабдарбаева, Н.Ахметсадыков.- Алматы: Нур-Принт, 2016.- 402 с. 6. Ветеринариялық фармакология және токсикология [Мәтін]: 5В120100-"Ветеринариялық медицина" маман. бойынша оқу құралы / құраст. Н.А.Заманбеков, Е.М.Қорабаев, Н.К.Көбдікова [ж.т.б.]; ҚазҰАУ.- Алматы: ҚазҰАУ, 2016.- 150 б. 7. Международные требования к технологии производства и оценке качества ветеринарных препаратов [Текст]: учебник / Д.Хусаинов, О.Беркинбай, Г.Шабдарбаева, Н.Ахметсадыков.- Алматы: Нур-Принт, 2016.- 402 с. 8. Организация и управление ветеринарной фармации [Текст]: учеб. пособие / Н.А. Заманбеков, Н.К.Кобдикова, А.И.Кулдеев [и др.]; КазНАУ.- Алматы: КазНАУ, 2015.- 144 с. 9. Стандартизация и сертификация ветеринарных препаратов [Текст]: учебник / Д. М. Хусаинов, Н. Н. Ахметсадыков, Г. С. Шабдарбаева, О. Беркинбай.- Алматы: Нур-Принт, 2014.- 458 с. .- 351 с.: 1 электрон.опт.диск (CD-ROM); 2, 38МБ. 10. Ахметсадыков, Н.Н. Технология ветеринарных лекарственных препаратов [Текст] / Н.Н. Ахметсадыков.- Алматы: Агроуниверситет, 2012.- 370 с. additional references: 11. Стандартизация и сертификация ветеринарных препаратов [Текст]: Ч.2.: метод. указания к практ. занятиям / сост. Н.Н.Ахметсадыков, Д.М.Хусаинов, Ж.М.Батанова; НАО "КазНАУ".- Алматы: КазНАУ, 2021.- 83 с.

	12. Кудиярова, Ж.С. Ферменттік препараттарды алу биотехнологиясы [Мәтін]: оқу-әдістемелік құралы / Ж.С. Кудиярова.- Алматы: Лантар Трейд, 2019.- 100 б 13. Кудиярова, Ж.С. Ферменттік препараттарды алу биотехнологиясы [Мәтін]: оқу-әдістемелік құралы / Ж.С. Кудиярова.- Алматы: Лантар Трейд, 2019.- 100 б 14. Кудиярова, Ж.С. Ферменттік препараттарды алу биотехнологиясы [Мәтін]: оқу-әдістемелік құралы / Ж.С. Кудиярова.- Алматы: Лантар Трейд, 2019.- 100 б 15. Ахметсадыков, Н.Н. Технология ветеринарных биологических препаратов [Электронный ресурс]. Кн.3. Технология биологических препаратов, применяемых для диагностики, лечения и профилактики болезней, вызываемых бактериями и паразитами: учебник / Н.Н. Ахметсадыков, Г.С. Шабдарбаева, Д.М. Хусаинов; Казахский национальный аграрный университет.- CD-R 52x-700 MB.- Алматы: КазНАУ, 2011
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Code and name of the discipline	VHS 3201 Veterinary hygiene and sanitation
Teaching staff of the discipline	Barakhov B.B., Maldybaeva A.A., Tolepova G.K.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	2
Prerequisites of the discipline	Cytology, histology and embryology of animals. Anatomy of animals and birds
Post-requirements of the discipline	Module 11 Legislative acts and expertise in veterinary
The purpose of studying the discipline	medicine to give students knowledge of the sanitary and hygienic requirements of livestock facilities and the organization of events held at livestock facilities to ensure the health of animals and their veterinary well-being
Content of the discipline	Veterinary hygiene and sanitation, the role and significance of the subject and the research of the subject. Environmental factors and their effect on the animal body. The composition and properties of atmospheric air. The physical properties of air and their effect on the body of animals. Sanitary and hygienic requirements for the soil and its sanitary protection. Water hygiene and provision of water for animals. Sanitary and hygienic requirements for feed and feeding of farm animals. Hygiene of livestock premises. Veterinary and sanitary measures carried out at livestock facilities to ensure the health of animals and their veterinary well-being (disinfection, disinsection, deratization, etc.). Hygiene of farm animals and birds. Hygiene of fur-bearing animals, fish and bees.
The competence of the discipline	After mastering the discipline, the student must: know: - biological residues in animal husbandry to assimilate the method of disposal;

	- assimilate animal husbandry and veterinary facilities, improve the methods of veterinary hygiene parameter; - to devote animal husbandry facilities and technological design standards to veterinary buildings; - corral, preserve the territory and improve livestock facilities, learn the rules of disease infection and invasion in the direction of veterinary hygiene; - to provide with air, water, lands, feed and feeding, to improve animal husbandry and veterinary facilities and parameters of veterinary hygiene. to understand: methods of research of livestock facilities, basic research on sampling of soil, water, and feed. apply: the principles of working with devices and installations, to explore livestock facilities and make rational decisions, the parameters of the microclimate in livestock premises. - to be competent, students themselves must master and carry out disinfection at veterinary facilities.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Мырзабеков, Ж.Б. Ветеринариялық гигиена [Мәтін]: оқулық / Ж.Б. Мырзабеков, П.Ш. Ибрагимов; ҚР Білім және ғылым м-трлігі; ҚазҰАУ.- Алматы: KazBookNrade, 2017.- 462 б. 2. Чикалёв, А.И. Зоогигиена [Текст]: учебник / А.И. Чикалёв, Ю.А. Юлдашбаев.- М.: КУРС: ИНФРА-М, 2018.- 248 с. 3. Тарджибаева, С.К. Гигиеническая оценка рациона питания [Текст]: учеб. пособие / С.К. Тарджибаева; М-во здравоохранения и социального развития РК; АО "Мед. ун-т Астана".- Алматы: ССК, 2018.- 120 с. 4. Сон, К.Н. Ветеринарная санитария на предприятиях по переработке пищевого сырья животного происхождения [Текст]: учеб. пособие / К.Н. Сон, В.И. Родин.- М.: ИНФРА-М, 2018.- 208 с. 5. Общая гигиена в технологии содержания сельскохозяйственных животных [Текст]: учебник / А.Ф.Кузнецов, В.Г.Тюрин, В.Г.Семенов [и др.]; НАН РК; ФГБОУ ВО Чувашская ГСХА; ТОО НИЦ Жив.- Алматы: Ғылым, 2018.- 420 с. 6. Мырзабеков, Ж.Б. Ветеринариялық гигиена [Мәтін]: оқулық / Ж.Б. Мырзабеков, П.Ш. Ибрагимов; ҚР білім және ғылым м-гі.- Алматы: KazBookTrade, 2020.- 416 б. additional references: 7. Мырзабеков Ж.Б., Ибрагимов П.Ш. Ветеринариялық гигиена, Алматы, 2011. 8. Садуақасов, М.С. Ауыл шаруашылық малдары мен құстардың гигиенасы (2- кітабы). Оқулық. Алматы, 2010. 9. Садуақасов, М.С. Ветеринариялық - санитариялық гигиена. Оқулық.- Алматы, 2008. 10. М.С. Найденский, В.В. Храмцов, П.И. Виноградов. "Зоогигиена с основами проектирования животноводческих объектов", Москва, 2007.

	11. Гершун В.И., Практикум по ветеринарной гигиене. Костанай, 2007. 12. Қазақстан Республикасындағы сүтпен айналысатын шаруашылық субъектілеріндегі ветеринариялық-санитариялық шаралар жөнінде ("Байсерке-Агро" ЖШС мысалында) [Мәтін]: нұсқау / құраст. А.С.Жұмаш, Н.П.Иванов, А.М.Намет [ж.т.б.]; ҚР ауыл шар. м-трлігі; Ұлт. аграр.-ғыл. оқу орт.; Қазақ ғылыми-зерттеу вет. ин-ты; "Байсерке-Агро" оқу ғыл. және өндірістік орт.- Алматы: ҚазҒБИ, 2017.- 35 б.
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Code and name of the discipline	KDA 3203 Clinical diagnosis of animals
Teaching staff of the discipline	Siyabekov S.T.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	6
Prerequisites of the discipline	Module 1. Structure and vital activity of the animal organism
Post-requirements of the discipline	Module 8. Non-infectious pathology of animals Module 10. Infectious pathologies of animals
The purpose of studying the discipline	training students to master modern methods of clinical, laboratory, special research using the achievements of biophysics, biochemistry for the detection of diseases and treatment of animals. Generalization and substantiation of the obtained data, assessment of the anatomical and physiological characteristics of the animal's body depending on the acting factors.
Content of the discipline	Modern methods of clinical, laboratory, and special research using the achievements of biophysics, biochemistry to detect diseases and treat animals. Generalization and substantiation of the obtained data, assessment of the anatomical and physiological characteristics of the animal's body depending on the acting factors.
The competence of the discipline	After mastering the discipline, the bachelor must: Be able to: - effectively and efficiently use general, special and laboratory methods of animal research; - to take blood, urine, feces, stomach contents, and pancreas from animals and analyze them to draw up a conclusion; - to determine the degree of normal and pathological condition of systems and organs, based on clinical and laboratory studies; - link the detected symptoms and syndromes for diagnosis To know: - the scheme of the clinical trial. - methods of approach and fixation of animals during clinical research; - safety rules and personal hygiene measures when working with animals; - rules for taking the test material for clinical and biochemical analysis;

	Be competent: - in identifying the symptomatology of diseases; - in laboratory studies of biological material; - in express diagnostics of exported and imported animals
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. И.Г. Шарабрин, В.А. Аликаес, Л.Г. Замаран, В.М. Данилевский. Внутренние незаразные болезни с/х животных. 6-е изд. Испр. И доп. М. Агропромиздат, 2015.-527ст. additional references: 1. Сиябеков С.Т., Заманбеков Н.А., Казиев Ж.И., т.б. «Жануарлар ауруларының клиникалық диагностикасы». Оқулық. Алматы, 2011 ж. Б .ж Ғ министрлігінің грифімен. 2. М.А. Молдағұлов М.А., Ө.К.Есқожаев. Малдың жұқпалы емес ішкі аурулары, Алматы, 2009 3. М.А. Молдағұлов М.А., Ө.К.Есқожаев., Н.А. Заманбеков. «Жануарлар ішкі аурулар», Оқулық. Алматы, 2011 ж. Б .ж Ғ министрлігінің грифімен. 4. Зайцев В.И., Синев А.В, Ионов И.С., Васильев А.В., Шарабрин И.Г. Клиническая диагностика внутренних болезней сельскохозяйственных животных. Учебник под редакцией - М.: Колос, 2004. 5. Смирнов А.М., Конопелько П.Я., Пушкарев Р.П., Постников В.С., Уразаев Н.А., Беляков И.М., Дугин Г.Л., Кондратьев В.С. Практикум по клинической диагностике внутренних незаразных болезней с/х животных. Учебное пособие под редакцией - М.: Колос, 2015. 6. «Жануарлар ауруларының клиникалық диагностикасы». Оқулық. Нур-Принт баспасы. Алматы, 2006 ж.

Code and name of discipline	VG 3302 - “Veterinary gynecology”
PPC of the discipline	Dzhulanov M.N.
Cycles of disciplines	CC/PD
Educational level	Specialty
Educational program	6B09101– Veterinary medicine
Number of credits	5
Form of education	full-time
Semester/trimester	8
Discipline prerequisites	Anatomy of animals and birds, Pharmacology, Pathological physiology, Veterinary obstetrics and gynecology.
Postrequisites of the discipline	Private Surgery, Epizootology and Infectious Diseases, Organization of Veterinary Work
The purpose of studying the discipline	training of a highly qualified specialist able to conduct gynaecological dispensary, well aware of the problems of treatment and prevention of gynaecological pathologies of animals, able to organise and implement a set of measures for treatment, cure and prevention of animal infertility.
Contents of the discipline	Classification of infertility of female animals. Classification of forms of impotence of male animals. Methods of andrological study of male animals. Prevalence and etiology of impotence in male animals. Measures to combat infertility in male animals. Pathology of ovaries.

	Prevalence and etiology of ovarian pathology. Basic principles of treatment and prevention of ovarian pathology. Use of natural and artificial stimulants of sexual function. Use of biologically active substances and hormonal preparations in reproduction. Regulation of sexual load, etc.
Discipline competencies	After mastering the discipline, the specialist should: - To know the methods of gynaecological dispensary and its implementation, infertility and embarrassment, impotence; - to be able to distinguish types of infertility, to understand methods of treatment of anomalies of development of genital organs and diseases of genital organs in female animals; -be competent to use methods of synchronisation of sexual cycle, innovative methods of diagnostics, treatment and prevention of reproductive pathology; - be competent to use methods of gynaecological examination, diagnostics and treatment of diseases of external genital organs in female animals.
Form of final control	Examination
Duration of the discipline	1 academic period (15 weeks)
List of references	1. Төребеков, О.Т. Сиырдың акушерлік-гинекологиялық аурулары [Электрондық ресурс]: оқу құралы / О.Т. Төребеков [ж.б.]; ҚазҰАҰ.- Алматы: Айтұмар, 2013.- 155 б.: 1, 07 Мб.- (Қазақстан Республикасы білім ғылым министрлігі). http://lib.kaznau.kz/Res/Torebekov_Siirdun-akucherluk.pdf 2. Сиырдың акушерлік-гинекологиялық аурулары: оқу құралы. О.Т. Төребеков; ҚР Білім және ғылым м-трлігі. Алматы «Агроуниверситет», 2013.- 150 б. 3. Мал көбеюі биотехнологиясы. М.Н. Жоланов, Қ.У. Қойбағаров, О.Т. Төребеков.- Алматы: «Агроуниверситет», 2009.- 152 с. 4. Ветеринариялық акушерлік, гинекология және көбею биотехникасы. М.Н. Жоланов, Ш.Қ. Қалтаев, Б.Д. Жукин, Қ.У. 5. Қойбағаров. Оқулық. Алматы, 2011, 158 б. http://lib.kaznau.kz/default.asp?sign=1&dbid= 6. Ф.Л. Сенджер. Животные: От беременности к родам. [науч. ред пер.с англ К.В. Племяшов, корр.пер. с англ. Е.А. Корочкина, П.С. Анипченко, Г.С. Никитина, Е.В. Тимофеева, А.А. Мусидрай].- СПб.: ВНИИГРЖ-проф, 2019, 336 с. 7. Ветеринарное акушерство, гинекология и биотехнология размножения животных. Учебник. — Тюмень: ГАУСЗ, 2017. - 352 с 8. Полянцев Николай Иванович. Ветеринарное акушерство, гинекология и биотехнология размножения. Издательство: Лань. 2015 9. VAG 3303-Ветеринарлық акушерлік және гинекология пәнінің студентке арналған оқу-әдістемелік кешені. Жоланов М.Н., Төребеков О.Т., Қойбағаров Қ.У., Үсенбеков Е.С.- Алматы, «Агроуниверситет», 2011.- 119 с. 10. «Ветеринариялық акушерлік, гинекология» пәнінен зертханалық сабақтар жүргізуге арналған Әдістемелік нұсқаулар. Алматы, 2022. 57 б.

	11. «Мал көбею биотехнологиясы курсы бойынша зертханалық сабақтарға және студенттің өзіндік жұмысын орындауға арналған әдістемелік нұсқаулар. Алматы, 2019. 46 б.
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Code and name of the discipline	VO 4336 Veterinary obstetrics
Teaching staff of the discipline	Dzhulanov M.N., Adilzhan A.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	7
Prerequisites of the discipline	Veterinary hygiene and sanitation. Animal husbandry and animal feeding. Pharmacology.
Post-requirements of the discipline	Module 12 Veterinary safety, Final certification
The purpose of studying the discipline	to prepare a highly qualified veterinarian who perfectly knows the knowledge of prevention, treatment of obstetric and gynecological pathology of animals, who is able to organize and implement a complex of diagnostic, therapeutic and preventive measures for infertility of animals
Content of the discipline	Veterinary obstetrics. The physiological purpose of the reproductive apparatus of females and males, the conditions for its implementation. Germ cells, their formation and meanings. The sexual cycle, its stages and phenomena. Neurohumoral regulation of female sexual functions. Insemination and mating methods. The connection of the genital sphere with the mammary gland. The physiology of fertilization, pregnancy, childbirth and the postpartum period. Pathology of pregnancy. Abortions and their classification. Pathology of childbirth. Operative obstetrics. Obstetric instruments and basic principles of obstetric care. Diseases of newborns. Pathology of the postpartum period. Differential diagnosis, treatment and prevention of obstetric pathology. Diseases and abnormalities of the breast. Mastitis. Diagnosis, treatment and prevention of mastitis. Veterinary gynecology. The doctrine of infertility and virility. Classification of infertility. The method of gynecological examination. Pathology of the ovaries, oviducts, uterus, vagina, vestibule of the vagina, clitoris and labia. Modern methods of diagnosis and treatment for gynecological diseases of animals. Differential diagnosis of genital infections and invasions. Ways to increase reproductive function in case of intensification of animal reproduction.
The competence of the discipline	Upon completion of the course, the student must: - to know the features of the structure and physiology of the reproductive apparatus of females and males, the course of sexual processes, the meaning of the sexual cycle and their phenomena, the norm and pathology of pregnancy, childbirth and the postpartum period, breast and newborn diseases, methods of diagnosis, treatment and prevention of obstetric and gynecological pathology;

	- be able to identify sexual phenomena, pregnancy, infertility, differentiate, treat and prevent obstetric and gynecological diseases, provide assistance in difficult childbirth, perform delivery operations, independently solve and organize issues of animal reproduction. - possess the skills of surgery for the preparation of probes, methods of diagnosis of pregnancy, obstetric care, treatment of obstetric and gynecological pathologies, diseases of newborns and breast. To be competent in solving problematic issues of modern reproductology, in the organization of animal reproduction, in assessing the quality of diagnostic and therapeutic and preventive work using modern methods;
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Туребеков, О.Т. Өнімді жануарлардың тәжірибелік гинекологиясы [Мәтін]: оқу құралы / О.Т. Туребеков, М. Умитжанов; КЕАҚ "ҚазҰАУ".- Алматы: ҚазҰАУ, 2020.- 104 б 2. Акушерство, гинекология и биотехника репродукции животных [Текст]: учебник / А.П.Студенцов, В.С.Шипилов, В.Я.Никитин [и др.]; под ред. Г.П.Дюльгера.- 10-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2020.- 548 с. 3. Полянцев, Н.И. Акушерство, гинекология и биотехника размножения животных [Текст]: учебник / Н.И. Полянцев, Л.Б. Михайлова.- 4-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2020.- 448 с. 4. Әбдірахманов, Т.Ж. Ветеринариялық акушерлік және гинекология [Мәтін]: оқулық / Т.Ж. Әбдірахманов; ҚР Білім және ғылым м-трлігі.- Алматы: Бастау, 2019.- 320 б. 5. Дюльгер, Г.П. Акушерство, гинекология и биотехника размножения кошек [Текст]: учеб. пособие / Г.П. Дюльгер, Е.С. Седлецкая.- 2-е изд., испр. и доп.- СПб.-М.-Краснодар: Лань, 2018.- 168 с. 6. Молекулярно-генетические методы диагностики в ветеринарии [Текст]: учеб. пособие / разраб. Е.С.Усенбеков, В.П.Терлецкий, А.С.Мусаева [и др.]; КазНАУ.- Алматы: КазНАУ, 2018.- 147 с. 7. Алиханов, О. Искусственное осеменение сельскохозяйственных животных [Текст]: учеб. пособие / О. Алиханов, Ш. Каратаев, Ж. Жусупбеков.- Алматы: Эверо, 2017.- 176 с. 8. Джакупов, И.Т. Ранняя диагностика послеродовых патологии матки у коров [Текст]: моногр. / И.Т. Джакупов; МСХ РК; КазАТУ им. С.Сейфуллина.- Астана: КазАТУ им. С.Сейфуллина, 2017.- 94 с. 9. Полянцев, Н.И. Практикум по акушерству, гинекологии и биотехнике размножения животных [Текст]: учеб. пособие / Н.И. Полянцев.- СПб.: Лань, 2016.- 272 с.

