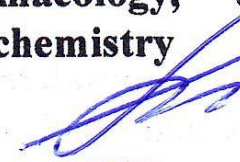


**Ministry of Education and Science of Ukraine  
Sumy National Agrarian University**

**Department of Therapy, pharmacology, clinical diagnostics and chemistry**

**"Approved"**

**Head of the department of therapy,  
pharmacology, clinical diagnostics  
and chemistry**



**Ulko L.G.**

**"03" "05" 2020**

**WORKING PROGRAM OF EDUCATIONAL DISCIPLINE (SILABUS)**

**PP.13 Internal Animal Diseases**  
(Cipher and the name of the academic discipline)

**Direction of preparation: 211 Veterinary medicine**

**Educational program: «Veterinary medicine»**

**Faculty: Veterinary Medicine**

Working on the subject " **Internal Animal Diseases** " program for students in the field of training 211 "Veterinary Medicine"


**Developers:**

**L.G.Ulko Doctor of Veterinary Science, Professor**   
**Musiienko O.V. Candidate of Veterinary Sciences, Associate Professor**

The working program was considered at the meeting of the Department of Therapy, Pharmacology and Clinical Diagnostics and chemistry

**Protocol of " 3 " 05 2020 N. 14**


**Head of the Department of Therapy, pharmacology, clinical diagnostics and chemistry**

 **(L.G. Ulko )**  
(Signature) (surname and initials)

**Agreed:**

**Guarantor of the educational program**  **( Yermolov L.S )**

**Dean of the Faculty Veterinary Medicine**  **A.L. Nechiporenko**

**Methodologist of the department of quality of education, licensing and accreditation**  **( F.L. Boranik )**

Are registered in an electronic database: 06.07. 2020

## 1. DESCRIPTION educational disciplines

The name of indicators	Industry knowledge, direction, training, education and qualification level	Characteristics of the discipline	
		full-time education	
Number of loans - 5, at. including 3 ( <i>Autumn</i> ) 2 (SPRING)	branch of knowledge: <b>21 Veterinary "</b> (Code number and name)	<i>regulatory</i>	
	Specialty: <b>211 "Veterinary Medicine"</b>		
Modules - 4 ( <i>Autumn</i> - 2, <i>the spring</i> - 2)	<b>Professional direction:</b>	<b>Year of training:</b>	
Semantic modules 4		2020 -2021 th	
Individual research assignment: (Title) Conducting clinical research and diagnosis of animal diseases		<b>course 4 a</b>	
Total hours - 150, including <i>Autumn</i> - 90; Spring - 60.		<b>Semester</b>	
		<b>7</b>	<b>8</b>
Weekly hours for full-time study: classroom - 3.0, <i>Autumn</i> - 3.0; Spring - 2.0. Independent work of students - 4, <i>Autumn</i> - 3.0; Spring - 3.0.	Educational degree: <b>bachelor</b>	<b>lectures</b>	
		14	16
		<b>Practical seminar</b>	
		-	-
		<b>laboratory</b>	
		30	14
		<b>Independent work</b>	
		46	30
		<b>Individual problems: -</b>	
		Type of control:	
<b>credit</b> (Oral examination, test papers)	<b>Exam</b> (Oral questioning, test papers)		

The ratio of the number of class hours for independent and individual performance is (%):

for full-time education - 74/76 (49/51)

## 2. Aims and objectives of academic disciplines

### **Purpose:**

The purpose of discipline is to master the students theoretical and practical knowledge for the study of the major internal non-contagious animal diseases, their etiology, pathogenesis, symptoms, course, diagnosis and differential diagnosis, treatment and prevention.

**Task:** the study of sick animals, staging diagnosis, prescription and treatment of non-communicable disease pathology, interpretation of the results.

*As a result of the teaching of discipline a student must:*

### **Know:**

- Methods of conducting medical examination of farm animals.
- Biochemical and clinical indicators of healthy animals and in certain pathologies.
- Methods, types, principles of veterinary treatment.
- Food Technology dietary feed, methods of drug administration to the animal.
- Determination of diseases of various organs and systems of the etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, treatment and prevention

### **be able to:**

- Conduct medical examinations of the number of animals, veterinary issue documentation to describe types, methods, principles of therapy;
- Carry out various manipulations: administering medicinal substances to an animal, sensing animal, removing a foreign body from the pharynx, the esophagus, gastric lavage, t.
- Conduct a clinical study of the animal, identify the main clinical signs of disease, diagnose, prescribe treatment, to develop preventive measures and to observe safety precautions when working with animals.

