

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
SUMY NATIONAL AGRARIAN UNIVERSITY**

**Epizootiology and Parasitology Chair**

**“CONFIRMED”**

**Chief of Epizootiology and Parasitology Chair**

\_\_\_\_\_(V. Y. Kassich)  
“ ” \_\_\_\_\_2020

**CURRICULUM  
(SYLLABUS)**

**PP 1.14. Epizootology and Infectious Animal Diseases**

**Speciality: 211 "Veterinary Medicine"**

**Educational program: "Veterinary Medicine"**

**Faculty: Veterinary Medicine**

**2020 – 2021 academic year**

Curriculum of Epizootology and Infectious Animal Diseases was worked out for the forth-year students of Speciality 211 "Veterinary Medicine"

Authors:

Phd, Associate professor Epizootiology and parasitology Chair

 Rebenko H. I.

Curriculum has been approbated on the Epizootiology and parasitology Chair meeting

Minutes of " 1 " 06 2020 № 15

Chief of Epizootiology and parasitology Chair

 (Doctor, prof. V. Y. Kassich)

**Coordinated by:**

Guarantor of the educational program  (L. Ulko)

Dean of the Faculty  (O. Nechiporenko)

Methodist of the educational department  ( )  
licensing and accreditation

Registered in electronic data base  2020

### 1. Curriculum description

Indicators	Branch of knowledge, training direction, qualification level	Characteristics of course	
		full-time education	
Number of credits – 3/2	21 Veterinary Medicine	<b>Regulatory</b>	
Module – 3/2	Specialty: 211 Veterinary Medicine	<b>Year of training:</b>	
Content modules: 3/8		2020-2021	
Individual scientific research task : <b><i>Making contingency plans</i></b>		<b>course</b>	
		4	
		<b>Semester</b>	
Total quantity – <b>90/60</b>		7	8
	<b>Lectures</b>		
Weekly hours for full- time: classes – 3/2 independent work – 3/2	Educational degree: master	16	14
		<b>Practical classes, seminars</b>	
		-	
		<b>Laboratory</b>	
		30	16
		<b>Independent work</b>	
		44	30
<b>Type of control:</b>			
credit	exam		

**Note.**

Correlation of numbers of classes to independent and individual work is – 50/50.

## 2. Aim and Tasks of Curriculum

**The aim** of curriculum “Epizootology and Infectious Animal Diseases” is to form a system of special theoretical knowledge regarding the existing patterns of processes of origin, development, spread and elimination of infectious animal diseases and basic veterinary sanitation

**Tasks of curriculum** “Epizootology and Infectious Animal Diseases” are understanding of the epizootical processes of infectious animal diseases and developing of skills in making decisions on rational measures for the prevention, management and elimination of epizootics as well as acquisition of learning outcomes described in EP "Veterinary Medicine":

LO 1. Knows and competently uses the terminology of veterinary medicine.

LO 2. Uses with domestic and foreign sources to develop diagnostic, treating and business strategies.

LO 4. Collects anamnestic data during the registration and observation of animals, deciding on the choice of effective methods of diagnosis and effective treatment of diseases of animals.

LO 5. Establishes connections between clinical signs and results of laboratory researches.

LO 6. Develops quarantine and health measures, methods of therapy, prevention, diagnosis in case of the disease of various etiologies.

LO 7. Formulates conclusions on the effectiveness of selected methods and means of keeping, feeding and treatment of animals, prevention of infectious and non-communicable diseases, as well as production and technological processes in enterprises for keeping, breeding or operation of animals of different classes and species.

LO 8. Monitors the causes of the spread of diseases of various etiologies and biological pollution of livestock waste, as well as materials and veterinary products.

LO 9. Develops measures to protect the population from diseases common to animals and humans.

LO 10. Offers and uses expedient innovative methods and approaches of the decision of problem situations of a professional origin.

LO 15. Knows the rules of storage of various pharmaceuticals and biologicals, ways of their enteral or parenteral use, understand the mechanism of their action, interaction and complex action on the body of animals.

LO 19. Can carry out educational activities among employees of the industry and the public.