	10. Төребеков, О.Т. Сиырдың акушерлік-гинекологиялық аурулары: оқу құралы / О.Т. Төребеков; ҚР Білім және ғылым м-трлігі; ҚазҰАУ.- Алматы: ҚазҰАУ, 2013.- 155 б. 11. Полянцев, Н.И. Акушерство, гинекология и биотехника размножения животных [Текст]: учебник / Н.И. Полянцев.- СПб.: Лань, 2012.- 400 с. 12. Практическое акушерство и гинекология [Текст]: учебное пособие / М.Н.Джуланов, О, Т, Туребеков, Е.С.Усенбеков и др.; Казахский национальный аграрный университет.- Алматы, 2012.- 231 с additional references: 13. Джуланов М.Н. Қалтаев Ш.Қ., Жукин Б.Д., Қойбағаров Қ.У. Ветеринариялық акушерлік, гинекология және көбею биотехникасы. Оқулық. Дәуір, 2011 ж. 14. Некрасов Г.Д., Суманова И.А. Акушерство, гинекология и биотехника воспроизводства животных: учеб. - М. : Форум, 2009. – 172. 15. Акушерство и гинекология сельскохозяйственных животных [Текст]: учебник для вузов / В.В. Храмцов [и др.]; под ред. В.И.Никитина.- М.: КолосС, 2008.- 197 с. 16. Джуланов М.Н. Қойбағаров Қ.У. Төребеков О.Т. Мал акушерлігі және гинекологиясы. Агроуниверситет. 2005 ж
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Code and name of the discipline	SHFI 4345 Sanitation and hygiene in the food industry
Teaching staff of the discipline	Dzhunisbayeva S., Abdramanov A., Taipova A.
Discipline cycle	MD/UC
Training level	Bachelor course
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	8
Prerequisites of the discipline	Veterinary microbiology and immunology, Veterinary hygiene and sanitation.
Post-requirements of the discipline	Module 9. Hygiene and veterinary and sanitary safety
The purpose of studying the discipline	To provide students with the theoretical knowledge and practical skills necessary to perform veterinary sanitation tasks on quality, safety, veterinary and sanitary assessment, technology and standardization of poultry products, fish farming, beekeeping, commercial animals and raw materials of animal origin.
Content of the discipline	Slaughter animals, their transportation, pre-slaughter and slaughter. Fundamentals of technology and hygiene of processing of slaughtered animals. Organization and methods of inspection of meat carcasses and internal organs. The nutritional and biological significance of meat. Veterinary and sanitary examination of poultry products, fish farming, beekeeping, commercial animals and raw materials of animal origin. Fundamentals of technology and veterinary and sanitary examination of by-products, edible fat, intestinal products, blood, endocrine, leather and fur and technical raw materials. Veterinary and sanitary examination of animal slaughter products for infectious, invasive, non-communicable

	diseases and poisoning. Forced slaughter. Veterinary and sanitary examination of slaughter products in case of poisoning of animals, their treatment with antibiotics and damage by radioactive substances. Food toxicoinfections and toxicoses, their prevention. Preservation of meat and meat products. Fundamentals of technology, hygiene of milk production and veterinary and sanitary expertise.
The competence of the discipline	After mastering the discipline, the student must: - to know: the rules of veterinary care of slaughtered animals during their harvesting, transportation, acceptance, maintenance and pre-slaughter preparation at meat processing enterprises; -organization of pre-slaughter training and methods of post-slaughter veterinary and sanitary examination of animal organs and carcasses; - measures for the prevention of food toxicoinfections; - rules for the use and disposal of meat, offal, raw materials of naturally killed animals; - research using modern methods of meat, milk and raw materials of animal origin; - be able to: the structure of slaughtering enterprises (meat processing enterprises, etc.) the basics of technology for the production of products and raw materials of animal origin; - organization and methodology of post-slaughter veterinary medical examination and sanitary assessment of livestock products and raw materials of animal origin; - the general scheme of state and foreign standardization and certification of products and raw materials of animal origin; - possess skills: methods of preservation and disinfection of products and raw materials; - methods for determining the nutritional and biological value of animal products. - modes of thermal effects on livestock products; - be competent: in carrying out veterinary and sanitary examination of animal organs and carcasses, meat and meat products, milk and dairy products, raw materials of animal origin; - - in the matter of conducting animal slaughter training; - - during veterinary and sanitary examination and sanitary assessment of products and raw materials of animal origin in infectious, invasive, non-infectious diseases and poisoning of animals; - - in matters of determining the goodness of products and raw materials of animal origin.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1.Ветеринарно санитарная экспертиза [Текст]: учебник / А.А.Кунаков. Б.В.Уша, О.И. Кальницкая [и др.]; под ред. А.А.Кунакова.- М.: ИНФРА-М, 2019. 2.Ветеринарно-санитарная экспертиза [Текст]: учебник / А.А.Кунаков. Б.В.Уша, О.И. Кальницкая [и др.]; под ред. А.А.Кунакова.- М.: ИНФРА-М, 2019.

	3. Ветеринарно-санитарная экспертиза сырья и продуктов животного и растительного происхождения. Лабораторный практикум [Электронный ресурс]: учеб. пособие/ И. А. Лыкасова, В. А. Крыгин, И. В. Безина [и др.].- 2-е изд., перераб.- CD-RW 700 MB/80MIN.- СПб.: Лань, 2015. 4. Ромашев, К.М. Экспертиза продуктов убоя промысловых животных [Электронный ресурс] / К.М.Ромашев, М.Е. Алимбекова; КазНАУ.- Алматы: Айтумар, 2015.- 116 с. additional references: 5. Мухамедов, О.Г. Категорийность мясных продуктов. Хранение и ветеринарно-санитарная экспертиза мясных продуктов [Текст]: учебное пособие / О.Г. Мухамедов; КазНАУ.- Алматы: Айтумар, 2014. 6. Боровков, М.Ф. Ветеринарно-санитарная экспертиза с основами технологии и стандартизации продуктов животноводства [Электронный ресурс]: учебник/ М.Ф. Боровков, В.П. Фролов, С.А. Серко.- CD-RW 700 MB/80 MIN.- СПб.-М.: Лань, 2013. 7. Пронин, В.В. Ветеринарно-санитарная экспертиза с основами технологии и стандартизации продуктов животноводства [Электронный ресурс]: Практикум: учебное пособие / В.В. Пронин, С.П. Фисенко.- 2-е изд., доп. и перераб.- CD-RW 700 MB/80 MIN.- СПб.-М.: Лань, 2012. 8. Сахариянов А.Ж. Ветеринарно-санитарная экспертиза мяса сельскохозяйственных животных при радиационных поражениях [Текст]: учебно-методическое пособие / Сахариянов А.Ж., К.М. Ромашев.- алматы, 2012
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EDUCATIONAL PROGRAM: 6B09104 – VETERINARY MEDICINE

Degree awarded: veterinary specialist in the
educational program
"6B09104- Veterinary Medicine"

4th year

Cycle	Code	Disciplines	Academic credits
7 term – 30 academic credits			
The university componen–25 credits			
BD	PAA 4202	Pathological anatomy of animals	5
PD	PPD 4305	Parasitology and parasitic diseases	5
PD	VR 4309	Veterinary radiobiology	5
PD	OS 4301	Operative surgery	5
PD	INDA 4303	Internal non-infectious diseases of animals	5
Component of choice – 5 credits			
BD	VR 4201	Veterinary radiobiology	5
	ARB4201	Animal reproduction biotechnology	
8 term – 31 academic credits			
The university component –31 credits			
PD	INDA 4304	Internal non-infectious diseases of animals	5
PD	GS 4302	General surgery	5
PD	EID 4307	Epizootology and infectious disease	6
PD	PPD 4305	Parasitology and parasitic diseases	5
PD	OOVB 4308	Organization of veterinary business	5

PD	PP 4303	Production practice 2	5
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Code and title of discipline	GS 4302 General Surgery
Professorial and teaching staff of the discipline	K.A. Orynkhanov, A.K. Makhmutov. G.K. Omarbekova.
Discipline cycle	CHEI / PD
Level of education	Specialty
Educational program	6B09104 – Veterinary medicine
Количество кредитов	5
Form of study	Full-time
Semester/trimester	8
Prerequisites of the discipline	Anatomy of animals and birds, Operative surgery, Animal physiology, Veterinary microbiology and immunology, Veterinary obstetrics and gynecology
Post-requisites of the discipline	Private Surgery, Epizootology and Infectious Diseases, Parasitology and Invasive Diseases
Purpose of studying the discipline	The purpose of the discipline of general surgery is to provide the student with theoretical knowledge and practical skills, as well as the formation of clinical thinking in the process of surgical intervention.
Content of the discipline	Injuries and trauma. The body's response to trauma. Surgical infections. Open mechanical injuries. Closed mechanical injuries. Diseases of the skin. Diseases of muscles, tendons, ligaments and bursae. Diseases of joints. Diseases of bones. Diseases of blood vessels. Diseases of the nervous system. Tumors. Diseases of the head. Diseases of the neck. Diseases of the chest and withers. Diseases in the abdomen and lower back. Pelvic and perineal diseases. Andrology. Surgical diseases of the breast. Diseases of the extremities.
Competences of the discipline	After mastering the discipline the student should: - know types of traumas and traumatism, body responses to trauma, diagnosis and treatment of open and closed mechanical injuries,

	surgical infections, oncological diseases, as well as diseases of skin, muscles, bursae, ligaments, tendons, joints, bones, blood and lymphatic vessels, diseases of the central and peripheral nervous system; surgical diseases of various organs and systems in different areas of the animal body; - to be able to organize the dispensary of animals in order to detect surgical pathologies, to carry out the necessary diagnostic, therapeutic and preventive measures aimed at preserving the life and performance of a sick animal with various surgical pathologies; - to possess various methods of diagnostics and treatment of surgical pathologies, techniques of various operations, as well as methods of prevention of traumatism, diseases associated with violations of animal housing and feeding conditions. - to be competent in the diagnosis, treatment and prevention of surgical pathologies of various origins, techniques of various diagnostic and therapeutic manipulations and operations, and in the application of innovative methods in veterinary medicine.
Form of final control	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	1. Тимофеев С.В., Филиппов Ю.И., Концевая С.Ю. Общая хирургия животных. Зоомедлит 2007, с.687. 2. Полли М. Тейлор и др., Травматология собак и кошек.// М., «Аквариум», 2003. 221 с. 3. Шакалов К.И., Башкиров Б.А., Поваженко И.Е. и др. Частная ветеринарная хирургия. 3-е изд. Л. «Агропромиздат», 1986, с.478. 4. Х. Шебиц, В.Брасс. Оперативная хирургия собак и кошек. Москва. «Аквариум» 2001 г. Паршин А.А. и др., Хирургические операции у собак и кошек.// «Аквариум», ФГУИППВ. 2003. – 230 с. 5. Семенов Б.С., Стекольников А.А., Высоцкий Д.И. Ветеринарная хирургия, ортопедия и офтальмология. М. «Колос» 2004, с.375. 6. Theresa Fossum « Small Animal Surgery» 4th Edition. Imprint: Mosby, 2012, 7. Лебедев А.В., Липовский К.А. “Общая ветеринарная хирургия” Учебник. Колос, 2000 г. 8. Семенов Б.С., “Частная ветеринарная хирургия” М., Агропромиздат, 2000

Code and name of the discipline	ОИ 4301 Operative surgery
Professor teaching staff of discipline	A.K. Makhmutov, K.A. Orynkhanov, G.K. Omarbekova, N.A. Akimzhan.
Cycle of discipline	BC
Learning level	Specialty
Educational program	6B09104 – Veterinary medicine
Quantity of credits	5
Form of training	Full-time
Semester/Trimester	8
Discipline Prerequisites	Anatomy of animals and birds. Animal Physiology. Pharmacology
Post-requisites of the discipline	General surgery. Private surgery. Parasitology and invasive diseases. Epizootology and infectious diseases

Purpose of studying the discipline	Mastering the methods of fixation and anesthesia, desmurgery and techniques of various manipulations and surgical interventions and application of innovative methods in veterinary medicine.
Content of the discipline	Concept of surgical operations and surgical techniques. Prevention of surgical infection. Asepsis and antisepsis. General anesthesia. Premedication. Local anesthesia. Separation and joining of tissues. Stopping bleeding. Desmurgery. Elements of plastic surgery. Operations performed in the head, neck and chest. Operations performed in the abdomen, on the organs of the genitourinary system. Castration of animals. Operations on the extremities.
Competencies of the discipline	After mastering the discipline, the bachelor should: - know: types of trauma and traumatism, body responses to trauma, diagnosis and treatment of open and closed mechanical injuries, surgical infections, cancer, as well as diseases of the skin, muscles, bursae, ligaments, tendons, joints, bones, blood and lymphatic vessels, diseases of the central and peripheral nervous system; surgical diseases of various organs and systems in different areas of the animal body; - understand: to organize the dispensary of animals to identify surgical pathologies, to carry out the necessary diagnostic, therapeutic and preventive measures aimed at preserving the life and performance of sick animals with various surgical pathologies; - apply: various methods of diagnostics and treatment of surgical pathologies, techniques of various operations, as well as methods of prevention of traumatism, diseases associated with violations of conditions of animal housing and feeding.
Form of final control	Exam
Duration of the discipline	1 academic period (15 weeks)
List of references	1. Petrakov K.A., Salenko P.T., Paninsky S.A. Operative surgery with topographic anatomy of animals.M. "Kolos" 2004, p.423. 2. H. Shebitz, V. Brass. Operative surgery of dogs and cats. Moscow. "Aquarium" 2001.Parshin A.A. et al, Surgical operations in dogs and cats. 2003. - 230 c. 3. Lebedev A.V., Lipovsky K.A. "General veterinary surgery" Textbook. Kolos, 2000. 4. Omarbekova U.J. Veterinary negyzderi// Okulyk: yshinshi basylim. - Almaty, 2013. - 338 6. 5. Muralynov K.K.. Operativtik surgery. (okulyk) - Almaty, KazYAU, 2014. - 252 6. 6. Muralinov K.K., Makhmutov A.K.. Veterinary surgery, orthopedics and ophthalmology: oku kuraly. Almaty, Nur-Print, - 2015. -224 6. 7. http://repository.kazatu.kz/jspui/handle/123456789/451 8. N.A. Slesarenko, N.V. Babichev. Veterinary clinical anatomy (Hill's Atlas) 2014 9. Nametov A.M., Sidikhov B.M., Murzashev T.K., Yesengaliev K.G. Yy januarlarary anatomyasy (splachnology - ishki mushcheler zhuyesi): okulyk. II belim. - Almaty: Epigraph, 2023. - 196 6.