## 3. PROGRAM TRAINING COURSES

Approved at the meeting of the Department of Therapy, Pharmacology, Clinical Diagnostics and Chemistry, protocol № \_\_\_\_ from " \_\_\_\_ " \_\_\_\_\_ 2020 (program approbation)

### 7 semester

### **Content module 1. Diseases of the liver and biliary tract, peritoneum and pancreas, kidney and urinary tract.**

#### **Theme 1. Diseases of the liver and biliary tract.**

Classification and distribution of liver diseases. Syndromes, diseases of the liver and biliary tract.

The study of hepatitis (parenchymal and purulent). Hepatodystrophy (fat and toxic liver amyloidosis). Cirrhosis of the liver. Differential diagnosis, treatment and prevention of liver diseases. The study of biliary tract diseases: cholelithiasis, cholecystitis, cholangitis.

#### **Theme 2. Diseases of peritoneum.**

Studies of animals with peritoneal disease. Peritonitis. Abdominal dropsy. Differential diagnosis, treatment and prevention.

#### **Theme 3: Diseases of the Pancreas.**

Classification. The study of the main syndromes of diseases of the pancreas pain, cholestatic and exocrine insufficiency. Pancreatitis, cysts and pancreatic tumors, pancreatic

atrophy (etiology, pathogenesis, clinical symptoms, the diagnosis, differential diagnosis, treatment and prevention).

#### **Theme 4. Disorders of the kidneys and urinary tract.**

Classification and main syndromes of diseases of the urinary system.

Study of kidney disease glomerulonephritis (nephritis), pyelonephritis and its complications (peri- and paranephritis, pyonephrosis), renal abscess, nephrosclerosis, nephrosis (nephrotic syndrome), hydronephrosis. Differential diagnosis, treatment and prevention of renal diseases.

The study of urinary tract diseases: urotristit. neurogenic bladder dysfunction (spasm of the sphincter, paresis and paralysis of the bladder). Urolithiasis (urolithiasis and nephrotoxicity). Chronic hematuria cattle. Diseases of the lower urinary tract obstruction of the urethra and urethritis, diagnosis, and destination of therapeutic and preventive measures.

#### **Content module 2. Diseases of the nervous system, blood, immune system, allergic disease (allergies) and diseases caused by a metabolic disorder.**

##### **Theme 5. Diseases the nervous system.**

Classification syndromes and diseases of the nervous system.

Cerebrovascular disorders, heatstroke (hyperthermia), sunstroke (giperinsolyatsiya); ischemia and cerebral congestion and its membranes. Dropsy of brain ventricles (hydrocephalus).

The study of the brain and spinal cord diseases and inflammatory meninges meningitis, encephalitis, myelitis, meningoencephalitis, meningomyelitis.

Functional neurological diseases: neuroses, epilepsy, eclampsia. Stress and its prevention.

##### **Topic 6. Diseases blood system.**

Classification of diseases of the blood system.

Study of anemias: hemorrhagic, hypoplastic (Myelotoxic and nutrition-deficient) and hemolytic (toxic, postpartum cows hemoglobinuria, paroxysmal hemoglobinuria, iso- and autoimmune). Treatment and prevention of anemia. Hemorrhagic diathesis: haemophilia and thrombocytopenia.

Neoplastic lesions of the blood system (hematological malignancies): (Leukemia), gematosarkomy.

##### **Theme 7. Diseases the immune system.**

The study of cellular and humoral defense mechanisms of the body. Immune deficiencies. Study of proliferative diseases of the immune system: hyperleukocytosis, Hyper, limfogranulotsitoz, macroglobulinemia, a disease "heavy chains".

Autoimmune diseases. A general characteristic of autoimmune diseases. Idiopathic diseases: autoimmune hemolytic disease of the newborn animals, autoimmune hemolytic anemia dogs and cats (AHA), an autoimmune dermatosis (systemic lupus erythematosus). Differential diagnosis, treatment and prevention of diseases of the immune system.

##### **Theme 8. Allergic diseases and (allergies).**

Common mechanisms of allergic reactions. Mediators of allergic reactions, their biological effect. Methods for diagnosis of allergic diseases. General principles and methods of treatment of allergic diseases: antihistamines, anti-inflammatory, cardiac and antispasmodics. Herbal medicine for allergic diseases.

Determining the etiology, pathogenesis, diagnosis and treatment of certain allergic diseases. Krovopyatnistaya disease. Allergic shock. Allergic rhinitis and conjunctivitis. Food

allergy. Drug allergy and serum sickness. Allergy to poison snakes, biting and stinging insects. The combination of immune deficiency syndrome and allergies.

### **Subject 9. Diseases caused by metabolic disorders.**

Classification, distribution, flow characteristics and diagnosis.

The study of diseases caused by a primary violation of protein, carbohydrate and lipid metabolism: ketosis cows and sheep, myoglobinuria, obesity, alimentary dystrophy.