### ***Following the completion of the course the student should:***

#### **know:**

- ✓ Safety rules when working with infected animals.
- ✓ Forms of infection, their epizootiological significance. Clinical forms and dynamics of infectious disease
- ✓ Biology of the immune response to vaccines and sera, natural resistance, immunological reactivity and immunity
- ✓ Rules for accepting pathological and other materials for research, as well as the essence of the work of individual departments of the laboratory.
- ✓ Methods for assessing the epizootic effectiveness of vaccine use.
- ✓ Principles of prescribing treatment for infectious animals. The main groups of specific therapy.
- ✓ Methodology for preparing a plan for preventive measures and a plan for the elimination of an infectious disease.

#### **be able to:**

- ✓ use the terminology of veterinary medicine
- ✓ obtain useful information from proper sources
- ✓ diagnose infectious diseases using a comprehensive diagnostic method.
- ✓ organize and conduct sampling for diagnostic tests with different images on different types of animals and assess allergic reactions;

- ✓ Establish an epizootic diagnosis and justify it, compile an act of epizootic examination
- ✓ Make plans for control measures, draft decisions on establishing quarantine or restrictions
- ✓ To organize vaccination of animals, prepare documentation for the immunization
- ✓ Draw up a treatment regimen and justify selected therapeutic agents
- ✓ To organize disinfection and to calculate the necessary amount of disinfectants for different kinds of de-processing of different livestock facilities.

### **3. Curriculum of Discipline**

Adopted by Academic Council of Sumy NAU in 2019 year.

#### **SPECIAL EPIZOLOGOLOGY**

##### **Diseases common to several types of animals**

###### **7 term**

###### **Module 1. Bacterial diseases common to several types of animals**

Topic 1. Infectious diseases with septic flow: Anthrax, Haemorrhagic septicaemia

Topic 2. Infectious diseases of animals caused by pathogenic anaerobes: Tetanus, malignant edema (gas edema), necrobacillosis, botulism

Topic 3. Infectious diseases with chronic course: Tuberculosis, brucellosis

Topic 4. Bacterial natural-focal infections: Leptospirosis, listeriosis, campylobacteriosis, pseudotuberculosis, tularemia

###### **Module 2. Infectious diseases common to several animal species caused by intracellular parasites, pathogenic fungi and their toxins.**

Topic 5. Viral naturally-focal infections: Aujeszky's disease, rabies, arbovirus infections, rickettsiosis (Q-fever (Quinceland), infectious (rickettsiatic) keratoconjunctivitis), infectious hydropericarditis (cudria)

Topic 6. Highly contagious diseases; Foot and mouth disease, vesicular stomatitis, smallpox

Topic 7. Chronic and latent infections: viral leukemia, chlamydiosis, mycoplasmosis

Topic 8. Mycosis and mycotoxicosis: Dermatomycosis, meloidosis, actinomycosis, mycotoxicosis

###### **8 term**

###### **Module 3. Infectious diseases of ruminants, horses and pigs**

Topic 9. Black quarter (black-leg), Bluetongue, Borna disease, Bovine virus diarrhoea, Contagious agalactia, Contagious bovine pleuropneumonia, Contagious caprine pleuropneumonia, Contagious Ecthyma of sheep and goats, Crimean Congo Haemorrhagic Fever, Enzootic bovine leucosis, Epizootic haemorrhagic disease, Foot-and-mouth disease, Heartwater, Infectious epididymitis, Lumpy skin disease, Maedi-visna, Malignant catarrhal fever (wildebeest-associated), Nairobi sheep disease, Ovine pulmonary adenomatosis, Paratuberculosis (Johne's disease), Peste des petits ruminants, Rift Valley fever, Rinderpest, Sheep pox and goat pox, Transmissible spongiform encephalopathies (bovine spongiform encephalopathy, chronic wasting disease of deer, feline spongiform encephalopathy, scrapie), Wesselsbron disease, West Nile virus infection, Rift valley fever, epizootic hemorrhagic disease of deer, orbivirus infection of cattle (Ibaraki disease).

Topic 10. Contagious equine metritis, Crimean Congo Haemorrhagic Fever, Encephalitides (tick-borne), Equine encephalomyelitis (Japanese, Eastern, Western and Venezuelan), Equine infectious anaemia, Equine influenza, Glanders, Infection with equid herpesvirus-1 (EHV-1) (abortigenic and neurological strains), Equine arteritis, Infection with Getah virus, Infection with Hendra virus, Infection with Histoplasma farciminosum (epizootic lymphangitis), Rift Valley fever, Salmonellosis equi, Vesicular stomatitis.