Code and name of the discipline	INIDA 4303 Internal non-infectious diseases of animals
Teaching staff of the discipline	Siyabekov S.T., Mukhametkaliev A.
Discipline cycle	MD/UC

Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	10
Form of training	full-time
Semester/trimester	7,8
Prerequisites of the discipline	Pharmacology. Propaedeutics of non-communicable animal diseases
Post-requirements of the discipline	Module 13 Practical aspects of veterinary medicine. Final certification
The purpose of studying the discipline	training students to master modern methods of clinical, laboratory, and special research using the achievements of biophysics, biochemistry for the detection of diseases and treatment of animals. Generalization and substantiation of the obtained data, assessment of the anatomical and physiological characteristics of the animal's body depending on the acting factors
Content of the discipline	Modern methods of clinical and laboratory studies of animals in order to identify signs of diseases and diagnose; methodologies for recognizing the painful process; principles and methods of modern veterinary therapy. Diagnose, develop and carry out therapeutic and preventive measures for internal non-communicable diseases. laboratory methods for the study of biological material, therapeutic techniques and the release of physiotherapy
The competence of the discipline	After mastering the discipline, the student must: to know: the scheme of clinical research; methods of approach and fixation of animals during clinical research; safety rules and personal hygiene measures when working with animals; rules for taking the studied material for clinical and biochemical analysis; understand the effective and rational use of general, special and laboratory methods of animal research; Apply: skills to take blood, urine, feces, stomach contents, and pancreas from animals and analyze them to draw up a conclusion; to determine the degree of normal and pathological condition of systems and organs, based on clinical and laboratory studies; to link the detected symptoms and syndromes for diagnosis. be competent: - in the detection of symptomatology of diseases; in laboratory studies of biological material; in express diagnostics in exported and imported animals.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Жубантаев, И.Н. Ветеринариялық терапия [Мәтін]: оқу құралы / И.Н. Жубантаев; Жәңгір хан атын. Батыс Қазақстан АТУ.- Алматы: Альманах, 2019.- 226 2. Терапия негіздері [Мәтін]: оқу құралы / Ж.І.Қазиев, Н.Наутиев, Д.Оспанғали, А.Мұхамедкалиев.- Алматы: Print-Master, 2019.- 116 б. 3. Жубантаев, И.Н. Ветеринарная терапия [Текст]: учеб. пособие / И.Н. Жубантаев; МСХ РК; Зап.-Казахст. АТУ им. Жангир хана.- Алматы: Альманах, 2019.- 243 с.

4. Основы терапии [Текст]: учеб. пособие / Ж.И.Казиев, Н.Наутиев, Д.Оспангали, А.Мухамедкалиев.- Алматы: Print-Master, 2019.- 103
5. Уша, Б.В. Внутренние болезни животных [Текст]: учебник / Б.В. Уша; под ред. Б.В.Уша.- 2-е изд.- М.: ИНФРА-М, 2018.- 311 с.
6. Внутренние болезни животных [Текст]: учебник / Б.В.Уша, С.Э.Жавнис, И.Г.Серегин, Г.Г.Щербаков; под ред. Б.В.Уша.- 2-е изд.- М.: ИНФРА-М, 2018.- 311 с
7. Внутренние болезни животных [Текст]: учебник для вузов / под общ. ред. Г.Г.Щербакова, А.В.Яшина, А.П.Кудерко [и др.]; МСХ РФ.- 2-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2018.- 716 с.-
8. Жануарлар ішкі аурулары клиникалық балаумен [Мәтін]: 2-кітап: оқулық / А.У.Есходжаев, У.К.Есходжаев, А.Т.Қамбарбеков [ж.т.б.]; ҚР Білім және ғылым м-трлігі; ҚазҰАУ.- 2-бас., стереотип.- Алматы: Альманахъ, 2016.- 471 б.
9. Физиотерапия фитология негіздерімен [Мәтін]: оқу құралы / А.У.Есходжаев, У.К.Есходжаев, А.Т.Қамбарбеков, Ж.У.Еспанов; ҚР Білім және ғылым м-трлігі; ҚазҰАУ.- Алматы: Альманахъ, 2016.- 118 б.
10. Есходжаев, А.У. Внутренние болезни животных с клинической диагностикой [Текст]: книга-2: учеб. пособие / А.У. Есходжаев, У.К. Есходжаев, А.Т. Қамбарбеков; МОН РК; КазНАУ.- Алматы: Альманахъ, 2016.- 521 с.
11. Жануарлар ішкі аурулары [Мәтін]: 2-кітап: оқулық / Ө. Қ. Есожаев, М. А. Молдағұлов, К. Н. Қожанов [ж. т. б.]; ҚазҰАУ.- Алматы: Нур-Принт, 2015.- 362 б
12. Алиханов, О. Практикум по внутренним незаразным болезням сельскохозяйственных животных [Текст]: учеб. пособие / О. Алиханов, С. Тулеметова.- Алматы: Эверо, 2015.- 200 с.
- additional references:**
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14. М.А. Молдағұлов М.А., Ө.К.Есқожаев. Малдың жұқпалы емес ішкі аурулары, Алматы, 2009
15. М.А. Молдағұлов М.А., Ө.К.Есқожаев., Н.А. Заманбеков. «Жануарлар ішкі аурулар», Оқулық. Алматы, 2011 ж. Б. ж Ғ министрлігінің грифімен.
16. И.Г. Шарабрин, В.А. Аликаес, Л.Г. Замаран, В.М. Данилевский. Внутренние незаразные болезни с/х животных. 6-е изд. Испр. И доп. М. Агропромиздат, 2015.-527ст.
17. Зайцев В.И., Синев А.В, Ионов И.С., Васильев А.В., Шарабрин И.Г. Клиническая диагностика внутренних болезней сельскохозяйственных животных. Учебник под редакцией - М.: Колос, 2004.
18. Смирнов А.М., Конопелько П.Я., Пушкарев Р.П., Постников В.С., Уразаев Н.А., Беяков И.М., Дугин Г.Л., Кондратьев В.С. Практикум по клинической диагностике

	внутренних незаразных болезней с/х животных. Учебное пособие под редакцией - М.: Колос, 2015. 19.«Жануарлар ауруларының клиникалық диагностикасы». Оқулық. Нур-Принт баспасы. Алматы, 2006 ж.
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Code and name of the discipline	PID 4305 Parasitology and invasive diseases
Teaching staff of the discipline	Espanov Zh.U., Turganbaeva G.E., Usmangalieva S.S.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	10
Form of training	full-time
Semester/trimester	7-8
Prerequisites of the discipline	Veterinary microbiology and immunology. Pathological anatomy of animals.
Post-requirements of the discipline	Natural focal and anthroponozoonous invasions/ Conditions of research safety and biotechnology in veterinary medicine/ Biological safety of imported animals and goods Final certification
The purpose of studying the discipline	To provide students with theoretical and practical knowledge about the morphology and biology of parasites – pathogens of invasive diseases of agricultural and unproductive animals, the causes and conditions of their occurrence, recognition of issues of pathogenesis, clinical signs, diagnosis, treatment, prevention and control measures.
Content of the discipline	- After mastering the discipline, the student must: know: the most important invasive diseases of farm animals, birds, fish, bees; to understand: methods of organizing veterinary and sanitary measures against invasive diseases and assessing their quality; optimal modes of disinfection of livestock products, carcasses, organic and slaughterhouse waste in case of invasive pathology. apply: methods of in vivo and postmortem diagnostics of protozoa, helminthiasis and arachnoentomosis; skills in examining environmental objects for the presence of an invasive origin; to determine the leading factors and ways of transmission of pathogens of parasitosis; to determine the timing of their development and survival in environmental objects; to determine the beginning and duration of the epizootic season; on the dissemination of eggs, larvae helminths and protozoan cysts; on issues of sanitary parasitocenology; on predicting the incidence and parasitological situation in the region; be competent: in the organization and implementation of measures to combat invasive animal diseases; in solving problems with invasions and using them in drawing up a plan of antiparasitic measures; in identifying mixed invasive diseases and on this basis developing tactics to combat invasive diseases. General parasitology. The concept of discipline. The doctrine of invasive diseases. Definition of the concepts of invasion and invasive diseases. Definition of parasitism. The doctrine of

	invasive diseases. Definition of the concepts of invasion and invasive diseases. The role of the environment in the preservation and development of pathogens of helminthiasis and protozoa. Definition and content of veterinary helminthology. Morphological and biological features of trematodes, cestodes, nematodes and acanthocephalus. Methods of in vivo and postmortem diagnosis of helminthiasis. Trematodes. Cestodoses. Nematodes. Therapeutic and preventive measures for helminthiasis. Arachnoentomology. Arthropods as pathogens of arachnosis and entomoses and as carriers of pathogens of invasive and infectious diseases of animals and humans. The basics of combating arachnoentomoses. Issues of veterinary medical expertise in the use of pesticides for the treatment of animals and birds against arachnoentomoses. Entomology. Morphology, biology and the basics of systematics of insects parasitizing farm animals and birds. Insects are pathogens of entomoses and carriers of pathogens of invasive and infectious diseases.
The competence of the discipline	Introduction to arachnology. Classification of arachnoses. Morphology, biology and the basics of systematics of parasitic arachnids. Characteristics of parasitiform and acariform mites. Therapeutic and preventive measures for acariform mites. Protozoa and diseases caused by them. Introduction to protozoology. The main stages of protozoology development. Fundamentals of morphology and biology of parasitic protozoa. Systematics of parasitic protozoa. The relationship of parasitic protozoa and animals. Epizootological features of protozoal diseases. Pathogenesis and immunity in protozoa. Mastigophoroses, pyroplasmidoses, and tayleriidoses. Therapeutic and preventive measures for pyroplasmidosis. Ciliophorosis. Ciliatosis. Prokaryotes and the diseases they cause. Anaplasmosis of cattle and sheep. Therapeutic and preventive measures for anaplasmosis.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Ахметова, Г. Қазақстан жануарларының энтомоздары [Мәтін]: оқу құралы / Г. Ахметова, М. Бердіқұлов; ҚазҰАЗУ.- Алматы: Айтұмар, 2022.- 160 б. 2. Ахметова, Г. Энтомозы животных Казахстана [Текст]: учеб. пособие / Г. Ахметова, М. Бердикулов; КазНАИУ.- Алматы: Айтұмар, 2022.- 160 с. 3. Akhmetova, G. Entomosis of animals in Kazakhstan [Text]: tutorial / G. Akhmetova, M. Berdikulov; KazNAU.- Almaty: Aytumar, 2022.- 146 p. 4. Практикалық паразитология [Мәтін]: ветеринария және биология маман. студ., магистранттары мен докторанттарына оқу құралы / Ж.М.Исимбеков, Қ.М.Аубакирова, Н.Л.Шапекова [ж.т.б.]; ҚР Білім және ғылым м-трлігі.- Алматы: Эверо, 2020.- 296 б.

5. Паразитология және инвазиялық аурулар: Арахноэнтомология бөлімі [Мәтін]: пәні бойынша 6В09104-"Ветеринариялық медицина" білім беру бағдарламасы 5 курс студ. арн. оқу-әдістемелік нұсқау / Г.С.Шабдарбаева, Г.Е.Тұрғанбаева, Г.Д.Ахметова [ж.т.б.]; "ҚазҰАУ" КЕАҚ; "Ветеринария" фак.; "Биологиялық қауіпсіздік" каф.- Алматы: Басп. ж., 2020.- 38 б.
6. РІА 4305-Паразитология және инвазиялық аурулар [Мәтін]: пәні бойынша 6В09104-"Ветеринариялық медицина" білім беру бағдарламасы 4 курс студ. тәжірибелік сабақтарға арн. оқу-әдістемелік нұсқау / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Тұрғанбаева [ж.т.б.]; "ҚазҰАУ" КЕАҚ; "Ветеринария" фак.; "Биологиялық қауіпсіздік" каф.- Алматы: Басп. ж., 2020.- 47 б.
7. Учебно-методические указания "Гельминтология". Раздел "Цестодозы" [Текст]: лаб. занятия по дисциплине РІА 4305-"Паразитология и инвазионные болезни", образоват. программа 6В09104-"Ветеринария" для студ. 4 курса / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Турганбаева [и др.]; НАО "КазНАУ"; Фак. "Ветеринария"; Каф. "Биологическая безопасность".- Алматы: Б.и., 2020.- 34 с.
8. Учебно-методические указания "Гельминтология". Раздел "Нематодозы" [Текст]: лаб. занятия по дисциплине РІА 4305-"Паразитология и инвазионные болезни", образоват. программа 6В09104-"Ветеринария" для студ. 4 курса / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Турганбаева [и др.]; НАО "КазНАУ"; Фак. "Ветеринария"; Каф. "Биологическая безопасность".- Алматы: Б.и., 2020.- 42 с.
9. Учебно-методические указания "Гельминтология" [Текст]: практ. занятия по дисциплине РІА 4305-"Паразитология и инвазионные болезни", образоват. программа 6В09104-"Ветеринария" для студ. 4 курса / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Турганбаева [и др.]; НАО "КазНАУ"; Фак. "Ветеринария"; Каф. "Биологическая безопасность".- Алматы: Б.и., 2020.- 41 с.
10. Учебно-методические указания "Гельминтология". Раздел "Трематодозы" [Текст]: лаб. занятия по дисциплине РІА 4305-"Паразитология и инвазионные болезни", образоват. программа 6В09104-"Ветеринария" для студ. 4 курса / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Турганбаева [и др.]; НАО "КазНАУ"; Фак. "Ветеринария"; Каф. "Биологическая безопасность".- Алматы: Б.и., 2020.- 32 с
11. Паразитология негіздері [Мәтін]: моногр. / А.М.Абдыбекова, А.А.Султанов, А.С.Донченко [и др.].- Алматы: ҚазҒЗВИ, 2019.- 512 б.
12. Паразитология и паразитарные болезни сельскохозяйственных животных [Текст]: учебник / Н.Е.Косминков, Б.К.Лайпанов, В.Н.Домацкий, В.В.Белименко; под ред. Н.Е.Косминкова.- М.: ИНФРА-М, 2019.- 467 с.

additional references:

	13. Кереев, Я.М. Гельминты, гельминтозы собак и кошек [Текст]: учеб. пособие / Я.М. Кереев, Ж.Е. Кенжегалиев; МСХ РК; Зап.-Казахст. АТУ им. Жангир хана.- Алматы: Альманах, 2019.- 120 с. 14. Ветеринариялық санитариялық паразитология [Мәтін]: 2-том. Зертханалық сабақтар: оқу құралы / Г.С.Шабдарбаева, С.С.Усманғалиева, Г.Д.Ахметова [ж.т.б.].- Алматы: Нур-Принт, 2019.- 152 б. Ветеринариялық санитариялық паразитология [Мәтін]: 3-том. Тәжірибелік сабақтар: оқу құралы / Г.С.Шабдарбаева, С.С.Усманғалиева, Г.Д.Ахметова [ж.т.б.].- Алматы: Нур-Принт, 2019.- 100 б. 16. Кереев, Я.М. Паразитология и инвазионные болезни животных [Текст]: учебник / Я.М. Кереев, М.Ш. Шалменов, З.С. Айтпаева; Ассоциация вузов РК.- Алматы: Ассоциация вузов РК, 2014.- 496 с. 17. Сабаншиев, М.С. Ветеринариялық паразитология практикумы [Мәтін]: оқу құралы / М.С. Сабаншиев; Қазақ Ұлттық Аграрлық университеті.- Алматы: ҚазҰАУ, 2013.- 232 б. 18. Новак, М.Д. Паразитарные болезни животных [Текст]: учеб. пособие / М.Д. Новак, С.В. Енгашев.- М.: РИОР; ИНФРА-М, 2013.- 192 с Veterinary sanitary parasitology [Текст]: 6B09102-training manual for the subject in the specialty Veterinary sanitation / G.S.Shabdarbayeva, S.S.Usmanaliyeva, D.Asylhanov; KazNAU.- Almaty: KazNAU, 2020.- 123 p. 19. Шабдарбаева Г.С., Ахметова Г.Д., Турганбаева Г.Е., Балгимбаева А.И. Практическое обучение по паразитологии (учебное пособие по арахноэнтомологии). Алматы, 2012 20. Шабдарбаева Г.С., Абдыбекова А.М., Шапиева Ж.Ж. Антропозоозы и меры их профилактики в Республике Казахстан//Монография. Алматы, «S-Принт», 2012, 104 с. 5.Шабдарбаева Г.С. Асылханов Д.У. и др.. Гельминттердің жіктелуі. Классификация гельминтозов. Systematization of Helminthosis. Учебное пособие//на каз/рус/англ. языках. Алматы, 2013 АО Казспецпредприятие», 32 с. 21. Абдыбекова А.М., Шабдарбаева Г.С., Шапиева Ж.Ж., Зулкарнаева Э.К. Атлас зоонозных инвазий, официально регистрируемых в Республике Казахстан. //Алматы, изд-во «S-Принт», 2012. 22. Шабдарбаева Г.С. Кровепаразитарные болезни животных (эпизоотология, диагностика) // Монография. Алматы, «S-Принт», 2012, 272 с.
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Code and name of the discipline	EID 4307 Epizootology and infectious diseases
Teaching staff of the discipline	Ilgekbayeva G.D., Omarbekova U.Zh., Otarbayev B.K. Aliev A., Musaev A.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	12

Form of training	full-time
Semester/trimester	8-9
Prerequisites of the discipline	Module 6 Fundamentals of animal disease diagnosis
Post-requirements of the discipline	Module 13 Practical aspects in veterinary medicine The final certification
The purpose of studying the discipline	provides the necessary knowledge about the objective patterns of the occurrence, spread and cessation of infectious diseases among animals, methods of their prevention and elimination.
Content of the discipline	Forms the concept of the science of epizootology and methods of its research. Studies infections and infectious diseases, immunity and immunogenic systems, as well as the epizootic process and its driving forces. Develops practical skills in organizing antiepidemic measures and immunization of animals against infectious diseases, including health-improving activities.
The competence of the discipline	After studying the discipline, the student must: to know - the definition of the disease, the geography of distribution, the history of study and evolution, etiology, epizootological features, pathogenesis, clinical and pathomorphological features, pathogenesis, clinical and pathomorphological signs, methods of diagnosis and prevention, antiepidemic measures for infectious diseases common to several species of animals and diseases of ruminants, horses, pigs, young animals, birds, carnivores, bees and fish; understand the essence of conducting an epizootic examination and draw up an act on it; the importance of nosological and epizootic diagnosis for infectious diseases, drawing up a plan of antiepidemic measures; to apply - to conduct an epizootic examination and draw up an act on it; to make a nosological and epizootic diagnosis for infectious diseases, to draw up a plan of antiepidemic measures; be competent – in the subject and methods of epizootology, the nature of infection and infectious diseases; the essence and patterns of development of the epizootic process; epizootic focus and natural foci of infectious diseases; nomenclature and classification of infectious diseases; a system of preventive and health measures for infectious diseases.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Максимович, В.В. Руководство по общей эпизоотологии [Текст]: учебник / В.В. Максимович, А.Р. Сансызбай, А.П. Курдеко.- Алматы: Айтұмар, 2020.- 244 с. 2. Инфекционные болезни свиней [Текст]: моногр. / В.В.Максимович, А.П.Курдеко, А.Р.Сансызбай, А.Абуталип, Н.Т.Сандыбаев.- Алматы: Айтұмар, 2020.- 370 с. 3. Диагностика вирусных инфекций [Текст]: учеб. пособие / МОН РК; НАО КазНАУ.- Алматы: Б.и., 2020.- 142 с. 4. Лабораторная диагностика инфекционных болезней [Текст]: учеб. пособие / Р.Г.Госманов, Р.Х.Равилов, А.К.Галиуллин и др.- 2-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2020.- 196 с