Diseases caused by disturbance of macronutrients exchange: osteodystrophy (alimentary, enzootic, secondary), hypomagnesaemia (grazing tetany), postpartum hypophosphatemia.

Microelementoses Animal Distribution, the general principles of diagnosis and prevention. Iodine deficiency. gipokobaltoz, gipokuproz, zinc deficiency (parakeratosis piglets), manganese, fluorine, selenium. The excess fluorine, boron, selenium, nickel, strontium and molybdenum.

Hypovitaminosis. Deficiency of fat-soluble vitamins: A, D, E, K. Lack of water-soluble vitamins: thiamine, riboflavin, niacin, pyridoxine, cyanocobalamin, ascorbic acid. Hypervitaminosis A and D. Differential diagnosis, treatment and prevention of animals with metabolic disturbances.

## **8 semesters**

### **Content module 3. Diseases endocrine organs and skin.**

#### **Topic 10. Diseases endocrine organs.**

The study of the causes and mechanisms of endocrine diseases. Dysfunction of the hypothalamus and pituitary. Diabetes insipidus. adrenal disease hypoadrenocorticism and Cushing's syndrome. Endocrine pancreatic function. Diabetes. Diseases of the parathyroid glands: postpartum hypocalcemia. Thyroid disease hyperthyroidism, goiter, Graves' disease. Violation of the endocrine function of the thymus.

#### **Topic 11. Diseases of the skin.**

Allergic skin diseases: eczema, urticaria, atopic dermatitis, brazhnoy slimy. Autoimmune skin diseases: bullous dermatitis, discoid lupus erythematosus. Dermatosparaksiya. Differential diagnosis of skin diseases. Diseases of the skin glands: seborrhea, sweat gland dysfunction, pyoderma. Symptoms of skin lesions: alopecia, excessive hair growth, skin pigmentation and hair, itchy skin. Psychogenic skin lesions syndrome.

### **Content module 4. Diseases young.**

#### **Topic 12. Diseases young.**

The spread of disease calves. Particularly young age physiology. Immune protection of the newborn calves. Immunodeficiency condition of young animals.

Classification of Diseases young. Antenatal malnutrition. Acute hypoxia intra - and neonatal periods.

Neonatal disease with diarrhea syndrome: casein bezoarnaya disease colostric morning sickness, indigestion. Differential diagnosis, treatment and prevention of gastrointestinal diseases of newborn animals. Omphalitis and omfaloflebit.

Metabolic diseases of young animals: hypoglycemia, aplastic anemia of piglets, calves and lambs; D-gipovitaminoz (rickets) young white muscle disease; enzootic ataxia lambs.

Digestive diseases. Periodic tympanum of the rumen in calves and lambs. Bezoarnaya disease.

#### 4. Structure of educational discipline

The names and the content module	Number of hours				
	daytime				
	Total	including			
	l	P	lab	ind	sr
<b>7 semester</b>					
<b>Content module 1. Diseases of the liver and biliary tract, peritoneum and pancreas, kidney and urinary tract.</b>					
<b>Theme 1.</b> disease liver and biliary tract.	<b>16</b>	<b>2</b>		<b>4</b>	<b>10</b>
<b>Theme 2.</b> disease peritoneum.	<b>6</b>	-		<b>2</b>	<b>4</b>
<b>Theme 3.</b> disease pancreas.	<b>6</b>	-		<b>2</b>	<b>4</b>
<b>Theme 4.</b> disease kidney and urinary tract.	<b>8</b>	<b>2</b>		<b>2</b>	<b>4</b>
<b>However, for meaningful module 1</b>	<b>36</b>	<b>4</b>		<b>10</b>	<b>22</b>
<b>Content module 2. Diseases of the nervous system, blood, immune system, allergic disease (allergies) and diseases caused by a metabolic disorder.</b>					
<b>Theme 5.</b> disease the nervous system.	<b>8</b>	<b>2</b>		<b>4</b>	<b>2</b>
<b>Theme 6.</b> disease blood system.	<b>8</b>	-		<b>4</b>	<b>4</b>
<b>Theme 7.</b> disease the immune system.	<b>4</b>	-		<b>2</b>	<b>2</b>
<b>Theme 8.</b> allergic diseases	<b>4</b>	-		<b>2</b>	<b>2</b>
<b>Theme 9.</b> Diseases caused by metabolic disorders.	<b>30</b>	<b>8</b>		<b>8</b>	<b>14</b>
<b>However, for meaningful module 2</b>	<b>54</b>	<b>10</b>		<b>20</b>	<b>24</b>
<b>Total hours per semester 7</b>	<b>90</b>	<b>14</b>		<b>30</b>	<b>46</b>
<b>8 semester</b>					
<b>Content module 3. Diseases of the endocrine organs and skin.</b>					
<b>Topic 10.</b> disease endocrine organs.	<b>8</b>	<b>2</b>		<b>2</b>	<b>4</b>
<b>Topic 11.</b> disease skin.	<b>10</b>	<b>2</b>		<b>2</b>	<b>6</b>
<b>However, for meaningful module 3</b>	<b>18</b>	<b>4</b>		<b>4</b>	<b>10</b>
<b>Content module 4. Diseases young.</b>					
<b>Theme 12.</b> disease young.	<b>42</b>	<b>12</b>		<b>10</b>	<b>20</b>
<b>However, for meaningful module 4</b>	<b>42</b>	<b>12</b>		<b>10</b>	<b>20</b>
<b>Total hours per semester 8</b>	<b>60</b>	<b>16</b>		<b>14</b>	<b>30</b>
<b>Total hours</b>	<b>150</b>	<b>30</b>		<b>44</b>	<b>76</b>