Topic 11. African swine fever, Aujeszky's disease, Bungowannah (porcine myocarditis), Classical swine fever, Enzootic bronchopneumonia, Infectious atrophic rhinitis, Influenza in swine, Glasser's Disease, Porcine epidemic diarrhoea, Swine vesicular disease, Porcine enteroviral encephalomyelitis (Teschen disease), Nipah virus infection, Porcine reproductive and respiratory syndrome, Post-weaning multi-systemic wasting syndrome, Swine Dysentery, Swine Erysipelas,

Swine vesicular disease, Transmissible gastroenteritis, Vesicular exanthema, Pleuropneumonia in pigs due to Haemophilus pleuropneumoniae, Porcine parvovirus infection.

Topic 12. Factoral diseases of the young animals: Salmonellosis, escherichiosis, streptococcosis, staphylococcosis, anaerobic enterotoxemia, adeno-, corona-, parvo- and rhinovirus infection.

#### **Module 4. Infectious diseases of poultry, dogs, cats and fur animals, bee diseases fish diseases**

Topic 13. Avian Influenza, Duck virus hepatitis, Duck viral enteritis (Duck plague), Escherichia coli infections, Salmonellosis, Paratyphoid infections, Fowl cholera, Riemerella anatipestifer infections, Mycoplasma, Avian tuberculosis, Haemorrhagic enteritis of turkeys, Egg drop syndrome -1976, Infectious bursal disease (Gumboro), Infectious bronchitis (IB), Laryngotracheitis, Swollen head syndrome, Infectious encephalomyelitis, Newcastle disease, Fowl pox, Reovirus infections, Virus-induced neoplastic diseases Marek's disease, Lymphoid leukosis.

Topic 14. Parvovirus, Distemper, Infectious Canine Hepatitis, Coronavirus, Kennel Cough, Canine Adenovirus type 2 and Parainfluenza virus, Feline leukemia, feline immunodeficiency, Feline panleukopenia, Devil Facial Tumour Disease, Myxomatosis, Viral hemorrhagic disease.

Topic 15. Infection of bees with Paenibacillus larvae (American foulbrood), Infection of bees with Melissococcus plutonius (European foulbrood), Acute and chronic viral paralysis, aspergillosis, ascosporosis, melanosis.

Topic 16. Fish diseases: Furunculosis, Bacterial kidney Disease, Columnaris, Infectious Pancreatic Necrosis, Viral Haemorrhagic Septicaemia, Channel Catfish Virus, Saprolegniosis, Branchiomycosis.

#### **4. Curriculum Structure**

Name of content modules and topics	Number of hours					
	full-time education					
	Total	including				
L		P	Lab	Ind	I.W.	
1	2	3	4	5	6	7
<b>7 term</b>						
<b>Module 1. Bacterial diseases common to several types of animals.</b>						
Topic 1. Infectious diseases with septic flow	12	2		4	6	
Topic 2. Infectious diseases of animals caused by pathogenic anaerobes	10	2		4	4	
Topic 3. Infectious diseases with chronic course	12	2		4	6	
Topic 4. Bacterial natural-focal infections	12	2		4	6	
<b>Together for the content modules 1</b>	46	8		16	22	
<b>Module 2. Infectious diseases common to several animal species caused by intracellular parasites and fungies.</b>						
Topic 5. Viral naturally-focal infections	12	2		4	6	
Topic 6. Highly contagious diseases	12	2		4	6	
Topic 7. Chronic and latent infections	12	2		4	6	
Topic 8. Mycosis and mycotoxicosis	8	2		2	4	
<b>Together for the content modules 2</b>	44	8		14	22	
<b>Total hours per semester</b>	90	16		30	44	

8 term									
<b>Module 3. Infectious diseases of ruminants, horses and pigs</b>									
Topic 9. Diseases of ruminants	10	2		4	4				
Topic 10. Diseases of horses	8	2		2	4				
Topic 11. Swine Diseases	8	2		2	4				
Topic 12. Factoral diseases of the young animals.	8	2		2	4				
<b>Together for the module 3</b>	34	8		10	16				
<b>Module 4. Infectious diseases of poultry, dogs, cats and fur animals, bee diseases fish diseases</b>									
Topic 13. Avian Diseases	8	2		2	4				
Topic 14. Diseases of dogs, cats and fur animals.	8	2		2	4				
Topic 15. Bee diseases	6	1		1	4				
Topic 16. Fish Diseases	4	1		1	2				
<b>Together for the module 4</b>	26	6		6	14				
<b>Total hours per semester</b>	60	14		16	30				