	5. Иванов, Н.П. Эпизоотология с основами ветеринарной микробиологии [Текст]: учеб. пособие / Н.П. Иванов, Г.Г. Абсатиров, А.Н. Кожаяев.- Алматы: Эверо, 2017.- 380 с. 6. Омарбекова, У.Ж. Эпизоотология с микробиологией [Текст]: Т.2.: практикум / У.Ж. Омарбекова; МСХ РК; КазНАУ.- Алматы: PRINTMASTER, 2016.- 290 с. 7. Сайдулдин Т. Жануарлардың жұқпалы және аса қауіпті аурулары. Оқулық, 4-басылымы // Алматы: ҚазҰАУ, "Айтұмар" баспасы, 2015. – 578 бет. 8. Қасымов, Е.И. Индеттану және инфекциялық аурулармен күрес шаралары [Мәтін]: оқулық / Е.И. Қасымов.- Алматы: "Полиграфия-сервис и К", 2014.- 270 б. 9. Өнімді жануарлардың инфекциялық аурулары [Мәтін]: пәнінен тәжірибелік сабақтарға 5В120100-Ветеринариялық медицина маман. студ. арн. әдістемелік нұсқаулар / құраст. Т.Сайдулдин, Г.Д.Ілгекбаева, Б.К.Отарбаев [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2019.- 43 б. 10. Өнімді жануарлардың инфекциялық аурулары [Мәтін]: пәнінен зертханалық сабақтарға 5В120100-Ветеринариялық медицина маман. студ. арн. әдістемелік нұсқаулар / құраст. Т.Сайдулдин, Г.Д.Ілгекбаева, Б.К.Отарбаев [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2019.- 47 б. 11. Методические указания по дисциплине "Инфекционные болезни продуктивных животных" [Текст]: для студ. спец. 5В120100-Ветеринария / сост. Т.Сайдулдин, Н.П.Иванов, Г.Д.Ильгекбаева; НАО КазНАУ.- Алматы: Айтұмар, 2019.- 74 с. 12. "Индеттану және инфекциялық аурулар" пәнінен практикалық сабақтарға арналған әдістемелік нұсқаулар [Мәтін]: 5В120100-"Ветеринариялық медицина" маман. студ. арн. / құраст. Т.Сайдулдин, Н.Ғ.Асанов, Е.И.Қасымов [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2018.- 67 б. additional references: 13. Сайдулдин Т. «Индеттану және жануарлардың жұқпалы аурулары». - Алматы, 2009. 14. Иванов Н.П. Диагностика инфекционных болезней животных. - Алматы, 2009. 15. Қасымов Е.И. Индеттану және инфекциялық аурулармен күрес шаралары. – Алматы, 2009. 16. Ілгекбаева Г.Д. Бұзаудың жұқпалы аурулары, 2009. 17. Ветеринариялық заңдылықтар. 1,2,3-том. Астана, 2004.
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Code and name of the discipline	ARB4201 Animal reproduction biotechnology
Teaching staff of the discipline	Dzhulanov M.N., Koibagarov K.U.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	7
Prerequisites of the discipline	Veterinary obstetrics and gynecology

Post-requirements of the discipline	Module 12 Veterinary safety Module 13 Practical aspects of veterinary
The purpose of studying the discipline	medicine training of a highly qualified specialist with perfect knowledge of the biology of reproduction, able to organize and implement a set of measures to improve reproduction, organize and carry out artificial insemination of animals and embryo transplantation.
Content of the discipline	The use of producers in animal breeding biotechnology. Tools, equipment for obtaining sperm and working with sperm. Scientific substantiation of methods for obtaining sperm. The structure of the sperm. Physiology and biochemistry of sperm. Obtaining and evaluating the quality of sperm. Dilution of sperm. Short-term and long-term sperm storage. Sperm transportation. Defrosting and evaluation of the quality of freshly thawed sperm. Artificial insemination of mares, cows, sheep, goats, pigs. Organization of work at points for artificial insemination of animals, state breeding centers. Selection of donors and recipients for embryo transplantation. Synchronization and stimulation of sexual cycles of donors and recipients. Methods of obtaining embryos. Superovulation in donors. Assessment of the quality of embryos. Embryo storage and transplantation. Organization of work at embryo transplantation sites. Embryo transplantation in mares, cows, sheep, goats, pigs, dogs and cats.
The competence of the discipline	After mastering the discipline, the student must: to know: the diagnosis of sexual hunting and artificial insemination of animals, the physiology of reproduction, to carry out measures to increase the fertility of queens based on knowledge of biotechnology and transplantation. Modern methods of artificial insemination and embryo transplantation. understand: the problems of artificial insemination and embryo transplantation. to apply: modern methods of diagnosis of sexual hunting and artificial insemination with embryo transplantation. be competent: - in solving the issues of the modern problem of artificial insemination and embryo transplantation, in the organization of animal reproduction, in assessing the quality of sperm and embryos using modern methods.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Джуланов, М.Н. Биотехнология размножения животных [Текст]: учебник / М.Н. Джуланов, К.У. Койбагаров, Н.М. Джуланова.- Алматы: Айтұмар, 2021.- 210 с. 2. Жануарлар көбею биотехнологиясы [Мәтін]: оқулық / Б.Ә.Бұралхияев, Р.Қадыкен, Л.Қ.Бөпебаева, О.Қазыхан; ҚазҰАУ.- Алматы: Айтұмар, 2020.- 140 б. 3. Полянцев, Н.И. Акушерство, гинекология и биотехника размножения животных [Текст]: учебник / Н.И. Полянцев, Л.Б. Михайлова.- 4-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2020.- 448 с.

	4. Жануарлар көбеюі биотехнологиясы [Мәтін]: оқу құралы / М.Н.Жоланов, Е.С.Усенбеков, Қ.У.Қойбағаров [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2019.- 130 б. 5. Авдеенко, В.С. Биотехника воспроизводства с основами акушерства животных [Текст]: учеб. пособие / В.С. Авдеенко, С.В. Федотов, Ж.О.Кемешов.- М.: ИНФРА-М, 2019.- 124 с. 6. Авдеенко, В.С. Биотехника воспроизводства с основами акушерства [Текст]: учебник / В.С. Авдеенко, С.В. Федотов.- М.: ИНФРА-М, 2019.- 454 с. 7. Дюльгер, Г.П. Акушерство, гинекология и биотехника размножения кошек [Текст]: учеб. пособие / Г.П. Дюльгер, Е.С. Седлецкая.- 2-е изд., испр. и доп.- СПб.-М.-Краснодар: Лань, 2018.- 168 с. 8. Алиханов, О. Искусственное осеменение сельскохозяйственных животных [Текст]: учеб. пособие / О. Алиханов, Ш. Каратаев, Ж. Жусупбеков.- Алматы: Эверо, 2017.- 176 с. 9. Полянцев, Н.И. Практикум по акушерству, гинекологии и биотехнике размножения животных [Текст]: учеб. пособие / Н.И. Полянцев.- СПб.: Лань, 2016.- 272 с. 10. Аубакиров, Х.Ә. Ауыл шаруашылық биотехнологиясы [Мәтін]: оқулық / Х.Ә. Аубакиров.- Алматы: Эверо, 2015.- 581 б. 11. Өтесінов, Ж.Ө. Сүтқоректілер көбею биотехнологиясы және эмбриоинженерия негіздері [Мәтін]: моногр. / Ж.Ө. Өтесінов, Г.А. Жамалова.- Алматы: Эпиграф, 2015.- 208 б. 12. Аубакиров, Х.Ә. Жануарлар биотехнологиясы [Мәтін]: оқулық / Х.Ә. Аубакиров, Н.Н. Әлібаев, М.Д. Кенжеходжаев; ҚР Білім және ғылым м-гі.- Алматы: Дәуір, 2014.- 504 б. additional references: 13. Полянцев, Н.И. Акушерство, гинекология и биотехника размножения животных [Текст]: учебник / Н.И. Полянцев.- СПб.: Лань, 2012.- 400 с. 14. М.Н. Джуланов, О.Т. Туребеков, Е.С. Усенбеков, К.У. Койбағаров, Р.М. Жумаханова. Практическое акушерство и гинекология «Айтұмар» 2012 15. Тәжірибелік гинекология пәні бойынша әдістемелік нұсқау [Мәтін]: 051201-"Ветеринария" / М.Н.Жоланов, Қ.У.Қойбағаров, О.Т.Төребеков [ж.т.б.]; ҚазҰАУ вет.мед. және биотехнология фак.; Акушерлік және хирургия каф.- Алматы: ҚазҰАУ, 2009.- 35 б. 16. Джакупов, И.Т. Ранняя диагностика послеродовых патологии матки у коров [Текст]: моногр. / И.Т. Джакупов; МСХ РК; КазАТУ им. С.Сейфуллина.- Астана: КазАТУ им. С.Сейфуллина, 2017.- 94 с.
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Code and name of the discipline	VR 4201 Veterinary radiology
Teaching staff of the discipline	Kaziev J.I., Ospangali D.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5

Form of training	full-time
Semester/trimester	10
Prerequisites of the discipline	Anatomy of animals and birds. Animal Physiology
Post-requirements of the discipline	Module 13 Practical aspects of veterinary medicine
The purpose of studying the discipline	Mastering modern methods in X-ray diagnostics using the achievements of biophysics, biochemistry for the differential diagnosis of animal diseases; studying methods of X-ray examination of normal X-ray anatomy of bones, joints, organs of the thoracic and abdominal cavities, as well as pathologies of the musculoskeletal system, lung diseases and gastrointestinal tract; teaching students to read radiographs.
Content of the discipline	The basics of the appearance of shadow images of organs when X-rays pass through the animal's body, it is necessary to know the nature and properties of these rays, the method of their artificial production, equipment using rays in veterinary X-ray diagnostics, as well as the body's response to radiation and ways to protect against its harmful effects; evaluate the X-ray quality and determine the organ under study, establish a diagnostic methodology.
The competence of the discipline	After mastering the discipline, the student must: to know: modern methods in X-ray diagnostics using the achievements of biophysics, biochemistry for the differential diagnosis of animal diseases; understand: "shadow, enlightenment" when analyzing an X-ray image. to apply X-ray examination of normal X-ray anatomy of bones, joints, organs of the thoracic and abdominal cavities, pathologies of the musculoskeletal system, diseases of the lungs and gastrointestinal tract; training students to read radiographs to be competent: in the field of application of radiology
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Кази́ев, Ж.И. Ветеринарный рентгенодиагностический атлас [Текст] / Ж.И. Кази́ев.- Алматы:Альманахъ, 2021.-296 с.- (Посвящ. "90-летию КазНАУ"). 2. Кази́ев, Ж.И. Ветеринарный рентгенодиагностический атлас [Текст] / Ж.И. Кази́ев.- Алматы: Альманахъ, 2021.- 296 с.- (Посвящ. "90-летию КазНАУ"). 3. Ветеринарная рентгенология [Текст]: учеб. пособие / И.А.Никулин, С.П.Ковалев, В.И.Максимов, Ю.А.Шумилин.- СПб.-М.-Краснодар: Лань, 2019.- 208 с. 4. Niemiec, B.A. Practical veterinary dental radiography [Текст] / B.A. Niemiec, J. Gawor, V. Jekl.- Boca Raton; London; New York: Taylor & Francis Group, 2018.- 368 p. 5. Қази́ев, Ж.І. Ветеринариялық рентгенология [Мәтін]: оқулық / Ж.І. Қази́ев.- Алматы: Альманах, 2016.- 303 б. 6. Кази́ев Ж.И., Рентгенологическое исследование с применением контрастных средств в ветеринарии. Монография. Изд. «Мастерпринт», Алматы, 2013 г. 111 стр.

	additional references: 7. Казиев Ж.И., Ветеринарная рентгенология. Учебное пособие, Изд. Мастерпринт, 2010, 168 стр. 8. Казиев Ж.И., Методические указания для проведения лабораторно – практических занятий по «Рентгенологии» Изд. «Мастерпринт», Алматы, 2010 г. 9. Казиев Ж.И., Метод рентгенографического исследования желчного пузыря у собак. Рекомендация. Изд. «Мастерпринт», Алматы, 2010
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Code and name of the discipline	OVB 4308 Organization of veterinary business
Teaching staff of the discipline	Akhmetsadykov N.N., Khusainov D.M., Batanova J., Omarbekova U.Zh.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	8
Prerequisites of the discipline	Module 9 Non-infectious animal pathology
Post-requirements of the discipline	Module 10 Infectious animal pathologies The final certification
The purpose of studying the discipline	gives students the necessary knowledge, skills and abilities about the tasks of veterinary medicine and the organizational forms of their solution by the veterinary service, the study of the theory and practice of building a veterinary service and its management.
Content of the discipline	The subject examines the organizational forms of veterinary management, the structure of veterinary institutions, the organization and economic efficiency of veterinary activities, planning and methods of work of veterinary specialists, institutions and services. The subject provides knowledge and skills in organizing state, economic, and public events to protect animals from diseases, provide them with effective medical care, produce high-quality veterinary and sanitary livestock products, as well as protect human health, protect them from diseases common with animals. The acquired knowledge will be used in the organization and conduct of planned and everyday general preventive, veterinary-sanitary, preventive-epizootic and other measures in the production, harvesting, transportation, storage, sale, export, import and transit of animals, products and raw materials of animal origin, which will ensure the creation of healthy, highly productive herds of animals, improving the quality of livestock products, protection the population suffers from diseases common to animals and humans.
The competence of the discipline	- After mastering the discipline, the student must: to know: the history of the formation of the veterinary service, the basics of legislative regulation in veterinary medicine, the structure of the veterinary service, state veterinary institutions, international veterinary organizations; understand: ways to plan veterinary activities, organize veterinary activities, organize the work of veterinary supervision;

	apply: the methodology of drawing up veterinary plans and reports; the methodology of drawing up veterinary documentation. be competent: in veterinary activities, in veterinary institutes, in veterinary services of foreign countries.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Хусаинов Д.М., Беркинбай О. Практикум: Менеджмент в ветеринарии и организация ветеринарного дела. – Учебное пособие. - Алматы: «Нур-принт», 2016.- 232 с 2. Әбдірахманов, С.Қ. Ветеринариядағы менеджмент [Мәтін]: оқулық / С.Қ. Әбдірахманов, Х.Б. Әбеуов.- Алматы: Бастау, 2016.- 320 б. 3. Беркінбай, О. Ветеринариядағы менеджмент. Практикум [Мәтін]: оқу құралы / О. Беркінбай, Х. Әбеуов.- Алматы: Нур-Принт, 2015.- 189 б. 4. Хусаинов Д.М., Ахметсадыков Н., Шабдарбаева Г., Беркинбай О. И др. Менеджмент в ветеринарии и организация ветеринарного дела. – Учебник. -Алматы: «Нур-принт», 2015.- 573 с. 5. Организация ветеринарного дела [Текст]: учебник / Д.М.Хусаинов, Н.Н.Ахметсадыков, Г.С.Шабдарбаева [и др.].- Алматы: Нур-Принт, 2014.- 572 6. Никитин, И.Н. Организация ветеринарного дела [Текст] / И.Н. Никитин.- 4-е изд., перераб. и доп.- СПб: Лань, 2013.- 288 с. 7. Борисевич, В.Б. Наноматериалы и нанотехнологии в ветеринарной практике [Текст]: учеб.-практ. пособие / В.Б. Борисевич, В.Г. Каплуненко, Н.В. Косинов; под. ред. В. Б. Борисевича, В. Г. Каплуненко.- Киев: Авіцена, 2012.- 512 с. 8. Методические указания для практических занятий: Ахметсадыков Н.Н., Хусаинов Д.М., Омарбекова У.Ж., Батанова Ж.М. Менеджмент в ветеринарии. Алматы, 2019 г. 9. Методические указания для самостоятельной работы: Ахметсадыков Н.Н., Хусаинов Д.М., Омарбекова У.Ж., Батанова Ж.М. Менеджмент в ветеринарии. Алматы, 2019 г. 7. Berkinbay, O. Management in veterinary medicine [Текст]: workshop / O. Berkinbay.- Almaty: Almanah, 2017.- 202 p. additional references: 8. Калымбек, Б. Правовое обеспечение ветеринарной безопасности в Республике Казахстан [Текст]: моногр. / Б. Калымбек; КазНУ им.аль-Фараби.- Алматы: Қазақ университеті, 2020.- 147 с. 9. Правовое обеспечение таможенной логистики и около таможенной инфраструктуры в условиях Таможенного Союза ЕАЭС [Текст]: моногр. / К.Н.Айдарханова, С.Т.Алибеков, Г.Т.Айгаринова [и др.]; КазНУ им.аль-Фараби.- Алматы: Қазақ университеті, 2018.- 312 с. 10. О таможенном регулировании в Республике Казахстан: Кодекс Республики Казахстан [Текст].- Алматы: NURPRESS, 2018.- 506