## 5. TOPICS Lectures

# p / p	Topic Title	N of h
1	2	3
<b>7 SEMESTER</b>		
1.	<p style="text-align: center;"><b>Theme 1 .Bolezni liver and biliary tract.</b></p> <p style="text-align: center;"><b>Plan</b></p> <p>1. Classification syndromes in liver and biliary tract. 2. Hepatodystrophy (etiology, pathogenesis, clinical diagnosis, differential diagnosis, treatment and prevention)</p>	<b>2</b>
2.	<p style="text-align: center;"><b>Theme 4. Renal and urinary tract.</b></p> <p style="text-align: center;"><b>Plan</b></p> <p>1. Classification and main syndromes of diseases of the urinary system 2. Kidney disease (etiology, pathogenesis, clinical diagnosis, differential diagnosis, treatment and prevention).</p>	<b>2</b>
3.	<p style="text-align: center;"><b>Theme 5. Diseases the nervous system</b></p> <p style="text-align: center;"><b>Plan</b></p> <p>1. Classification, syndromes, symptoms of diseases of the nervous system. 2. Thermal overheating (etiology, pathogenesis, clinical diagnosis, differential diagnosis, treatment and prevention)</p>	<b>2</b>
4.	<p style="text-align: center;"><b>Theme 9. Diseases caused by metabolic disorders</b></p> <p style="text-align: center;"><b>Plan</b></p> <p>1. General concepts of metabolic diseases classification, distribution, and the economic damage they cause to livestock. 2. Diseases caused by a primary violation of protein, carbohydrate and lipid metabolism: ketosis cows and sheep, obesity, alimentary dystrophy.</p>	<b>2</b>
5.	<p><b>Theme 9. Diseases caused by metabolic disorders.</b></p> <p style="text-align: center;"><b>Plan</b></p> <p>1. Introduction. Diseases caused by macro-violation of their classification, features of the flow, distribution. 2. Bone Disease alimentary 3. Secondary osteodystrophy cows 4. The secondary osteodystrophy bulls 5. Postpartum hypocalcemia</p>	<b>2</b>
6	<p><b>Theme 9. Diseases caused by metabolic disorders</b></p> <p style="text-align: center;">Plan.</p> <p>1. Mikroelementozy. Distribution, diagnosis, prevention. 2. Gipokobaltoz</p>	<b>2</b>
7.	<p><b>Theme 9. Diseases caused by metabolic disorders</b></p> <p style="text-align: center;">Plan</p> <p>1. Hypovitaminosis. I classifications of vitamins and vitamin-like substances. 2. Lack of fat-soluble vitamins.</p>	<b>2</b>
	<b>Together for 7 semester</b>	<b>14</b>
<b>8 semester</b>		
1.	<p><b>Theme 10. Diseases endocrine organs.</b></p> <p style="text-align: center;">Plan</p>	<b>2</b>