#### 4. Topics of Lectures

Number s / n	Topics	Number of hours
Term 7		
<b>Module 1. Bacterial diseases common to several types of animals.</b>		8
1	Lecture 1: Infectious diseases with septic flow Plan: 1. Anthrax 2. Haemorrhagic septicaemia (Pasteurellosis)	2
2	Lecture 2: Infectious diseases of animals caused by pathogenic anaerobes Plan: 1. Tetanus 2. Malignant edema (gas edema) 3. Botulism 4. Necrobacillosis	2
3	Lecture 3: Infectious diseases with chronic course Plan: 1. Tuberculosis 2. Brucellosis	2
4	Lecture 4: Bacterial natural-focal infections Plan: 1. Leptospirosis 2. Listeriosis 3. Campylobacteriosis 4. Pseudotuberculosis 5. Tularemia	2
<b>Module 2. Infectious diseases common to several animal species caused by intracellular parasites and fungies.</b>		8

5	Lecture 5: Viral naturally-focal infections Plan: 1. Rabies 2. Aujesky's disease 3. Arbovirus infections 4. Infections Caused by Rickettsiae	2
6	Lecture 6: Highly contagious diseases Plan: 1. Foot and mouth disease 2. Vesicular stomatitis 3. Pox	2
7	Lecture 7: Chronic and latent infections Plan: 1. Viral leukemia 2. Chlamydiosis 3. Mycoplasmosis	2
8	Lecture 8: Mycotic diseases and mycotoxicosis Plan: 1. Dermatophytosis 2. Aspergillosis 3. Melioidosis 4. Candidiasis 5. Actinomycosis 6. Mycotoxicosis	2
	Together in the term	16

### Term 8

### Module 3. Infectious diseases of ruminants, horses and pigs

9	Lecture 1: <b>Diseases of ruminants'</b> Plan: 1. Transmissible spongiform encephalopathies (bovine spongiform encephalopathy, chronic wasting disease of deer, feline spongiform encephalopathy, scrapie), 2. Foot-and-mouth disease, 3. Lumpy skin disease, 4. Black quarter (black-leg), 5. Bluetongue, 6. Rinderpest, 7. Sheep pox and goat pox, 8. Bovine virus diarrhoea, 9. Paratuberculosis (Johne's disease), 10. Peste des petits ruminants, 11. Enzootic bovine leucosis, 12. Borna disease, 13. Contagious bovine pleuropneumonia, Contagious caprine pleuropneumonia, 14. Contagious agalactia,	2
10	Lecture 2: <b>Diseases of horses</b> Plan: 5. Equine arteritis, 6. Equine infectious anaemia, 7. Equine influenza,	2



	8. Glanders, 9. Equine encephalomyelitis (Japanese, Eastern, Western and Venezuelan), 10. Salmonellosis equi , 11. Contagious equine metritis	
11	Lecture 3: <b>Swine Diseases</b> Plan: 3. African swine fever, 4. Classical swine fever, 5. Swine Influenza, 6. Aujeszky's disease, 7. Enzootic bronchopneumonia, 8. Glasser's Disease, 9. Infectious atrophic rhinitis, 10. Transmissible gastroenteritis, 11. Porcine epidemic diarrhoea, 12. Swine Erysipelas, 13. Porcine enteroviral encephalomyelitis (Teschen disease),	2
12	Lecture 4: <b>Factoral diseases of the young animals</b> Plan: 6. Salmonellosis, 7. Escherichiosis, 8. Streptococcosis, 9. Staphylococcosis, 10. Anaerobic enterotoxemia, 11. Adeno-, corona-, parvo- and rhinovirus infection.	2
<b>Module 4. Infectious diseases of poultry, dogs, cats and fur animals, bee diseases fish diseases</b>		8
13	Lecture 5: <b>Avian Diseases</b> Plan: 5. Avian Influenza, 6. Newcastle disease`, 7. Fowl pox, 8. Escherichia coli infections, 9. Salmonellosis, 10. Infectious bursal disease (Gumboro), 11. Infectious bronchitis (IB), 12. Laryngotracheitis, 13. Paratyphoid infections, 14. Mycoplasma, 15. Fowl cholera, 16. Virus-induced neoplastic diseases Marek's disease, 17. Lymphoid leucosis.	2
14	Lecture 6: <b>Diseases of dogs, cats and fur animals</b> Plan: 4. Parvovirus, 5. Distemper, 6. Infectious Canine Hepatitis, 7. Coronavirus, 8. Kennel Cough, 9. Canine Adenovirus type 2 and Parainfluenza virus, 10. Feline leukemia,	2