	11. Международное законодательство по ветеринарии и методические указания по его применению [Текст] / под ред. К. Лукаускаса.- М.: [б. и.], 2013.- 1067 с.
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EDUCATIONAL PROGRAM: 6B09104 – VETERINARY MEDICINE

**Degree awarded: veterinary specialist in the
educational program**

"6B09104- Veterinary Medicine"

5th year

Cycle	Code	Disciplines	Academic credits
9 term – 31 academic credits			
The university componen –21 credits			
CD	VSE 5303	Veterinary and sanitary examination	5
CD	PS 5301	Private surgery	5
CD	EID 5302	Epizootology and infectious disease	6
CD	PP5303	Production practice 3	5
Component of choice – 10 credits			
CD	IDOB 5307	Infectious diseases of birds	5
	IDOYAAB 5307	Internal diseases of young animals and birds	
	FV 5307	Forensic Veterinary	
	Oph5307	Ophthalmology	
CD	NFAAI 5308	Natural focal and anthroozoonosis invasion	5
	EMAFOIDOA 5308	Epizootological monitoring and forecasting of infectious diseases of animals	
	LARFTVS 5308	Laws and regulations for the veterinary service	
	OAGDODAC 5308	Obstetric and gynecological diseases of dogs and cats	
10 term – 29 academic credits			

<i>The university componen –11 credits</i>			
CD	VSE 5304	Veterinary and sanitary examination	5
CD	BPOTOHCOH 5306	Basic principles of the One Health concept (One Health)	6
<i>Component of choice – 10credits</i>			
CD	MGDMIV 5310	Molecular genetic diagnostic methods in veterinary	5
	IDODAC5310	Infectious diseases of dogs and cats	
	THAVEOMADP 5310	Technology, hygiene and veterinary examination of meat and dairy products	
CD	TADAEI5307	Transboundary animal diseases and emergent infections	5
	BITPOVD 5307	Biosafety in the production of veterinary drugs	
	VASCASATBAT 5307	Veterinary and sanitary control and supervision at the border and transport	
	Der 5307	Dermatology	
Final module			8

Code and name of discipline	Der5307 «Dermatology»
PPC of the discipline	Orynkhanov K. A.
Cycles of disciplines	CC/PD
Educational level	Specialty
Educational program	6B09101– Veterinary medicine
Number of credits	5
Form of education	full-time
Semester/trimester	10
Discipline prerequisites	Anatomy of animals and birds, Pharmacology, Pathological physiology, Infectious diseases of non-productive animals, Obstetric and gynecological diseases of non-productive animals.
Postrequisites of the discipline	Final certification, graduation work
The purpose of studying the discipline	training of a highly qualified specialist who is fluent in the methods of diagnosis, treatment and prevention of diseases of the skin, mucous membranes and skin derivatives, able to organize therapeutic and preventive measures.
Contents of the discipline	The structure of the skin. Methods of skin research. Bacterial diseases of the skin. Fungal skin diseases. Inflammation of the external auditory meatus. Viral, rickettsial and protozoal diseases. Parasitic skin diseases. Endocrine diseases of the skin. Nutritional diseases of the skin. Skin diseases associated with environmental conditions. Cheilitis (halos). Autoimmune and allergic skin diseases. Psychogenic skin diseases. Mixed infections of the skin. Hereditary disorder of the skin. Neoplastic and non-neoplastic origin of swelling. Skin tumour diseases

Discipline competencies	After mastering the discipline, the specialist should: - know the anatomy and physiology of the skin; methods of diagnosis, treatment and prevention of diseases of the skin and mucous membranes; theoretical foundations of dermatology; - to be able to organize the conduct of clinical examination for detection of abnormalities of the skin and mucous membranes; determine the causes, diagnosis, treatment and preventive measures for diseases of the skin and mucous membranes; - possess clinical and laboratory methods of diagnosis of skin diseases, as well as various methods of treatment of diseases of the skin and mucous membranes; - be competent in the diagnosis and treatment of diseases of the skin and mucous membranes and in the application of innovative research methods in veterinary medicine.
Form of final control	Examination
Duration of the discipline	1 academic period (15 weeks)
List of references	1. М.Умитжанов, А.А.Иманбаев, О.Т.Туребеков [и др.]; Дерматология учеб. пособие / КазНАИУ.- Алматы: Айтұмар, 2022.- 120 с. 2. К.Муралинов,. Болезни кошек и собак, учебник Алматы: КазНАУ, 2011.- 479 с. 3. К.Қ. Муралинов, А.К.Махмутов Ветеринариялық хирургия, ортопедия және офтальмология, оқу құралы / - Алматы: Альманах, 2017.- 224 б. 4. Э.Чандлер, К.Гаскелл, Р.Гаскелл. Болезни кошек, изд. Аквариум 2011.-688стр. 5. Х.Джексон, Р.Марселла. Дерматология собак и кошек, Аквариум-Принт, 2022 г – 360стр. 6. С.Патерсон, Кожные болезни кошек. Аквариум-Принт, 2014 – 168стр. 7. Keith A. Hnilica, Adam P. Patterson Small Animal Dermatology, Book, Copyright Elsevier Inc. All rights reserved. Fourth Edition, 2017 8. Nicole A. Heinrich, Melissa Eisenschenk, Richard G. Harvey, Tim Nuttall, Skin Diseases of the Dog and Cat, 3rd Edition: A Color Handbook, 2018 9. Theresa Fossum « Small Animal Surgery» 4th Edition. Imprint: Mosby, 2012

Code and name of discipline (in Russian, English)	OAGDODAC 5308 Obstetric and gynecological diseases of dogs and cats
PPC of the discipline	Dzhulanov M.N. Koybagarov K.U.
Cycles of disciplines	Component of choice
Educational level	Specialty
Educational program	6B09104– Veterinary medicine
Number of credits	5
Form of education	full-time
Semester/trimester	9
Discipline prerequisites	Anatomy of animals and birds, Pharmacology, Pathological physiology, Veterinary obstetrics and gynecology.
Postrequisites of the discipline	dermatology
The purpose of studying the discipline	Providing the student with theoretical knowledge and practical skills, as well as the formation of clinical thinking in the process of carrying

	out therapeutic and preventive measures for diseases of the reproductive system of non-productive animals.
Contents of the discipline	This discipline will provide the student with theoretical knowledge and practical skills, as well as the formation of clinical thinking in the process of carrying out therapeutic and preventive measures for obstetric and gynecological diseases of non-productive animals. Basic information about the structure and function of the reproductive organs of dogs and cats, the physiology and pathology of pregnancy, childbirth and the postpartum period, surgical methods for treating pathologies of the female genital organs, and andrological diseases are studied.
Discipline competencies	After mastering the discipline, the specialist should: - know topographic anatomy, methods of fixation and anesthesia, techniques for various manipulations and surgical placements, as well as methods of diagnosis, treatment and prevention of various obstetric and gynecological diseases of non-productive animals; - be able to carry out the necessary diagnostic, therapeutic and preventive measures, as well as operations aimed at preserving the life of the animal; - master various methods of fixation, anaesthesia, stopping bleeding, separation and connection of tissues, bandaging, techniques of various planned and emergency operations, as well as methods of diagnosis and treatment of various diseases of the reproductive system, including with the use of various equipment; - be competent in the diagnosis, treatment and prevention of diseases of the reproductive system in non-reproductive animals
Form of final control	Examination
Duration of the discipline	1 academic period (15 weeks)
List of references	1. Usenbekov E.S. Obstetrics and gynaecology of dogs and cats. Almaty, 2010 2. Muralinov K.K., Nametov A.M., Julianov M.N. Diseases of dogs and cats. Almaty 2008. 3. Obstetrics, gynaecology and biotechnique of animal reproduction [Text]: textbook / A.P.Studentsov, V.S.Shipilov, V.Ya.Nikitin [et al]; edited by G.P.Dulger - 10th ed., stereotyped - SPb.-M.-Krasnodar: Lan, 2020.- 548 p. 4. Polyantsev, N.I. Obstetrics, gynaecology and biotechniques of animal reproduction [Text]: textbook / N.I. Polyantsev, L.B. Mikhailova.- 4th edition, stereotype.- SPb.-M.-Krasnodar: Lan, 2020.- 448 p. 5. Usenbekov E.S., Khasanova G.A., Koibagarov K.U., Zhumakhanova R.M. Obstetrics and gynaecology of dogs and cats. Almaty, 2017. 6. Dzhakupov I.T. Veterinary obstetrics and gynaecology Textbook. - Astana: KATU, 2011. - 167 c. 7. Mastitis of animals: treatment and prevention [Text]: recommendations / K.T. Zhumanov, K.B. Biyashev, B.K. Biyashev, A.R. Sansyzbay; KazNAU.- Almaty: B.I., 2016.- 38 p.

Code and name of discipline	TADEI 5307 Transboundary animal diseases and emergent infections
Teaching staff of the discipline	Omarbekova U.Zh.

The cycle of discipline	major / optional component
Level of study	Specialty
Educational program	6B09104-Veterinary
Number of academic credits	5
Form of study	full-time
Semester / trimester	10
Discipline Prerequisites	Epizootology and infectious diseases. Organization of veterinary business
Post-requisites of discipline	Final certification
The purpose of studying the discipline	They form the necessary knowledge on epizootic diseases with a high level of contagiousness and the ability to spread rapidly regardless of national borders and about infections of zoonotic origin and means and methods of combating them.
The content of the discipline	The data on the spread of certain cross-border animal diseases, epizootic diseases with a high level of contagiousness and the ability to spread rapidly regardless of national borders are considered. This category includes the most dangerous diseases of strategic importance in all respects - foot-and-mouth disease, cattle plague, contagious pleuropneumonia, cattle spongiform encephalopathy, Rift Valley Fever, small ruminant plague, classical and African swine fever, avian influenza, Newcastle disease, Schmallenberg's disease, bluetongue, nodular dermatitis. Emergent fungal infections of animals, new types and variants of pathogens of known mycoses (pneumomycosis, aspergillosis, dermatomycosis, nocardiosis, etc.). New, previously unknown mycoses (amphibian chytridiomycosis, "white nose syndrome", etc.)
Competence of the discipline	After mastering the discipline, the student must: know: definition of the disease, geographical distribution zones, history of study and evolution, etiology, epizootological features, pathogenesis, clinical and pathomorphological features, methods of diagnosis and prevention, antiepidemic measures carried out in transboundary and emergent animal diseases; types of factors causing the occurrence and spread of emergent infections; understand: epizootological examination and draw up an act on it; nosological and epizootological diagnosis for infectious diseases, a plan of antiepidemic measures, measures to protect against the introduction of infectious diseases; apply: methods of reception and treatment of infectious sick animals, taking pathological material for laboratory studies, bacteriological, serological examination for transborder diseases, measures to protect against the introduction of infectious diseases. be competent: in carrying out the reception of sick animals, to take pathological material for laboratory research, in conducting comprehensive studies of cross-border and emergent diseases, in organizing measures to protect against the introduction of infectious diseases.
Form of final control	Exam
Duration of discipline	1 academic period (15 weeks)
Bibliography	Main: . Барышников, П. И. Лабораторная диагностика вирусных болезней животных : учебное пособие / П. И. Барышников, В.

- В. Разумовская. — 2-е изд., испр. — Санкт-Петербург: Лань, 2021. — 672 с. — ISBN 978-5-8114-1882- 4. — Текст: электронный. <https://e.lanbook.com/book/168804>
2. Максимович, В.В. Руководство по общей эпизоотологии [Текст]: учебник / В.В. Максимович, А.Р. Сансызбай, А.П. Курдеко.- Алматы: Айтұмар, 2020.- 244 с.
3. Инфекционные болезни свиней [Текст]: моногр. / В.В.Максимович, А.П.Курдеко, А.Р.Сансызбай, А.Абуталип, Н.Т.Сандыбаев.- Алматы: Айтұмар, 2020.- 370 с.
4. Диагностика вирусных инфекций [Текст]: учеб. пособие / МОН РК; НАО КазНАУ.- Алматы: Б.и., 2020.- 142 с.
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11. Плешакова, В. И. Вирусные и бактериальные болезни свиней. Часть I. Вирусные болезни свиней : учебное пособие / В. И. Плешакова, И. Г. Алексеева, Н. А. Лещева. — Омск : Омский ГАУ, [б. г.]. — Часть I : Вирусные болезни свиней — 2019. — 152 с. — ISBN 978-5-89764-808-5. — Текст : электронный. <https://e.lanbook.com/book/126619>
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The code and name of the discipline (Russian, English)	THVEMDP 5310 Technology, hygiene and veterinary examination of meat and dairy products
Teaching staff of the discipline	Junisbayeva S. M., Taipova A. A.
The cycle of discipline	PD /OC
The level of training	Specialty
Educational program	6B09104 – Veterinary
Number of credits	5
The form of education	Full-time
Semester/trimester	10
Prerequisites of the discipline	Bioresources and veterinary sanitation
Post-requirements of the discipline	Final certification
The purpose of studying the discipline	The purpose of the discipline "Technology and hygiene of meat and dairy products" is to provide students with theoretical knowledge and practical skills in innovative technologies for the production of meat and dairy products, as well as quality control of raw materials and finished products.
The content of the discipline	The technology and hygiene of meat and dairy products" is to ensure human health, to obtain high-quality products and to protect the environment. The importance of this discipline is to provide the population with high-quality meat, milk and processed products with a high sanitary production culture, as well as to prevent the spread of infectious and invasive animal diseases and prevent the release of conditionally suitable products without their preliminary neutralization, to ensure the quality of meat and dairy products.
Competencies of the discipline	After mastering the discipline, the bachelor: - to know: the basis of the production technology and veterinary and sanitary examination of meat and dairy products; methods and methods of processing meat and dairy products; methods of veterinary and sanitary examination and standardization of meat and dairy products; the procedure for sampling for veterinary and sanitary examination, technological and other studies of meat and dairy products according to regulatory documentation; the procedure for veterinary and sanitary examination raw materials and finished products; safety precautions when working with various devices and substances; - to understand: -to carry out veterinary and sanitary examination of meat and dairy products; to carry out veterinary and sanitary control during transportation, storage, as well as at the places of sale of meat and dairy products; to carry out veterinary and sanitary control of meat and dairy industry facilities; to be able to analyze the results obtained as a result of research; - to apply: the technology of manufacturing meat and dairy products; conducting organoleptic, physico-chemical and other

	studies of meat and dairy products in accordance with regulatory documentation; the ability to develop targeted measures to protect the environment from the accumulation of pathogenic and conditionally pathogenic microflora, chemicals in it; - be competent: in matters of the production of livestock products of high sanitary quality; in the preparation of a veterinary and sanitary conclusion with specific proposals for improving the technology of production of sanitary-safe meat and dairy products, in the organization and control of compliance with the technology of production, processing, storage and sale of animal products; in matters of the production of livestock products of high sanitary quality; in the preparation of veterinary-sanitary conclusion with specific proposals to improve the technology of production of sanitary and safe meat and dairy products, in quality control, compliance with standards and compliance with the rules of veterinary sanitary examination at meat and dairy industry enterprises, slaughterhouses, cold storage facilities, mini factories, workshops and other enterprises producing livestock products; in providing the population with meat and dairy products high sanitary quality.
The form of final control	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	The list of basic literature: 1. Касымов С.К. Технология мяса и мясных продуктов [Текст]: учеб. пособие / Б.К. Асенова, А.Н. Нургазезова [и др.]; МОН РК.- Алматы: ССК, 2019.- 328 с. 2. Пронин, В. В. Ветеринарно-санитарная экспертиза с основами технологии и стандартизации продуктов животноводства: практикум/ В. В. Пронин, С.П. Фисенко. - СПб.: "Лань". 2012. - 240 с. ISBN 978-5-8114-1302-7. 3. Темербаева, М.В. Санитария и гигиена пищевых производств [Текст]: учеб. пособие / М.В. Темербаева.- Алматы: Эверо, 2017.- 360 с. 4. Сон, К.Н. Ветеринарная санитария на предприятиях по производству и переработке сырья животного происхождения [Текст]: учебное пособие / К.Н. Сон, В.И. Родин, Э.В. Бесланеев.- СПб. - М. - Краснодар: Лань, 2013.- 410с. List of additional literature: 5. Сидорчук А.А., Крупальник В.Л., Попов Н.И. и др. Ветеринарная санитария, СПб.: Лань, 2011.- 368 б.