	<p>1. The study of the causes and mechanisms of endocrine diseases.</p> <p>2. Dysfunction of the hypothalamus and pituitary.</p> <p>3. Diabetes insipidus. adrenal disease hypoadrenocorticism and Cushing's syndrome. Endocrine pancreatic function. Diabetes.</p>	
2.	<p><b>Theme 11. Diseases of the skin.</b></p> <p style="text-align: center;">Plan</p> <p>1. Allergic skin diseases: eczema, urticaria, atopic dermatitis, brazhnoy slimy.</p> <p>2 .Autoimmune skin diseases: bullous dermatitis, discoid lupus erythematosus. Dermatosparaksiya.</p> <p>3. Differential diagnosis of skin diseases. Diseases of the skin glands: seborrhea, sweat gland dysfunction, pyoderma. Symptoms of skin lesions: alopecia, excessive hair growth, skin pigmentation and hair, itchy skin. Psychogenic skin lesions syndrome.</p>	<b>2</b>
3.	<p><b>Theme 12. Disease of young animals.</b></p> <p style="text-align: center;">Plan:</p> <p>1. Introduction, classification of diseases of young animals.</p> <p>2. Immune protection of the newborn calves.</p> <p>3. young immunodeficiency condition</p>	<b>2</b>
4.	<p><b>Theme 12. Disease of young animals</b></p> <p style="text-align: center;">Plan:</p> <p>1. Dyspepsia: definition of the disease, the spread of</p> <p>2. The etiology and pathogenesis of dyspepsia.</p> <p>3. Clinical signs and pathological changes.</p>	<b>2</b>
5.	<p><b>Theme 12. Disease of young animals</b></p> <p style="text-align: center;">Plan:</p> <p>1. Clinical signs and pathological changes.</p> <p>2. Diagnosis. Differential diagnosis. Forecast.</p> <p>3. Treatment and prevention.</p>	<b>2</b>
6.	<p><b>Theme 12. Disease of young animals</b></p> <p style="text-align: center;">Plan:</p> <p>1. Metabolic diseases (rickets). Definition of the disease.</p> <p>2. Etiology, pathogenesis and clinical signs of the disease (symptoms).</p> <p>4. pathologic changes</p> <p>5. The course and prognosis</p> <p>6. Diagnosis. Treatment and prevention.</p>	<b>4</b>
7.	<p><b>Theme 12. Disease of young animals</b></p> <p style="text-align: center;">Plan:</p> <p>1. Metabolic diseases (paraceratosis). Definition of the disease.</p> <p>2. Etiology, pathogenesis and clinical signs of the disease (symptoms).</p> <p>4. pathologic changes</p> <p>5. The course and prognosis</p> <p>6. Diagnosis. Treatment and prevention.</p>	<b>2</b>
	<b>At 8 semester</b>	<b>16</b>
	<b>Together</b>	<b>30</b>

## 6. TOPICS laboratory classes

# p / p	Topic Title	N g h.
<b>7 semester</b>		
1.	<b>Theme 1. Sparrow and liver and biliary tract.</b> 1. Consideration of the liver and biliary tract diseases (hepatitis and cirrhosis, cholelithiasis, cholecystitis, cholangitis). 2. Animal studies with liver diseases 3. Examination and registration of medical history	<b>4</b>
2.	<b>Theme 2. Diseases of peritoneum.</b> 1. Animal studies with the disease of the peritoneum. 2. Diagnosis. 3. Conducting differential diagnosis. 4. Purpose of treatment. 5. Development of prevention activities.	<b>2</b>
3.	<b>Theme 3: Diseases of the Pancreas.</b> 1. Consideration of pancreatic diseases. Pancreatitis. 2. Conducting diagnosis in animals and the development of therapeutic and preventive measures in pancreatic diseases	<b>2</b>
4.	<b>Subject 4. Renal and urinary tract.</b> 1. Examination and study of methods of diagnosis, differential diagnosis, treatment and prevention of renal diseases (nephritis, nephrosis, nephrosclerosis). 2. Studies of animals with kidney disease 3. Making history	<b>2</b>
5.	<b>Theme 7. Diseases of the nervous system.</b> 1. Consideration of diseases of the nervous system. 2. Studies of animals with diseases of the nervous system. 3. Diagnosis, treatment purposes. 4. Consideration of case histories.	<b>4</b>
6	<b>Topic 6. Diseases of the blood system.</b> 1. Studies of animals with diseases of the blood system. 2. Registration and review of medical history 3. Diagnosis, treatment purposes, the development of prevention activities.	<b>4</b>
7	<b>Theme 7. Diseases of the immune system.</b> 1. Consideration of diseases of the immune system. 2. Studies of animals with diseases of the immune system. 3. Diagnosis, treatment purposes. 4. Consideration of case histories.	<b>2</b>
8	<b>Theme 8. Allergic diseases (allergies).</b> 1. Consideration of the main mechanisms of allergic reactions. 2. Consideration of the basic principles and methods of diagnosis and treatment of allergic diseases. 3. Research animals, staging diagnosis, prescribing treatment.	<b>2</b>
9	<b>Subject 9. Diseases caused by metabolic disorders.</b> 1. Animal studies with the pathology of metabolism. 2. Registration and review of medical history, diagnosis study, purpose of	<b>8</b>