	11. Feline immunodeficiency, 12. Feline panleukopenia, 13. Devil Facial Tumour Disease, 14. Myxomatosis, 15. Viral hemorrhagic disease	
15	Lecture 7: <b>Bee and Fish diseases</b> Plan: 4. American foulbrood, 5. European foulbrood, 6. Acute and chronic viral paralysis, 7. Aspergillosis, 8. Ascosporesis, 9. Melanosis Furunculosis, 10. Bacterial kidney Disease, 11. Columnaris, 12. Infectious Pancreatic Necrosis, 13. Viral Haemorrhagic Septicaemia, 14. Channel Catfish Virus, 15. Saprolegniosis, 16. Branchiomycosis.	2
	Together in the term	14

### 5. Topics of practical classes

Number s / n	Topics	Number of hours
7 term		
<b>Module 1. Bacterial diseases common to several types of animals.</b>		
1	Organization of measures to fight against anthrax	2
2	Organization of measures to fight against clostridiosis	2
3	Organization of measures to fight against pasteurellosis	2
4	Organization of measures to control of tuberculosis	2
5	Organization of measures to fight against brucellosis	2
6	Organization of measures to protect and to fight against leptospirosis	2
7	Organization of measures to control of bacterial natural-focal infections	2
8	Organization of measures to control of rabies	2
<b>Module 2. Infectious diseases common to several animal species caused by intracellular parasites and fungies.</b>		
9	Organization of measures to control of Aujeszky's disease and arbovirus infections	2
10	Organization of measures to control of rickettsiosis	2
11	Organization of measures to protect from foot and mouth disease	2
12	Organization of measures to control of chlamydiosis	2
13	Organization of measures to control of mycoplasmosis	2
14	Organization of measures to control of mycoses	2
15	Organization of measures to control of mycotoxicosis	2
	<b>Total</b>	30
8 term		

<b>Module 3. Infectious diseases of ruminants, horses and pigs</b>		
16	Organization of measures to fight against bovine infections	2
17	Organization of measures to fight against ovine and caprine infections	2
18	Organization of measures to protect and to fight against horse infections	2
19	Organization of measures to protect and to fight against swine infections	2
20	Organization of measures to protect young animals from infectious diseases	2
<b>Module 4. Infectious diseases of poultry, dogs, cats and fur animals, bee diseases fish diseases</b>		
21	Organization of measures to control of avian infections	2
22	Organization of measures to control of cats`, dogs` and rabbits` infections	2
23	Organization of measures to protect Bee and Fish from diseases	2
	<b>Total</b>	16

### 6. Independent work

Number s / n	Topics	Number of hours
1	<b>Topic 1.</b> Infectious diseases with septic flow: Anthrax, Haemorrhagic septicaemia	6
2	<b>Topic 2.</b> Infectious diseases of animals caused by pathogenic anaerobes: Tetanus, malignant edema (gas edema), necrobacillosis, botulism	4
3	<b>Topic 3.</b> Infectious diseases with chronic course: Tuberculosis, brucellosis	6
4	<b>Topic 4.</b> Bacterial natural-focal infections: Leptospirosis, listeriosis, campylobacteriosis, pseudotuberculosis, tularemia	6
5	<b>Topic 5.</b> Viral naturally-focal infections: Aujeszky's disease, rabies, arbovirus infections, rickettsiosis (Q-fever (Quinceland), infectious (rickettsiatic) keratoconjunctivitis), infectious hydropericarditis (cudria)	6
6	<b>Topic 6.</b> Highly contagious diseases; Foot and mouth disease, vesicular stomatitis, smallpox	6
7	<b>Topic 7.</b> Chronic and latent infections: viral leukemia, chlamydiosis, mycoplasmosis	6
8	<b>Topic 8.</b> Mycosis and mycotoxicosis: Dermatormycosis, meloidosis, actinomycosis, mycotoxicosis	4
	<b>Together</b>	44
9	<b>Topic 9.</b> Black quarter (black-leg), Bluetongue, Borna disease, Bovine virus diarrhoea, Contagious agalactia, Contagious bovine pleuropneumonia, Contagious caprine pleuropneumonia, Contagious Ecthyma of sheep and goats, Crimean Congo Haemorrhagic Fever, Enzootic bovine leucosis, Epizootic haemorrhagic disease, Foot-and-mouth disease, Heartwater, Infectious epididymitis, Lumpy skin disease, Maedi-visna, Malignant catarrhal fever (wildebeest-associated), Nairobi sheep disease, Ovine pulmonary adenomatosis, Paratuberculosis (Johne's disease), Peste des petits ruminants, Rift Valley fever, Rinderpest, Sheep pox and goat pox, Transmissible spongiform encephalopathies (bovine spongiform encephalopathy, chronic wasting disease of deer, feline spongiform encephalopathy, scrapie), Wesselsbron disease, West Nile virus infection, Rift valley fever, epizootic hemorrhagic disease of deer, orbivirus infection of cattle (Ibaraki disease).	8