Code and title of discipline	PS 5340 «Private Surgery»
Professorial and teaching staff of the discipline	К.А. Orynkhanov, А.К. Makhmutov. G.K. Omarbekova.
Discipline cycle	CHEI / PD
Level of education	Specialty
Educational program	6B09104 – Veterinary medicine
Количество кредитов	5
Form of study	Full-time
Semester/trimester	9

Prerequisites of the discipline	Anatomy of animals and birds, Operative surgery, Animal physiology, Veterinary microbiology and immunology, Veterinary obstetrics and gynecology
Post-requisites of the discipline	Veterinary radiobiology, veterinary sanitary expertise
Purpose of studying the discipline	The purpose of the discipline of private surgery is to teach the student to apply the knowledge acquired in the subjects of operative and general surgery, in the process of treatment of individual areas of animals. To teach the identification and treatment of surgical pathologies by body parts and depending on the animal species.
Content of the discipline	Diseases in the head area. Diseases of the eyes and teeth. Diseases of the neck and occiput. Pneumothorax, hemothorax. Diseases in the chest area. Diseases in the abdominal and lumbar region. Rib resection, rib and vertebral fractures Diseases of the pelvic and pelvic organs. Hernias. Andrology. Balanoposthitis, phimosis and paraphimosis. Surgical diseases of the mammary gland. Diseases of the extremities of animals. Inflammations and diseases of hooves.
Competences of the discipline	After mastering the discipline, the student should: - know - therapeutic measures, identify defects and diseases on different areas of the body depending on the species specificity of animals. be able to: - to carry out surgical operations, to carry out treatment of diseases in the head region; - to perform surgical operations, to treat diseases of the withers and neck area; - to perform surgical operations, to treat diseases in the thorax; - perform surgical operations, treat diseases of the abdominal cavity; - identify and treat diseases of the pelvic region, perform surgical procedures, perform surgical procedures; - identify and treat diseases of the anterior and posterior extremities, be able to perform surgical operations; - to possess various methods of diagnostics and treatment of surgical pathologies, techniques of various operations, as well as methods of prevention of traumatism, diseases related to violations of conditions of keeping and feeding of animals. - be competent - use experience in performing surgery to help animals with surgical pathologies; - animals subjected to surgical pathology must utilize surgical methods of investigation, treatment and prevention in order to survive.
Form of final control	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	1. Тимофеев С.В., Филиппов Ю.И., Концевая С.Ю. Общая хирургия животных. Зоомеделит 2007, с.687. 2. Полли М. Тейлор и др., Травматология собак и кошек.// М., «Аквариум», 2003. 221 с. 3. Шакалов К.И., Башкиров Б.А., Поваженко И.Е. и др. Частная ветеринарная хирургия. 3-е изд. Л. «Агропромиздат», 1986, с.478. 4. Х. Шебиц, В.Брасс. Оперативная хирургия собак и кошек. Москва. «Аквариум» 2001 г. Паршин А.А. и др., Хирургические

	операции у собак и кошек.// «Аквариум», ФГУИППВ. 2003. – 230 с. 5. Семенов Б.С., Стекольников А.А., Высоцкий Д.И. Ветеринарная хирургия, ортопедия и офтальмология. М. «Колос» 2004, с.375. 6. Theresa Fossum « Small Animal Surgery» 4th Edition. Imprint: Mosby, 2012, 7. Лебедев А.В., Липовский К.А. “Общая ветеринарная хирургия” Учебник. Колос, 2000 г. 8. Семенов Б.С., “Частная ветеринарная хирургия” М., Агропромиздат, 2000
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Code and name of the discipline	VSE 5303 Veterinary sanitary expertise
Teaching staff of the discipline	Zhumageldiev A.A.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	10
Form of training	full-time
Semester/trimester	9-10
Prerequisites of the discipline	Veterinary hygiene and sanitation. Veterinary toxicology and toxicological analysis.
Post-requirements of the discipline	Final certification
The purpose of studying the discipline	To provide students with the theoretical knowledge and practical skills necessary to perform veterinary sanitation tasks on quality, safety, veterinary and sanitary assessment, technology and standardization of poultry products, fish farming, beekeeping, commercial animals and raw materials of animal origin.
Content of the discipline	Slaughter animals, their transportation, pre-slaughter and slaughter. Fundamentals of technology and hygiene of processing of slaughtered animals. Organization and methods of inspection of meat carcasses and internal organs. The nutritional and biological significance of meat. Veterinary and sanitary examination of poultry products, fish farming, beekeeping, commercial animals and raw materials of animal origin. Fundamentals of technology and veterinary and sanitary examination of by-products, edible fat, intestinal products, blood, endocrine, leather and fur and technical raw materials. Veterinary and sanitary examination of animal slaughter products for infectious, invasive, non-infectious diseases and poisoning. Forced slaughter. Veterinary and sanitary examination of slaughter products in case of poisoning of animals, their treatment with antibiotics and damage by radioactive substances. Food toxicoinfections and toxicoses, their prevention. Preservation of meat and meat products. Fundamentals of technology, hygiene of milk production and veterinary and sanitary expertise.
The competence of the discipline	After mastering the discipline, the student must: - to know: the rules of veterinary care of slaughtered animals during their harvesting, transportation, acceptance, maintenance and pre-slaughter preparation at meat processing enterprises;

	- organization of pre-slaughter training and methods of post-slaughter veterinary and sanitary examination of animal organs and carcasses; - measures for the prevention of food toxicoinfections; - rules for the use and neutralization of meat, offal, raw materials of forcibly killed animals; - research using modern methods of meat, milk and raw materials of animal origin. - understand: the structure of slaughtering enterprises (meat processing enterprises, etc.) the basics of technology for the production of products and raw materials of animal origin; - organization and methodology of post-slaughter veterinary medical examination and sanitary assessment of livestock products and raw materials of animal origin; - the general scheme of state and foreign standardization and certification of products and raw materials of animal origin; - apply: methods of preservation and disinfection of products and raw materials; - methods for determining the nutritional and biological value of animal products. - modes of thermal effects on livestock products; - be competent: in matters of veterinary and sanitary examination of animal organs and carcasses, meat and meat products, milk and dairy products, raw materials of animal origin; - - in matters of conducting pre-slaughter training of animals; - - during veterinary and sanitary examination and sanitary assessment of products and raw materials of animal origin in infectious, invasive, non-infectious diseases and poisoning of animals; - - in matters of determining the goodness of products and raw materials of animal origin;
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Ветеринарно-санитарная экспертиза продуктов животноводства при заболеваниях заразной и незаразной этиологии [Текст]: учеб. пособие / А.А.Жумагелдиев, Н.Б.Сарсембаева, М.О.Ергумарова, Д.Ж.Шалхарова; КазНАИУ.- Алматы: Айтұмар, 2021.- 208 с. 2. Ветеринарно-санитарная экспертиза [Текст]: учебник / А.А.Кунаков, Б.В.Уша, О.И.Кальницкая [и др.]; под ред. А.А.Кунакова.- М.: ИНФРА-М, 2020.- 234 с. 3. Дячук, Т.И. Ветеринарно-санитарная экспертиза рыбы и рыбопродуктов [Текст]: справ. / Т.И. Дячук; под ред. В.Н.Кисленко.- М.: ИНФРА-М, 2020.- 366 с. 4. Ветеринарно-санитарная экспертиза [Текст]: учебник / А.А. Кунаков. Б.В.Уша, О.И. Кальницкая [и др.]; под ред. А.А. Кунакова.- М.: ИНФРА-М, 2019.- 234 с. 5. Жұмагелдиев, А.А. Ветеринариялық-санитариялық сараптау: оқулық / А.А. Жұмагелдиев, К.М. Ромашев, С. Қырықбайұлы; ҚазҰАУ.- Алматы: Айтұмар, 2018.- 656 б.

	6. С.Қырықбайұлы. Ветеринариялық-санитарлық сараптау: практикум / С.Қырықбайұлы. Т.М. Телеуғали. - Алматы: Эверо, 2017.- 188 б. 7. Шуклин Н.Ф. Экспертиза доброкачественности и радиационной безопасности продуктов. Их стандартизация и сертификация. Шуклин Н.Ф., С.Кирикбаев, А.А.Жумагелдиев КазНАУ.- Алматы: Айтұмар, 2016.- 423 с. 8. Майканов Б.С. Судебная ветеринарно-санитарная экспертиза. Учебник/ Майканов Б.С. Балджи Ю. – Астана: Фолиант, 2013.-139 с. additional references: 9. Жумагелдиев, А.А. Мал етінің қоңын анықтау және мүшелеу [Мәтін]: Мал шар. өнімдерін вет. сан. сараптау пәнінен зертханалық сабақтар жүргізу үшін 5B120200-"Ветеринариялық санитария" маман. студ. арн. оқу-әдістемелік нұсқау / А.А. Жумагелдиев, Б. Казтаева, Г. Төлепова; ҚазҰАУ; "Вет. санитариялық сараптау және гигиена" каф.- Алматы: Айтұмар, 2019.- 16 б. 10. KAZhOVSS- "Кәсіби ауланатын жануарлар өнімдерін ветсансараптау" [Мәтін]: 5B120200-"Ветеринариялық санитария" маман. 3-курс студ. зертханалық сабақтарға арн. оқу-әдістемелік нұсқау / К.М.Ромашев, М.Б.Губайдуллина, Б.Қ.Қазтаева, А.М.Харесова; ҚазҰАУ; "Вет. санитариялық сараптау және гигиена" каф.- Алматы: Айтұмар, 2019.- 68 б 11. Ромашев, К.М. Кәсіби ауланатын жануарлар өнімдерін ветеринариялық санитариялық сараптау [Мәтін]: 5B120200-"Ветеринариялық санитария" маман. 3-курс студ. дәріс сабақтарға арн. оқу-әдістемелік нұсқау / К.М. Ромашев; М.Б.Губайдуллина, БҚазҰАУ; "Вет. санитариялық сараптау және гигиена" каф.- Алматы: Айтұмар, 2019.- 26 б. 12. Жұмагелдиев, А.А. Ұша мен мүшелерді ветеринариялық-санитариялық сараптаудағы сөл түйіндерінің маңызы, ұшаны таңбалау [Мәтін]: 5B120100-"Ветерианиялық медицина" және 5B120200-"Ветеринариялық санитария" маман. студ. арн. оқу-әдістемелік нұсқау / А.А. Жұмагелдиев, Б.К. Қазтаева, А.Б. Толымбекова; ҚазҰАУ.-Алматы: Айтұмар, 2018.-24 б. 13. Сарсембаева Н.Б. Ветеринарно-санитарная экспертиза продуктов птицеводства. Учебное пособие. Алматы: Нур-Принт, 2006г.-121 с.
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Code and name of the discipline	NFAPI 5308 Natural focal and anthroozoonosis invasion
Teaching staff of the discipline	Turbanbayeva G.E., Usmangalieva S.S.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	9
Prerequisites of the discipline	Parasitology and invasive diseases.
Post-requirements of the discipline	Module 11 Legislative acts and expertise in veterinary medicine The final certification

The purpose of studying the discipline	will provide students with theoretical and practical knowledge about the morphology and biology of parasites – pathogens of invasive diseases of agricultural and unproductive animals, the causes and conditions of their occurrence, recognition of pathogenesis issues, clinical signs, diagnosis, treatment, prevention and control measures
Content of the discipline	The concept of natural foci of diseases. The doctrine of E.N.Pavlovsky on the natural foci of invasive diseases. The concept of anthroozoonous invasions. The concept of the epizootic chain of natural focal and anthroozoonotic invasions. Adaptations of parasites in nature and peculiarities of parasite reproduction. Reproduction and life expectancy Survival of parasite larvae. The timing of the development and survival of parasites of adult stages. Life cycles of parasites and alternation of generations. Parasite-host relationships of pathogens of natural focal and anthroozoonotic invasions. Immunity to parasitosis, host tolerance to parasites. The "Parasite-host" system. Population principles in parasitology. The number of parasite populations. Distribution of parasites in the host population. Biocenotic foundations of epizootology of natural focal and anthroozoonotic invasions. Spatial distribution of parasitic diseases. The foci of parasitic diseases. Parasitocenoses. The main natural focal and anthroozoonous helminthiasis. The main natural focal and anthroozoonous protozoans. The main natural focal and anthroozoonous arachnoentomoses. Parasitological examinations of pastures for infestation by various stages of parasites. Examination of intermediate, additional and reservoir hosts of parasites for infection with an invasive origin. The influence of geographical and climatic factors on the contamination of environmental objects with an invasive origin. Features of measures to combat and prevent natural focal and anthroozoonotic invasions. Preparation of a calendar plan of measures against natural focal and anthroozoonotic invasions, taking into account data from monitoring and forecasting of invasive diseases.
The competence of the discipline	After mastering the discipline, the student must: know: master a theoretical and practical course on natural focal and anthroozoonotic invasions; understand: methods and techniques of immunological, ecological and biological studies in various natural focal and anthroozoonous helminthiasis, protozoan and arachnoentomosis to apply: the acquired knowledge in the organization of diagnostic therapeutic and preventive measures against this group of diseases; to study the peculiarities of the biology and ecology of parasitoses in various climatic and geographical zones and correctly choose modern scientifically based methods of combating parasites; be competent: in the problems of the most common natural focal and anthroozoonous parasitoses and in their solution; in the application of various methods of diagnosis, treatment and prevention of natural focal and anthroozoonous parasitoses.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)

List of literature	basic literature: 1. Ахметова, Г. Қазақстан жануарларының энтомоздары [Мәтін]: оқу құралы / Г. Ахметова, М. Бердікұлов; ҚазҰАЗУ.- Алматы: Айтұмар, 2022.- 160 б. 2. Ахметова, Г. Энтомозы животных Казахстана [Текст]: учеб. пособие / Г. Ахметова, М. Бердикулов; КазНАИУ.- Алматы: Айтұмар, 2022.- 160 с. 3. Akhmetova, G. Entomosis of animals in Kazakhstan [Text]: tutorial / G. Akhmetova, M. Berdikulov; KazNAU.- Almaty: Aytumar, 2022.- 146 p. 4. Практикалық паразитология [Мәтін]: ветеринария және биология маман. студ., магистранттары мен докторанттарына оқу құралы / Ж.М.Исимбеков, Қ.М.Аубакирова, Н.Л.Шапекова [ж.т.б.]; ҚР Білім және ғылым м-трлігі.- Алматы: Эверо, 2020.- 296 б. 5. Паразитология және инвазиялық аурулар: Арахноэнтомология бөлімі [Мәтін]: пәні бойынша 6B09104-"Ветеринариялық медицина" білім беру бағдарламасы 5 курс студ. арн. оқу-әдістемелік нұсқау / Г.С.Шабдарбаева, Г.Е.Тұрғанбаева, Г.Д.Ахметова [ж.т.б.]; "ҚазҰАУ" КЕАҚ; "Ветеринария" фак.; "Биологиялық қауіпсіздік" каф.- Алматы: Басп. ж., 2020.- 38 б. 6. РІА 4305-Паразитология және инвазиялық аурулар [Мәтін]: пәні бойынша 6B09104-"Ветеринариялық медицина" білім беру бағдарламасы 4 курс студ. тәжірибелік сабақтарға арн. оқу-әдістемелік нұсқау / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Тұрғанбаева [ж.т.б.]; "ҚазҰАУ" КЕАҚ; "Ветеринария" фак.; "Биологиялық қауіпсіздік" каф.- Алматы: Басп. ж., 2020.- 47 б. 7. Учебно-методические указания "Гельминтология". Раздел "Цестодозы" [Текст]: лаб. занятия по дисциплине РІА 4305-"Паразитология и инвазионные болезни", образоват. программа 6B09104-"Ветеринария" для студ. 4 курса / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Турганбаева [и др.]; НАО "КазНАУ"; Фак. "Ветеринария"; Каф. "Биологическая безопасность".- Алматы: Б.и., 2020.- 34 с. 8. Учебно-методические указания "Гельминтология". Раздел "Нематодозы" [Текст]: лаб. занятия по дисциплине РІА 4305-"Паразитология и инвазионные болезни", образоват. программа 6B09104-"Ветеринария" для студ. 4 курса / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Турганбаева [и др.]; НАО "КазНАУ"; Фак. "Ветеринария"; Каф. "Биологическая безопасность".- Алматы: Б.и., 2020.- 42 с. 9. Учебно-методические указания "Гельминтология" [Текст]: практ. занятия по дисциплине РІА 4305-"Паразитология и инвазионные болезни", образоват. программа 6B09104-"Ветеринария" для студ. 4 курса / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Турганбаева [и др.]; НАО "КазНАУ"; Фак. "Ветеринария"; Каф. "Биологическая безопасность".- Алматы: Б.и., 2020.- 41 с. 10. Учебно-методические указания "Гельминтология". Раздел "Трематодозы" [Текст]: лаб. занятия по дисциплине РІА 4305-
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	"Паразитология и инвазионные болезни", образоват. программа 6B09104-"Ветеринария" для студ. 4 курса / Г.С.Шабдарбаева, Г.Д.Ахметова, Г.Е.Турганбаева [и др.]; НАО "КазНАУ"; Фак. "Ветеринария"; Каф. "Биологическая безопасность".- Алматы: Б.и., 2020.- 32 с 11. Паразитология негіздері [Мәтін]: моногр. / А.М.Абдыбекова, А.А.Султанов, А.С.Донченко [и др.].- Алматы: ҚазҒЗВИ, 2019.- 512 б. 12. Паразитология и паразитарные болезни сельскохозяйственных животных [Текст]: учебник / Н.Е.Косминков, Б.К.Лайпанов, В.Н.Домацкий, В.В.Белименко; под ред. Н.Е.Косминкова.- М.: ИНФРА-М, 2019.- 467 с. additional references: 14. Ветеринариялық санитариялық паразитология [Мәтін]: 2-том. Зертханалық сабақтар: оқу құралы / Г.С.Шабдарбаева, С.С.Усманғалиева, Г.Д.Ахметова [ж.т.б.].- Алматы: Нур-Принт, 2019.- 152 б. Ветеринариялық санитариялық паразитология [Мәтін]: 3-том. Тәжірибелік сабақтар: оқу құралы / Г.С.Шабдарбаева, С.С.Усманғалиева, Г.Д.Ахметова [ж.т.б.].- Алматы: Нур-Принт, 2019.- 100 б. 16. Кереев, Я.М. Паразитология и инвазионные болезни животных [Текст]: учебник / Я.М. Кереев, М.Ш. Шалменов, З.С. Айтпаева; Ассоциация вузов РК.- Алматы: Ассоциация вузов РК, 2014.- 496 с. 17. Табиғи ошақты және антропозоонозды инвазиялар және инвазиялық аурулар мониторингі, болжауы [Мәтін]: 5B120200-Ветеринарная санитария студ. арн. оқу-әдістемелік кешені / Г.С.Шабдарбаева, М.С.Сабаншиев, Г.Д.Ахметова [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2015.- 79 б. 18. Сабаншиев, М.С. Ветеринариялық паразитология практикумы [Мәтін]: оқу құралы / М.С. Сабаншиев; Қазақ Ұлттық Аграрлық университеті.- Алматы: ҚазҰАУ, 2013.- 232 б. 19. Veterinary sanitary parasitology [Текст]: 6B09102-training manual for the subject in the specialty Veterinary sanitation / G.S.Shabdarbayeva, S.S.Usmanaliyeva, D.Asylhanov; KazNAU.- Almaty: KazNAU, 2020.- 123 p. 20. Шабдарбаева Г.С., Ахметова Г.Д., Турганбаева Г.Е., Балгимбаева А.И. Практическое обучение по паразитологии (учебное пособие по арахноэнтомологии). Алматы, 2012 21. Шабдарбаева Г.С., Абдыбекова А.М., Шапиева Ж.Ж. Антропозоонозы и меры их профилактики в Республике Казахстан//Монография. Алматы, «S-Принт», 2012, 104 с. 5.Шабдарбаева Г.С. Асылханов Д.У. и др.. Гельминттердің жіктелуі. Классификация гельминтозов. Systematization of Helminthosis. Учебное пособие//на каз/рус/англ. языках. Алматы, 2013 АО Казспецпредприятие», 32 с. 22. Абдыбекова А.М., Шабдарбаева Г.С., Шапиева Ж.Ж., Зулкарнаева Э.К. Атлас зоонозных инвазий, официально
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	регистрируемых в Республике Казахстан. //Алматы, изд-во «S-Принт», 2012. 23. Шабдарбаева Г.С. Кровепаразитарные болезни животных (эпизоотология, диагностика) // Монография. Алматы, «S-Принт», 2012, 272 с.
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Code and name of the discipline	ВРОН 5306 Basic principles of the One Health concept (One Health)
Teaching staff of the discipline	Alpysbaeva G.E., Maldybaeva A.A.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	6
Form of training	full-time
Semester/trimester	10
Prerequisites of the discipline	Module 7. Bioresources and veterinary sanitation
Post-requirements of the discipline	Final certification
The purpose of studying the discipline	Mastering by students the theoretical and practical foundations for the implementation of the principles of "Unified Health" in the veterinary service, developing skills in organizing intersectoral cooperation to ensure biological and food safety, prevention and elimination of infectious animal diseases
Content of the discipline	The concept of "Unified health". Environmental health (OS) and ecosystems. Food safety. Methodology and tools for the implementation of the intersectoral approach "Unified Health".
The competence of the discipline	As a result of studying the course, students must: to know: Diseases common to humans and farm animals; types of food poisoning and infections, sources of possible infection when receiving and using livestock products. to be able to: Develop measures to prevent diseases common to humans and animals in accordance with the principle of "Unified Health" to be competent: To carry out a critical analysis of problem situations based on a systematic (intersectoral) approach, to develop an action strategy.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Сахно Н.В. Ветеринарная санитария [Текст]: учеб. пособие / Сахно Н.В., Буяров В.С. [и др.].- СПб.: Лань, 2020.- 172 с. 2. Хакимов И.Н., Ветеринарная гигиена и санитария [Текст]: учеб. пособие / И.Н. Хакимов, Т.Н. Юнушева.- Ростов н/Д.: Феникс, 2017.- 380 с. 3. Темербаева, М.В. Санитария и гигиена пищевых производств [Текст]: учеб. пособие / М.В. Темербаева.- Алматы: Эверо, 2017.- 360 с. 4. Мырзабеков, Ж.Б. Технология, гигиена, санитария и ветеринарно-санитарная экспертиза мясомолочных продуктов[Текст]: учеб. пособие / Ж.Б. Мырзабеков, М.О. Токаева.- Алматы: Айтумар, 2016.- 214 с.