	treatment.	
	<b>Together for 7 semester</b>	<b>30</b>
<b>8 semester</b>		
1	<b>Topic 10. Diseases of the endocrine organs.</b> 1. Consideration of diseases of the endocrine system (diabetes mellitus, diabetes insipidus), adrenal disease (hypoadrenocorticism, Cushing's syndrome). 2. Consideration of diseases of the parathyroid glands. 3. Animal studies with the pathology of the endocrine system. 4. Diagnosis, treatment and prevention of endocrinopathies. 5. Consideration of case histories, diagnosis and its rationale, the purpose of the treatment and the development of preventive measures.	<b>2</b>
2	<b>Topic 11. Diseases of the skin.</b> 1. Consideration of the etiology and pathogenesis, diagnosis and treatment of skin diseases. Main syndromes lesions of the skin and skin glands. 2. Studies of animals with skin disorders. 3. Familiarization with the diagnosis, treatment and prevention of skin diseases 4. Making history	<b>2</b>
3	<b>Topic 12. Diseases young.</b> 1. The study of etiology and pathogenesis, diagnosis and treatment of diseases of young animals: antenatal malnutrition 2. The study of etiology and pathogenesis, diagnosis and treatment of diseases of young animals: acute hypoxia intra - and neonatal periods	<b>4</b>
4	<b>Topic 12. Diseases young.</b> 1. The study of etiology and pathogenesis, diagnosis and treatment of diseases of young animals. Casein-bezoarnaya disease. 2. Animal studies with acute gastro-intestinal disorders 3. Diagnosis and differential diagnosis 4. Carrying rehydration therapy 5. The development of therapeutic and preventive measures 6. Making history	<b>6</b>
	<b>At 8 semester</b>	<b>14</b>
	<b>Together</b>	<b>44</b>

### 7. SELF OPERATION

# p/p	The title and content of the modules and their components	# of h.
<b>7 semester</b>		
1	<b>Theme 1.</b> Diseases of the liver and biliary tract. Syndromes liver and bile ducts. Study of hepatic and biliary tract. Purulent hepatitis, liver amyloidosis.	<b>10</b>
2	<b>Theme 2.</b> Diseases of peritoneum. The study of peritoneal disease. Peritonitis and ascites.	<b>4</b>
3	<b>Theme 3.</b> Diseases of the Pancreas. The study of pancreatic diseases. Cyst, and pancreatic tumors.	<b>4</b>
4	<b>Theme 4.</b> Disorders of the kidneys and urinary tract. Acute and chronic renal failure. Nephrosclerosis. renal abscess. Hydronephrosis.	<b>4</b>

5	<b>Theme 5.</b> Diseases of the nervous system. Syndromes, diseases of the nervous system. Functional neurological diseases: epilepsy, eclampsia, stress syndrome, BSE.	<b>2</b>
6	<b>Theme 6.</b> Diseases of the blood system. Hemoglobinuria postpartum cows. Hemorrhagic diathesis.	<b>4</b>
7	<b>Subject 7.</b> Diseases of the immune system. Cellular and humoral factors of immune protection. Proliferative diseases of the immune system and excessive activity of the immune state.	<b>2</b>
8	<b>Subject 8.</b> Allergic diseases and. Allergies to medications and insect bites.	<b>2</b>
9	<b>Subject 9.</b> Diseases caused by metabolic disorders.	<b>14</b>
	<b>Together for 7 semester</b>	<b>46</b>
<b>8 semester</b>		
1	<b>Topic 10.</b> Diseases of the endocrine organs. The principles of the regulation of the endocrine glands. Diffuse toxic goiter.	<b>4</b>
2	<b>Topic 11.</b> Diseases of the skin. Diseases of the skin glands: seborrhea, sweat gland dysfunction, pyoderma. Symptoms of skin lesions: alopecia, excessive hair growth, skin pigmentation and hair, itchy skin. Psychogenic skin lesions syndrome.	<b>6</b>
3	<b>Theme 12.</b> Diseases and young omphalitis omfaloflebit. Metabolic diseases of young animals: hypoglycemia, aplastic anemia of piglets, calves and lambs; D -gipovitaminoz (rickets) young white muscle disease; enzootic ataxia lambs. Digestive diseases. Periodic tympanum of the rumen in calves and lambs. Bezoarnaya disease.	<b>20</b>
	<b>At 8 semester</b>	<b>30</b>
<b>Total:</b>		<b>76</b>

## 8. EXPOSURE PROBLEM

*one.* Carrying out of laboratory research and diagnosis of animal diseases

## 9. METHODS OF TEACHING

### 1. Methods of teaching Knowledge source:

- 1.1. *verbal* : Story, explanation, conversation (heuristic and reproductive), working with a book (reading, writing out, scheduling, note-taking, the production of tables, graphs, etc.).
- 1.2. Object: a demonstration, illustration, observation.
- 1.3. Practical: laboratory method.

### 2. Teaching methods on the nature of logic knowledge.

- 2.1. Analytical.
- 2.2. Methods of synthesis.