10	<b>Topic 10.</b> Contagious equine metritis, Crimean Congo Haemorrhagic Fever, Encephalitides (tick-borne), Equine encephalomyelitis (Japanese, Eastern, Western and Venezuelan), Equine infectious anaemia, Equine influenza, Glanders, Infection with equid herpesvirus-1 (EHV-1) (abortigenic and neurological strains), Equine arteritis, Infection with Getah virus, Infection with Hendra virus, Infection with Histoplasma farciminosum (epizootic lymphangitis), Rift Valley fever, Salmonellosis equi, Vesicular stomatitis.	6
11	<b>Topic 11.</b> African swine fever, Aujeszky's disease, Bungowannah (porcine myocarditis), Classical swine fever, Enzootic bronchopneumonia, Infectious atrophic rhinitis, Influenza in swine, Glasser's Disease, Porcine epidemic diarrhoea, Swine vesicular disease, Porcine enteroviral encephalomyelitis (Teschen disease), Nipah virus infection, Porcine reproductive and respiratory syndrome, Post-weaning multi-systemic wasting syndrome, Swine Dysentery, Swine Erysipelas, Swine vesicular disease, Transmissible gastroenteritis, Vesicular exanthema, Pleuropneumonia in pigs due to Haemophilus pleuropneumoniae, Porcine parvovirus infection.	6
12	<b>Topic 12.</b> Factoral diseases of the young animals: Salmonellosis, escherichiosis, streptococcosis, staphylococcosis, anaerobic enterotoxemia, adeno-, corona-, parvo- and rhinovirus infection.	6
13	<b>Topic 13.</b> Avian Influenza, Duck virus hepatitis, Duck viral enteritis (Duck plague), Escherichia coli infections, Salmonellosis, Paratyphoid infections, Fowl cholera, Riemerella anatipestifer infections, Mycoplasma, Avian tuberculosis, Haemorrhagic enteritis of turkeys, Egg drop syndrome -1976, Infectious bursal disease (Gumboro), Infectious bronchitis (IB), Laryngotracheitis, Swollen head syndrome, Infectious encephalomyelitis, Newcastle disease, Fowl pox, Reovirus infections, Virus-induced neoplastic diseases Marek's disease, Lymphoid leukosis.	6
14	<b>Topic 14.</b> Parvovirus, Distemper, Infectious Canine Hepatitis, Coronavirus, Kennel Cough, Canine Adenovirus type 2 and Parainfluenza virus, Feline leukemia, feline immunodeficiency, Feline panleukopenia, Devil Facial Tumour Disease, Myxomatosis, Viral hemorrhagic disease.	4
15	<b>Topic 15.</b> Infection of bees with Paenibacillus larvae (American foulbrood), Infection of bees with Melissococcus plutonius (European foulbrood), Acute and chronic viral paralysis, aspergillosis, ascospherosis, melanosis.	4
16	<b>Topic 16.</b> Fish diseases: Furunculosis, Bacterial kidney Disease, Columnaris, Infectious Pancreatic Necrosis, Viral Haemorrhagic Septicaemia, Channel Catfish Virus, Saprolegniosis, Branchiomycosis.	4
	<b>Total</b>	44

## 7. Methods of Training

### 1. Training Methods for Knowledge:

1.1. *Verbal*: narrative, explanation, discussion (heuristic and reproductive), lecture, instruct, work with the book (read, transfer, discharge, scheduling, reviewing, summarizing, making tables, charts, reference compendia etc.).

1.2. *Visual*: demonstration, illustration.

1.3. *Practical*: practical work, exercise, production practices.