	Сон, К.Н. Ветеринарная санитария на предприятиях по производству и переработке сырья животного происхождения [Текст]: учебное пособие / К.Н. Сон, В.И. Родин, Э.В. Бесланев.- СПб. - М. - Краснодар: Лань, 2013.- 410с.
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Code and name of the discipline	MGMDVS 5310 Molecular genetic methods of diagnostics in veterinary science
Teaching staff of the discipline	Usenbekov E.S., Bimenova J.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	10
Prerequisites of the discipline	Cytology, histology and embryology of animals
Post-requirements of the discipline	Module 13 Practical aspects of veterinary
The purpose of studying the discipline	medicine gives students practical skills in conducting a polymerase chain reaction to study the detection of a pathogenic agent, identification of hidden genetic defects in breeding animals, breeding of animals resistant to diseases
Content of the discipline	Introduction of molecular genetic methods for detecting a pathogenic agent, identification of hidden genetic defects in breeding animals, breeding of disease-resistant animals based on the use of DNA polymorphism, the importance of studying DNA markers controlling the reproductive function of animals, basic principles of PCR and Real-Time PCR diagnostics, basic molecular genetic research methods, DNA isolation, horizontal electrophoresis, gel documentation of the results of the study, PDRF analysis, protocol for the restriction of amplification, the hereditary nature of the genetic defects of BLAD, CVM, DUMPS and BC. The practical significance of animal genotyping by loci GDF 9, BMP 15, LTF, TNFa. Molecular genetic methods of germ cell fertility research. DNA fragmentation and determination of nuclear protein in sperm cells.
The competence of the discipline	After mastering the discipline, the student must: to know: the basic principles of polymerase chain reaction, restriction, horizontal electrophoresis; the list of necessary equipment and consumables for molecular genetic research; the genetic nature of hereditary anomalies, the basis of genotyping of breeding animals; understand: reaction mixtures for PCR, preparation of agarose, buffers for horizontal electrophoresis; design of primers to identify hidden genetic defects using the Primer 3 program, preparation of working primer solutions; results of electrophoresis, preservation of electrophoregrams using a gel documenting system; apply: programming skills of PCR conditions for genotyping by loci BLAD, CVM, DUMPS, BC, GDF 9, BMP 15, LTF and TNFa;

	be competent: in determining DNA from various biological materials, setting up PCR, using the acquired theoretical knowledge, skills and abilities in future professional activities.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Ветеринариядағы молекулярлық-генетикалық балау әдістері [Мәтін]: оқу құралы / Е.С.Усенбеков, Л.С.Әубекерова, М.Е.Әлімбекова [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2019.- 136 б. 2. Ветеринариядағы молекулярлық-генетикалық балау әдістері [Мәтін]: оқу құралы / Е.С.Усенбеков, Л.С.Әубекерова, М.Е.Әлімбекова [ж.т.б.]; ҚазҰАУ.- Алматы: Айтұмар, 2019.- 136 б. 3. Молекулярно-генетические методы диагностики в ветеринарии [Текст]: учеб. пособие / разраб. Е.С.Усенбеков, В.П.Терлецкий, А.С.Мусаева [и др.]; КазНАУ.- Алматы: КазНАУ, 2018.- 147 с. 4. Бегімқұл, Б. Генетика [Мәтін]: оқулық-практикум / Б. Бегімқұл.- Алматы: KazBookTrade, 2017.- 480 б 5. Генетика негіздері [Мәтін]: 2-том: оқулық / Клаг У.С., Каммингс М.Р., Спенсер Ш.А., Палладино М.А.; ағыл. тілінен ауд. Б.О.Бекманов; ҚР Білім және ғылым м-трлігі.- 11-бас.- Алматы: ҚР Жоғарғы оқу орындарының қауымдастығы, 2017.- 820 б. 6. Усенбеков Е.С. Генотипирование животных с помощью молекулярно-генетических методов. Германия. Издательский дом LAMBERT Academic Publishing, 2014 7. Бегімқұл, Б.К. Молекулалық генетика және биотехнология негіздері [Мәтін]: оқу құралы / Б.К. Бегімқұл.- 3-бас.- Алматы: Эпиграф, 2017.- 344 б. additional references: 8. Терлецкий В.П., Усенбеков Е.С. Методические рекомендации по применению современных молекулярно-генетических методов в селекции и ветеринарии. КазНАУ, Издательство «Айтұмар», Алматы., 2012 г, 8. Усенбеков Е.С., Яковлев А.Ф., Терлецкий В.П., Жансеркенова О.О., Касымбекова Ш.Н, Соломадин М.В. Генотипирование племенных животных с помощью молекулярно-генетических методов (Методические рекомендации). КазНАУ, Издательство «Айтұмар», Алматы., 2014.

Code and name of the discipline	IDB 5307 Infectious diseases of birds
Teaching staff of the discipline	Omarbekova U. Zh., Musoev A.M..
Discipline cycle	MD /CC
Training level	Specialty
Educational program	6B09104 - Veterinary
Number of academic credits	5
Form of training	full-time
Semester/trimester	10

Prerequisites of the discipline	Module 5. Fundamentals of animal disease diagnosis. Organization of veterinary business
Post-requirements of the discipline	The basic principles of the concept of unified health (Unified Health)
The purpose of studying the discipline	providing students with the necessary knowledge, skills and research skills in case of particularly dangerous bird infections, organization of health and preventive measures
Content of the discipline	The leading place in the study of a group of bird diseases is occupied by the problem of the zone of spread of the disease or nosoareal and its structure, which allows you to correctly see the tactics and strategy of combating infectious diseases of birds. A huge amount of factual material has been accumulated highlighting the role of wild birds in the reservation and the spread of many extremely dangerous pathogens. A number of natural routes of seasonal migration of wild birds pass through the territory of the Republic of Kazakhstan, which is the reason for the regular formation of natural foci of dangerous bird infections. A special place in the study of infectious diseases of birds is occupied by issues of express diagnosis, emergency measures to limit and eliminate the source of infection, preventive measures in accordance with the rules of the OIE
The competence of the discipline	After mastering the discipline, the student must: know:- list of particularly dangerous infectious diseases of birds, their epizootological features and modern methods of diagnosis and differentiation of the pathogen; nosoareal of spread of particularly dangerous and quarantine infectious diseases of birds; understand: - the OIE and WHO guidelines for dealing with particularly dangerous and quarantine bird infections; methods of filling out permits; apply: use the methods of taking, storing and delivering pathological material; apply laboratory research methods and evaluate diagnostic tests performed; be competent: in the organization of research in the accurate and rapid diagnosis of particularly dangerous infectious diseases of birds; in the organization of health and preventive measures, especially in case of infections that pose a danger to the population.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	1. Жакыпбекова Б.О. Ветеринариялық микробиология және вирусология [Мәтін]: 1 том: оқулық / Б.О. Жакыпбекова, М.С. Оспанова, К.С. Курбанова; ҚР Білім және ғылым министрлігі.- Алматы: New book, 2020.- 252 б. 2. Жакыпбекова Б.О. Ветеринариялық микробиология және вирусология [Мәтін]: 2 том: оқулық / Б.О. Жакыпбекова, М.С. Оспанова, К.С. Курбанова; ҚР Білім және ғылым министрлігі.- Алматы: New book, 2020.- 264 б. 3. Лабораторная диагностика инфекционных болезней [Текст]: учеб. пособие/ Р.Г.Госманов, Р.Х.Равилов, А.К.Галиуллин и др.- 2-е изд., стереотип.- СПб.-М.- Краснодар: Лань, 2020.- 196 с

	4. Максимович, В.В. Руководство по общей эпизоотологии [Текст]: учебник / В.В. Максимович, А.Р. Сансызбай, А.П. Курдеко.- Алматы: Айтұмар, 2020.- 244 с. 5. Сайдулдин, Т. Ветеринариялық иммунология [Мәтін]: оқу құралы / Т. Сайдулдин.- Алматы: Полиграфия-Сервис К, 2017.- 366 б. 6. Госманов, Р.Г. Основы учения об инфекции и противомикробном иммунитете [Текст]: учеб. пособие / Р.Г. Госманов, Н.М. Колычев, А.А. Новицкий.- 2-е изд., испр.- СПб.-М.-Краснодар: Лань, 2017.- 280 с 7. Бияшев, К.Б. Ветеринарная микробиология и иммунология [Текст]: учебник / К.Б. Бияшев, Б.К. Бияшев.- 2-е изд.- Алматы: Эверо, 2017.- 464 с. 8. Иванов, Н.П. Эпизоотология с основами ветеринарной микробиологии [Текст]: учеб. пособие / Н.П. Иванов, Г.Г. Абсатиров, А.Н. Кожаев.- Алматы: Эверо, 2017.- 380 с.
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Code and name of the discipline	FV 4335 Forensic Veterinary
Teaching staff of the discipline	Nurgazy B.O., Maulanov A.Z., Amirgalieva S.S., Kenzhebekova Zh.Zh., Bazhanova A.S.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	9
Prerequisites of the discipline	Module 2 The structure and functioning of the animal body
Post-requirements of the discipline	Module 11 Legal acts and expertise in veterinary
The purpose of studying the discipline	medicine the use of the entire complex of veterinary knowledge, special research methods as scientific and applied methods of evidence to solve specific tasks of forensic veterinary examination
Content of the discipline	Organization and conduct of pathoanatomical autopsy of animal corpses. Rules of public and personal safety during the autopsy of animal corpses. Disposal of corpses. Methods and techniques of autopsy of animal corpses. Documentation of the pathoanatomical autopsy of animal corpses. Introduction to forensic veterinary medicine. Types of forensic veterinary examination and its documentation. Forensic veterinary thanatology. Forensic veterinary examination of animal corpses. Forensic veterinary deontology.
The competence of the discipline	After mastering the discipline, the student must: to know: a sectional course to determine the causes of death of animals; forensic veterinary medicine for examination. understand: forensic veterinary examination and prepare documentation. apply: methods of autopsy of animal corpses and record its results; correctly take, record and send pathological material for laboratory examination; be competent: in matters of pathomorphological diagnosis and forensic examination.

Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Ығылманұлы, Ө. Соттық ветеринариялық медицина [Мәтін]: оқулық / Ө. Ығылманұлы, Ж. Кенжебекова; ҚазҰАУ.- Алматы: Айтұмар, 2020.- 220 б 2. Латыпов, Д.Г. Судебная ветеринарно-санитарная экспертиза [Текст]: учеб. пособие / Д.Г. Латыпов, О.Т. Муллакаев, И.Н. Залялов.- СПб.-М.-Краснодар: Лань, 2017.- 456 с. 3. Ығылманұлы, Ө. Ветеринарная патологиялық анатомия [Мәтін]: 2-том. 1-бөлім: Жұқпалы емес аурулар инвазиялық аурулар: оқулық / Ө. Ығылманұлы.- Алматы: CyberSmith, 2017.- 192 б. 4. Ығылманұлы, Ө. Ветеринарная патологиялық анатомия [Мәтін]: 2-том. 2-бөлім: Инфекциялық аурулар: оқулық / Ө. Ығылманұлы.- Алматы: CyberSmith, 2017.- 224 б. 5. Броун, Д. Сот психологиясы [Мәтін]: теория, зерттеу, саясат және тәжірибе / Д. Броун, И. Шелл, Т. Коул; қазақ тіліне ауд. А.Т.Камзанова, М.В.Мун, М.К.Жолдасова [ж.т.б.]; ҚР Білім және ғылым м-трлігі.- Алматы: ҚР Жоғарғы оқу орындарының қауымдастығы, 2017.- 364 б. 6. Жакупова, Т.З. Судебно-медицинская экспертиза вещественных доказательств биологического происхождения [Текст]: учеб. пособие / Т.З. Жакупова.- Алматы: Эверо, 2015.- 80 с. 7. Оленберг, Г.В. Практикум по судебной экспертиологии [Текст]: учеб. пособие / Г.В. Оленберг.- Алматы: Эверо, 2015.- 108 с. 8. Латыпов Д. Г., Залялов И. Н. Основы судебно-ветеринарной экспертизы. 2-е изд., перераб. – СПб.: «Лань», 2015. – 576 с. 9. Жаров А.В. Судебная Ветеринария. 3-е изд., испр. и доп. – СПб.: «Лань» 2014.- 464с. 10. Нұрғазы, Б. Соттық ветеринария [Мәтін]: оқулық / Б. Нұрғазы; ҚР Білім және ғылым м-трлігі; ҚР жоғары оқу орындарының қауымдастығы.- Алматы: Дәуір, 2013.- 368 б.. 11. Латыпов Д. Г., Залялов И. Н. Вскрытие и патологоанатомическая диагностика болезней животных. 2-е изд., перераб. – СПб.: «Лань», 2015. – 384 с. 12. Нұрғазы, Б.Ө. Сойып - зерттеу және соттық ветеринария [Мәтін]: оқулық / Б.Ө. Нұрғазы.- Алматы: Агроуниверситет баспасы, 2012.- 382 б. additional references: 13. Ығылманұлы Ө. Ветеринарная патологиялық анатомия. Алматы, Cyber Smith, 2017, 1-3 том. 14. Ығылманұлы Ө. Ветеринарная патологиялық анатомия. Алматы, "Полиграфия Сервис и К", 2010. – 647 б. 15. For Police, Forensic Scientists, Attorneys and Death Investigators Atlas of Forensic Pathology, 2011. - 895 p. 16. John Wiley & Sons, Veterinary Forensics: Animal Cruelty Investigations, 2012. - 402 p.