### 3. Methods of teaching on the nature and level of self mental activity of students.

- 3.1. Problem (problem-informational)

3.2. Partially-search (heuristic)

3.3. Research

4. Active learning methods - use of means of training, the use of problematic situations, excursions, classes at work, self-knowledge, simulation teaching methods (built on the simulation of future professional activity), the use of training and supervising of tests, the use of reference lecture notes, etc.).

5. **Interactive learning technology** - the use of multimedia technologies.

## 10. Methods of control

- Rating control on a 100-point scale evaluation of ECTS
- Conducting the intermediate control during the term (intermediate certification)
- Assessment of the current work of students:
  - ❖ - results of performance and protection of laboratory work;
  - ❖ - rapid control during the classroom;
  - ❖ - independent processing threads in general or on specific issues;
  - ❖ - writing essays;
  - ❖ - test results;
  - ❖ - written assignments during the examinations;
  - ❖ - industrial situation.
- Direct account in the final assessment of a student's specific individual tasks:
  - ❖ - teaching and research work.

## 11. The distribution of points, which are obtained STUDENTS (offset)

Current testing and independent work									CDS	Togethe r, the module s and CDS	validation	sum
Content module 1				Substantial Module 2								
T1	T2	T3	T4	T5	T6	T7	T8	T9	15	85 (70 + 15)	15	100
10	5	5	5	5	5	10	5	15				
25				45								

### DISTRIBUTION POINTS TO GET STUDENTS (TEST)

Current testing and independent work			CDS	Togeth er, the module s and CDS	validation	Final test	sum		
Content module 3		Substantial modul4							
T10	T11	T12	T13	T14	15	55 (40 + 15)	15	30	100
5	5	10	10	10					
20			20						

### 12. RATING SCALE: national and ECTS

The sum of points for all kinds of learning activities	Evaluatio n of ECTS	Based on a national scale	
		for examination, course project (work), practice	for credit
90 - 100	<b>A</b>	fine	<b>credited</b>
82-89	<b>B</b>	OK	
75-81	<b>C</b>		
69-74	<b>D</b>	satisfactorily	
60-68	<b>E</b>		
35-59	<b>FX</b>	unsatisfactorily with possibility of re-drafting	<b>not credited with re- drafting</b>
<b>1-34</b>	<b>F</b>	<b>unsatisfactorily with the mandatory repeated study of discipline</b>	<b>not credited with a mandatory re- examination of discipline</b>

### 13. METHODOICAL SUPPORT

1. Toolkit to work independently "Diseases of the urinary system." / Ulko LG, Musienko VM Sklyar AI Musienko AV, AS Kisterna - Sumy: RIO SNAU, 2015. - 46 p.
2. Toolkit to work independently, "Diseases of the nervous system." / Ulko LG, Musienko VM Sklyar AI Musienko AV, AS Kisterna - Sumy: RIO SNAU, 2015. - 66 p.
3. "Diseases of the immune system," a manual for self-study. / Ulko LG, Musienko VM Sklyar AI Musienko AV, AS Kisterna - Sumy: RIO SNAU, 2015. - 38 p.
4. Good personal hygiene and safety at work in the study of diseased animals and providing them with medical care. / Ulko LG, Musienko VM Musienko AV, AS Kisterna - Sumy: RIO SNAU, 2015. - 17 p.
5. Handbook for independent work "Poisoning toxins feed and feed additives." / Ulko LG, Musienko VM Sklyar AI Musienko AV, AS Kisterna - Sumy: RIO SNAU, 2015. - 50 s.
6. Handbook for independent work "Diseases of the skin." / Ulko LG, Musienko VM Sklyar AI Musienko AV, AS Kisterna - Sumy: RIO SNAU, 2015. - 19 p.
7. Handbook for independent work "Diseases of fur animals." / Musienko AV Ulko LG, Musienko VM Kisterna AS - Sumy: RIO SNAU, 2015. - 38 p.