### 2. Methods for studying the nature of the logic of knowledge.

2.1. *Analytical*

2.2. *Synthesis*

2.3. *Inductive method*

2.4. *Deductive method*

### 3. Methods for studying the nature and level of independent mental activity of students.

3.1. *Problem (problem-information)*

3.2. *Partly-search (heuristic)*

3.3. *Exploratory*

3.4. *Reproductive*

3.5. *Explanatory demonstration*

4. **Active learning methods** – use of technical training, brainstorming, debates, roundtables, business and role-playing games, training, use of problem situations, self-knowledge, the use of educational tests and controlling the use of basic lectures.

5. **Interactive learning technology** – the use of multimedia technology.

Learning can include, but is not limited to:

- formal classroom or online discussions;
- workshops, artistic performances, practical sessions or field trips;
- small group discussions or written exercises;
- class presentations, laboratory work, field trips, designs, roleplaying, wikis, blogs and webinars;
- thoughtful commenting on, reflecting on, or critiquing, content or presentations provided by staff or other students.

Attendance alone is not normally regarded as active participation. Clinical practice refers to learning activities, including the provision of health care under supervision, that relate directly to the diagnosis and management of disease, and the promotion of health.

## 8. Methods of Evaluation

Evaluation criteria and methods, as well as evaluation criteria are published in the first lesson and placed in the first page of the printed workbook. Assessment is applied to all students consistently and fairly in accordance with established procedures. Those who are not satisfied with the result are given the opportunity to improve it by retransmitting.

In the study of epizootology evaluation methods are:

### summative

- assessment of the level of knowledge demonstrated in the oral answers, and activity in discussing the issues raised in class;
- performance of analytical and calculation tasks;
- computer test results;
- written answers to tests on the topics of independent work;

### formative

1. assessment of the level of skills in role-playing to consider specific epizootic situations, providing instructions on how to improve performance
2. the use of rapid tests for self-assessment of knowledge,

3. use of situational exercises with the subsequent assessment by the participants themselves,
4. constant feedback from students, analysis of current successes

### 9. Distribution points that students get to the (test)

Current testing and self-study								Total for modules and IW	Attestation	Total
module 1 30 points				module 2 40 points						
T1	T2	T3	T4	T5	T6	T7	T8	85 (70 + 15)	15	100
Computer testing (0-10) oral interview (0-10), role in situational exercises (0-10),				Computer testing (0-10) oral interview (0-10), role in situational exercises (0-10), individual task (0-10)						

Current testing and self-study				Total for modules and IW	Attestation	exam	Total
module 3 20 points		module 4 20 points					
T1	T2	T3	T4	85 (70 + 15)	15	30	100
Computer testing (0-10), role in situational exercises (0-10),		Computer testing (0-10), role in situational exercises (0-10),					

### Grading scale: national and ECTS

Total points for all the educational activities	Mark ECTS	Ukrainian mark	
		For the exam, course project (work) practices	For the test
90 – 100	<b>A</b>	Excellent	Passed
82-89	<b>B</b>	Good	
75-81	<b>C</b>		
69-74	<b>D</b>	Satisfactory	
60-68	<b>E</b>		
35-59	<b>FX</b>	Bad	No passed
1-34	<b>F</b>		Repeated study of the course

### 10. Methodical Support

1. Kascich V.Yu., Rebenko G.I., Fotina G.A. "Methodical instructions for the implementation of the program of educational-clinical practice on epizootology" - methodical recommendations for students of the 4th year of the Faculty of Veterinary Medicine. Sumy 2007 - 32 p.

2. Kascich V.Yu., Rebenko G.I. "Veterinary immunobiological preparations", methodical recommendations for students of the Faculty of Veterinary Medicine. Sumy 2007-40 p.

6. Kascich V.Yu., Rebenko G.I., Milano O.Ya., Milano G.O. Workbook for laboratory and practical classes and independent work on the dissertation "Epizootology and infectious diseases", subsection. "General epizootology" (72 hours). Sumy 2008 - 70 p.

7. Rebenko G.I., Fotin A.I. Organization and implementation of antipyzootic measures, registration of documentation on them. Methodical recommendations for students of the faculty of veterinary medicine, Sumy, 2008 - 28 p.

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## **11. Suggested Reading**

### **Basic**

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## **12. Information Resources**

<http://www.vet.gov.ua/>

<http://www.oie.int/>

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