Code and name of the discipline	IDUnPA 5310 Infectious diseases of dogs and cats
Teaching staff of the discipline	Omarbekova U.Zh.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	10
Prerequisites of the discipline	Module 6 Fundamentals of animal disease diagnosis
Post-requirements of the discipline	Module 13 Practical aspects in veterinary medicine The final certification
The purpose of studying the discipline	will provide students with the necessary knowledge about the objective patterns of occurrence, spread and especially dangerous and little-known diseases of dogs and cats, methods of their prevention and elimination
Content of the discipline	Features of the manifestation of infectious diseases of unproductive animals. Prevention of infectious diseases of unproductive animals. A plague of carnivores. Infectious hepatitis of carnivores. Parvovirus enteritis of dogs. Streptococcosis of dogs and cats. Viral rhinotracheitis of cats. Calicivirus infection of cats. Panleukopenia of cats. Microsporosis of carnivores. Ehrlichiosis of dogs. Actinomycosis of dogs. Chlamydia of cats. Infectious peritonitis of cats. Hemobartonellosis of cats.
The competence of the discipline	After mastering the discipline, the student must: To know:- methodological approaches to nosological and epizootological diagnosis of the disease, control measures for the prevention and elimination of epizootic foci of particularly dangerous infectious diseases of unproductive animals; understand: - the methodology of epizootological monitoring to study the situation of one or another particularly dangerous infectious disease of unproductive animals to apply: a plan of antiepidemiological measures for the prevention and elimination of the outbreak of infection; be competent: in the field of antiepidemiological measures for particularly dangerous infectious diseases of unproductive animals.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Маннапова, Р.Т. Микробиология и микология: особо опасные инфекционные болезни, микозы и микотоксикозы [Текст]: учебник / Р.Т. Маннапова.- М.: Проспект, 2020.- 384 с. 2. Лабораторная диагностика инфекционных болезней [Текст]: учеб. пособие / Р.Г.Госманов, Р.Х.Равилов, А.К.Галиуллин и др.- 2-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2020.- 196 с. 3. Эпизоотология с микробиологией [Текст]: учебник / под ред. В.А.Кузьмина, А.В.Святковского.- 4-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2019.- 432 с.

	4. Амиргалиева, С.С. Инфекционный гепатит собак [Текст]: моногр. / С.С. Амиргалиева; МСХ РК; НАО "КазНАУ".- Алматы: Айтұмар, 2018.- 111 с. 5. Иванов, Н.П. Эпизоотология с основами ветеринарной микробиологии [Текст]: учеб. пособие / Н.П. Иванов, Г.Г. Абсатиров, А.Н. Кожаяев.- Алматы: Эверо, 2017.- 380 с. 6. Saiduldin, T. Fundamentals of serology [Текст] / T. Saiduldin.- Almaty: LAP LAMBERT Academic Publishing, 2016.- 256 p. 7. Омарбекова, У.Ж. Эпизоотология с микробиологией [Текст]: Т.2.: практикум / У.Ж. Омарбекова; МСХ РК; КазНАУ.- Алматы: PRINTMASTER, 2016.- 290 с. 8. Сайдулдин, Т. Жануарлардың жұқпалы және аса қауіпті аурулары [Мәтін]: оқулық / Т. Сайдулдин; Қазақстан Республикасының Білім және Ғылым Министрлігі.- 4-басылым.- Алматы: Айтұмар, 2015.- 578 б. 9. Амиргалиева, С.С. Инфекционные болезни собак [Текст]: учеб. пособие / С.С. Амиргалиева.- 2-е изд., стереотип.- Алматы: Нур-Принт, 2014.- 100 с 10. Қасымов, Е.И. Индеттану және инфекциялық аурулармен күрес шаралары [Мәтін]: оқулық / Е.И. Қасымов.- Алматы: "Полиграфия-сервис и К", 2014.- 270 б. 11. Камышева, К.С. Микробиология, основы эпидемиологии и методы микробиологических исследований [Текст]: учебное пособие / К.С. Камышева.- 2-е изд.- Ростов-на-Дону: Феникс, 2014.- 348с. 12. Масимов, Н.А. Инфекционные болезни пушных зверей [Текст]: учеб. пособие для вузов / Н.А. Масимов, Х.С. Горбатова, И.А. Калистратов.- СПб.: Лань, 2013.- 128 с. additional references: 13. Список МЭБ и трансграничные инфекции животных: монография / В.В. Макаров, В.А. Грубый, К.Н. Груздев, О.И. Сухарев. - Владимир: ФГБУ «ВНИИЗЖ», 2012. - 162 с 14. Сайдулдин, Т. Индеттану және жануарлардың жұқпалы аурулары [Мәтін]: оқулық / Т. Сайдулдин; ҚР Білім және ғылым м-трлігі.- Алматы: Полиграфия Сервис и К, 2009.- 518 б. 15. Иванов, Н.П. Диагностика инфекционных болезней животных [Текст]: учеб. пособие / Н.П. Иванов.- Алматы: Нур-Принт, 2009.- 906 с.
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Code and name of the discipline	EMFIDFA 5308 Epizootologicheskyy monitoring and forecasting of infectious diseases of farm animals
Teaching staff of the discipline	Omarbekova U.Zh., Khusainov D.M.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	9
Prerequisites of the discipline	Module 6 Fundamentals of animal disease diagnosis
Post-requirements of the discipline	Module 13 Practical aspects in veterinary medicine Final certification

The purpose of studying the discipline	the use of new data on the features and changes in the epizootic situation of infectious diseases in certain territories of the Republic of Kazakhstan, with the use of modern information and analytical programs
Content of the discipline	The epizootic situation requires further improvement of existing and collection of new data on the features and changes in the epizootic situation of these infectious diseases in certain territories, using modern information and analytical programs. The veterinary service should have at its disposal the necessary resources to enable it to monitor borders, maintain clinical and epizootic surveillance and carry out the necessary diagnostic studies, preventive and antiepizootic measures. Provide information on all new outbreaks confirming that an effective surveillance and surveillance system has been established and is in operation throughout the country or in various zones.
The competence of the discipline	After mastering the discipline, the student must: know: - the basic requirements of epizootological monitoring intended for the prevention and elimination of infectious diseases; - to organize measures against the source of the causative agent of infection, to understand: - issues of modern epizootological monitoring and forecasting of the occurrence of infectious diseases of animals; to replace: methods of epizootological monitoring and assessment of forecasting the occurrence of infectious animal diseases; be competent: in conducting epizootological monitoring and assessing the prediction of the occurrence of infectious animal diseases.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1. Максимович, В.В. Руководство по общей эпизоотологии [Текст]: учебник / В.В. Максимович, А.Р. Сансызбай, А.П. Курдеко.- Алматы: Айтұмар, 2020.- 244 с. 2. Инфекционные болезни свиней [Текст]: моногр. / В.В.Максимович, А.П.Курдеко, А.Р.Сансызбай, А.Абуталип, Н.Т.Сандыбаев.- Алматы: Айтұмар, 2020.- 370 с. 3. Диагностика вирусных инфекций [Текст]: учеб. пособие / МОН РК; НАО КазНАУ.- Алматы: Б.и., 2020.- 142 с. 4. Лабораторная диагностика инфекционных болезней [Текст]: учеб. пособие / Р.Г.Госманов, Р.Х.Равилов, А.К.Галиуллин и др.- 2-е изд., стереотип.- СПб.-М.-Краснодар: Лань, 2020.- 196 с 5. Иванов, Н.П. Эпизоотология с основами ветеринарной микробиологии [Текст]: учеб. пособие / Н.П. Иванов, Г.Г. Абсатиров, А.Н. Кожаяев.- Алматы: Эверо, 2017.- 380 с. 6. Омарбекова, У.Ж. Эпизоотология с микробиологией [Текст]: Т.2.: практикум / У.Ж. Омарбекова; МСХ РК; КазНАУ.- Алматы: PRINTMASTER, 2016.- 290 с. 7. Сайдулдин Т. Жануарлардың жұқпалы және аса қауіпті аурулары. Оқулық, 4-басылымы // Алматы: ҚазҰАУ, “Айтұмар” баспасы, 2015. – 578 бет.

	Ильясов, Б.К. Лептоспироздар [Мәтін]: моногр. / Б.К. Ильясов; ҚР Білім және ғылым м-трлігі; М.Әуезов атын. Оңтүстік Қазақстан мем. ун-ті.- Шымкент: Басп. ж., 2015.- 234 б. 8. Қасымов, Е.И. Индеттану және инфекциялық аурулармен күрес шаралары [Мәтін]: оқулық / Е.И. Қасымов.- Алматы: "Полиграфия-сервис и К", 2014.- 270 б. 9. Природная очаговость африканской чумы свиней [Текст]: учеб.-метод. пособие / Авт.:В.В. Макаров, Ф.И. Василевич, Б.В. Боев, О.И. Сухарев; Федер.гос.бюдж.образоват. учреждение высш. проф. образования Росс. ун-т дружбы народов и др.- М., 2014.- 87 с. 10. Профилактика и меры борьбы с туберкулезом и бруцеллезом животных [Текст] / сост. А.С.Жумаш, А.А.Абуталип; МСХ РК; АО "КазАгроИнновация"; КазНИВИ.- Алматы: TST-Company, 2013.- 104 с 11. Абдрахманов С.Эпизоотологический мониторинг и организация ветеринарных мероприятий.Астана, 2012. 224 с 12. Список МЭБ и трансграничные инфекции животных: монография В.В. Макаров, В.А. Грубый, К.Н. Груздев, О.И. Сухарев. - Владимир: ФГБУ «ВНИИЗЖ», 2012. - 162 с.: ил. additional references: 13. Сайдулдин Т. «Индеттану және жануарлардың жұқпалы аурулары». - Алматы, 2009. 14. Иванов Н.П. Диагностика инфекционных болезней животных. - Алматы, 2009. 15. .Иванов Н.П. Инфекционные болезни животных. Эпизоотология и противоэпизоотические мероприятия. - Алматы, 2009. 16. Камышева, К.С. Микробиология, основы эпидемиологии и методы микробиологических исследований [Текст]: учебное пособие / К.С. Камышева.- 2-е изд.- Ростов-на-Дону: Феникс, 2014.- 348с. 17. Владимир Максимович Эпизоотология инфекционные болезни. 2013, 84 с. 18. Franssen, F. Trichinella in wildlife and pork production: evaluation of risk-based monitoring [Текст] / F. Franssen.- Netherland: CPI Koninklijke Wohrmann, 2016.- 248 p.
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Code and name of the discipline	LRVS 5308 - Laws and regulations for the veterinary service
Teaching staff of the discipline	Omarbekova U.Zh., Khusainov D.M.
Discipline cycle	BD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	9
Prerequisites of the discipline	Module 6 Fundamentals of animal disease diagnosis
Post-requirements of the discipline	Module 11 Legislative acts and expertise in veterinary
The purpose of studying the discipline	medicine to give students the necessary knowledge, skills and abilities in the legal basis of the work of the veterinary service,

	the organization of the work of veterinary institutions, methods of work of veterinary inspectors and services
Content of the discipline	The Law of the Republic of Kazakhstan "On Veterinary Medicine", the Regulation on the state institution "Committee for Veterinary Control and Supervision of the Ministry of Agriculture of the Republic of Kazakhstan". Regulations on the state institution "Committee for Veterinary Control and Supervision of the Ministry of Agriculture of the Republic of Kazakhstan". Rules for the issuance of veterinary documents for objects of state veterinary and sanitary control Organization of state veterinary and sanitary supervision. Veterinary inspection. Organization of state veterinary and sanitary supervision. Veterinary inspection. Regulation on the unified procedure for veterinary control at the customs border of the Customs Union and on the customs territory of the Customs Union. Veterinary requirements of the Customs Union (Russia, Kazakhstan, Belarus). Uniform rules of state veterinary supervision in international and interstate transportation of livestock goods. Uniform rules of state veterinary supervision in international and interstate transportation of livestock goods. Uniform rules of state veterinary supervision in international and interstate transportation of livestock goods. The provisions of the Customs Union. The provisions of the Customs Union.
The competence of the discipline	After mastering the discipline, the student must: know: - the law "On Veterinary Medicine" and by-laws; veterinary requirements of the Customs Union; organization of state veterinary and sanitary supervision; the procedure for inspections of supervised organizations; the procedure for issuing veterinary documents to objects of state veterinary and sanitary control. be able to: draw up veterinary documents for objects of state veterinary and sanitary control.. apply: acquired knowledge in the implementation of veterinary supervision in export-import operations with the countries of the Customs Union be competent: in the implementation of veterinary supervision in export-import operations with the countries of the Customs Union.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1.Хусаинов Д.М., Беркинбай О. Практикум: Менеджмент в ветеринарии и организация ветеринарного дела. – Учебное пособие. - Алматы: «Нур-принт», 2016.- 232 с 2. Хусаинов Д.М., Ахметсадыков Н., Шабдарбаева Г., Беркинбай О. И др. Менеджмент в ветеринарии и организация ветеринарного дела. – Учебник. -Алматы: «Нур-принт», 2015.- 573 с. 3. Беркінбай, О. Ветеринариядағы менеджмент. Практикум [Мәтін]: оқу құралы / О. Беркінбай, Х. Әбеуов.- Алматы: Нур-Принт, 2015.- 189 б. 4. Менеджмент в ветеринарии и организация ветеринарного дела [Текст]: учеб. / Д. М. Хусаинов, Н. Н. Ахметсадыков, Г.

	С. Шабдарбаева [и др.].- 2-е изд., доп.- Алматы: Нур-Принт, 2014.- 572 с. 5. Менеджмент в ветеринарии и организация ветеринарного дела [Текст]: учеб. / Д. М. Хусаинов, Н. Н. Ахметсадыков, Г. С. Шабдарбаева [и др.].- 2-е изд., доп.- Алматы: Нур-Принт, 2014.- 572 с. 6. Организация ветеринарного дела [Текст]: учебник / Д.М.Хусаинов, Н.Н.Ахметсадыковы, Г.С.Шабдарбаева [и др.].- Алматы: Нур-Принт, 2014.- 572 с. 7. Закон Республики Казахстан от 10 июля 2002 года № 339-ІІ [Текст] О ветеринарии. (с изменениями и дополнениями по состоянию на 01.07.2021 г.) ... Нур-Султан., 2021. (Әділет заң кз) additional references: 8. Калымбек, Б. Правовое обеспечение ветеринарной безопасности в Республике Казахстан [Текст]: моногр. / Б. Калымбек; КазНУ им.аль-Фараби.- Алматы: Қазақ университеті, 2020.- 147 с 9. Байсалова, Г.Т. Правовые основы таможенного дела в Республике Казахстан: Общая часть [Текст]: учеб. пособие / Г.Т. Байсалова; КазНУ им. аль-Фараби.- Алматы: Қазақ университеті, 2020.- 250 с. 10. Единые ветеринарные (ветеринарно-санитарные) требования, предъявляемые к товарам, подлежащим ветеринарному контролю (надзору) (с изменениями: от 17 августа 2010 года, от 18 ноября 2010 года, от 02 марта 2011 года) Утверждены Решением Комиссии таможенного союза от 18 июня 2010 года № 317. 11. Технический регламент Таможенного союза "О безопасности пищевой продукции"ТР ТС 021/2011. Утвержден Решением Комиссии Таможенного союза от 9 декабря 2011 г. № 880.
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Code and name of the discipline	VSCSBT 5307-Veterinary and sanitary control and supervision at the border and transport
Teaching staff of the discipline	Alimov A.A.
Discipline cycle	MD/UC
Training level	Specialty
Educational program	6B09104-Veterinary Medicine
Number of academic credits	5
Form of training	full-time
Semester/trimester	10
Prerequisites of the discipline	Veterinary hygiene and sanitation, Veterinary and sanitary expertise
Post-requirements of the discipline	Module 13. Technology hygiene and radiation safety of products
The purpose of studying the discipline	To train students to carry out qualified inspections of veterinary facilities subject to veterinary control and supervision, ensuring the protection of human health, animal welfare and environmental protection
Content of the discipline	Introduction. Preparation and procedure for the transportation of transported objects. Loading and transportation of animals.

	Unloading of animals and subsequent handling of vehicles. Veterinary and sanitary measures, in case of detection of conventional diseases. The European Convention for the Protection of Animal Welfare in International Transport. Veterinary and sanitary control and supervision during transportation of animals by water, air, rail and road transport. Export-import and transit customs operations during transportation of transported objects. Veterinary and sanitary requirements and measures in transport when transporting animals in case of detection of non-infectious and contagious animal diseases. Veterinary and sanitary control and supervision during the transportation of farm animals. Veterinary and sanitary treatment of vehicles.
The competence of the discipline	After mastering the discipline, the bachelor must: - know the structure, functions, rights and tasks of the veterinary and sanitary service at the customs border; - to know the structure, functions, rights and tasks of the veterinary and sanitary service on all types of vehicles; - understand all types of transported objects, their features and technology of production, processing, preparation, transportation, storage and sale; - apply veterinary and sanitary requirements for all types of transported objects, as well as goods, both during import, export and transit, and domestic transportation; -to organize and carry out a set of measures for the prevention and control of infectious, invasive and non-infectious, etc. diseases for animal welfare; -apply the acquired theoretical knowledge and skills in the professional activity of the customs business of the Republic of Kazakhstan.
Final control form	Exam
Duration of the discipline	1 academic period (15 weeks)
List of literature	basic literature: 1.Всемирная организация здоровья животных. Защитим животных, защитим наше будущее«Кодекс здоровья наземных животных» Двадцать пятое издание - 2016 г. 2.Бегенова А.Б., Жұмакаева А.Н., Майқанов Б.С. «Шекара және көліктердегі ветеринариялық-санитариялық бақылау». Оқулық. -Алматы, 2014. - 408 б. 3.Алимов А.А. «Ветеринарно-санитарный контроль на границе и транспорте». Учебное пособие: Алматы, 2021.-115с 4.Айжамбаева, С.Ж. «Автокөлікпен жүктерді тасымалдау». Оқу құралы. –Алматы: ССК, 2018. -104 б 5.Бекжанова, С.Е. «Жүк тасымалдау мен коммерциялық жұмыстардың негіздері» Оқу құралы. –Алматы: Эверо, 2017. -104 б additional references: 6.Кунаков, А.А., Уша, Б.В., Кальницкая О.И. «Ветеринарная – санитарная экспертиза». -М.: ИНФРА-М, 2015. -234 с 7.Майқанов Б.С. «Ветеринарно-санитарный контроль на государственной границе и транспорте». Учебник. Астана, 2004. -247 с.