#### 14. RECOMMENDED READING

num ber	Vie w	Title
1	<b>The main</b>	Vnutrishni hvorobi tvarin / V.I. Levchenko, I.P. Kondrahin, MO Pike that in .; For Ed .. V.I. Levchenko. - Bila Church, 1999 - Part 1 - 376.
2		Vnutrishni hvorobi tvarin / V.I.Levchenko, I.P.Kondrahin, V.V.Vlizlo that in .; For red. V.I. Levchenko. - Bila Church, 2001 - Part2. - 544 p.
3		Veterinary klinichna biohimiya / V.I.Levchenko, V.V.Vlizlo, I.P.Kondrahin, that in .; For red. V.I. Levchenko. - Bila Church, 2002. - 400 p.
4		Veterinary klinichna biohimiya: The Teaching posibnik, M.I. Kartashov that OP Tymoshenko. - Kharkiv: Espada, 2010. - 400c.
5		Veterinary klinichna gematologiya: The Teaching posibnik / OI Sukmansky, S.I. Ulizko; For Ed .. OI Sukmanskogo. - Odes: WWII, 2009. - 168 p.
6		Vnutrishni hvorobi tvarin: Workshop / M.I. Tsviliovsky, V.I.Bereza, VS Sichkar that in.- K .: Aristey, 2004. - 140 p.
7		Godivlya silskogospodarskih tvarin: pidruchnik / I.I. Ibatulin, DO Melnichuk, GO Bogdanov is the in .; For red. I.I. Ibatulina. - Vinnitsa, Nova Book, 2007. - 616 p.
8		Zagalna terapiya i profilaktika vnutryshnih hvorob tvarin: Workshop / V.I.Levchenko, I.P.Kondrahin, L.M.Bogatko that in .; For red. V.I.Levchenka. - Bila Church, 2000. - 224 p.
9		Klinichna diagnostika vnutrishnih hvorob tvarin / V.I.Levchenko, V.V.Vlizlo,I.P.Kondrahin, that in .; For Ed V.I.Levchenka. - Bila Church, 2004. - 608 p.
10		Klinichna veterinary pharmacology / OI Buzzard, WR. Faytelberg Blanc, JP Lizogub that in .; For red. OI Buzzards. - Odes: Astroprint, 2006. - 291 p.
11		Kondrahin IP Diagnosis and therapy of internal diseases of animals. - M .: the Aquarium-print, 2005. - 830 p.
12		Lokes P.I. Likarski Roslin: pidruchnik / P.Y. Lokes, Y.G. Panasenko. - Poltava: Dovkillya, 2010. 264 p.
13		Metodi laboratornoï klinichnoï diagnostiki hvorob tvarin: navch. aider / V.Y. Levchenko, V.Y. Golovakha, Y.P. Kondrahin that in .; For Ed .. V.I. Levchenko. - Kiev: Agricultural Osvita, 2010. - 437 p.
14		Kondrahin IP Endocrine, allergic, and autoimmune diseases in animals: a handbook. - M .: Colossus, 2007. - 251 p.
15		Vnutrishni hvorobi tvarin / M.O.Sudakov, M.I. Tsviliovsky, V.I.Bereza that in .; For red. M.O.Sudakova. - K .: Meta, 2002. - 352 p.
16		Diseases of Dogs / A.D.Belov, E.P.Danilov, I.I.Dukur etc. -. M .: Ear, 1995. - 368 p.
17		Bratyuha SI Diseases of fur animals. K., Vintage, 1987. - 243 p.
18		Diseases of dogs and cats: Textbook / S.V.Starchenkov. - SPb .: Lan, 2001. - 560 p.
19		Veterinary medical examination of farm animals: Reference / V.I.Levchenko, N.A.Sudakov. G.G.Haruta etc .; Ed. V.I.Levchenko K .: Harvest. 1991.-304 with.
20		Internal Medicine Animal / G.G.Scherbakov, A.V.Korobov, B.M.Anohin etc .; Under. Society. Ed. G.G.Scherbakova, A.V.Korobova. - SPb .: Lan, 2002.-736 with.

21		Internal non-communicable diseases of farm animals / I.G.Sharabrin, V.A.Alikaev, L.G.Zamarin etc .; Ed. I.G.Sharabrina. - M .: Agropromizdat, 1985. - 527 p.
22		Domestic non-communicable diseases selskohozyaystvsnyh animals / BM Anokhin, VM Danilevskiy G.Zamarin L. et al .; Ed. VM Danilevsky. M .: Agropromizdat, 1991. - 575 p.
1	Additional	Karput IM Immunology and immunopathology young disease. - Minsk: Uradzhay, 1993 - 288 p.
2		Kondrahin IP Nutritional and endocrine diseases of animals. - M .: Agropromizdat, 1989. - 256 p.
3		Mikroelementozi silskogospodarskih tvarin / M.O.Sudakov, V.I.Bereza, I.G.Pogursky that in .; For red. M.O.Sudakova. - 1991. - 144 p.
4		Non-communicable disease of young animals / I.M.Karput, F.F.Prohorov, S.S.Abramov etc .; Ed. THEM. Karput. - Minsk: Uradzhay, 1989. - 240 p.
5		Non-communicable diseases of horses / IA Kalashnikov, DD Logvinov, S.I.Smirnov etc. -. M .: Agropromizdat, 1990. - 272 p
6		Workshop on internal non-contagious animal diseases / VM Danilevsky, IP Kondrahin, A.V.Korobov etc .; Ed. V.M.Danilevskogo, IP Kondrahina. - M .: Kolos, 1992. - 271