

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
SUMY NATIONAL AGRARIAN UNIVERSITY

Vetsanexamination, microbiology, zoo hygiene, safety and quality of animal products Chair

“CONFIRMED”

Chief of Vetsanexamination, microbiology,  
zoo hygiene, safety and quality  
of animal products

Chair  (T. I. Fotina)

\_\_\_\_\_ 2020

CURRICULUM

II.II.07 Veterinary sanitary examination

Training direction: 211 "Veterinary Medicine"


Educational program: OPP "Veterinary Medicine"


Faculty: Veterinary Medicine

2020 – 2021 academic year

Curriculum of Veterinary sanitary examination was worked out for the 4-year students of training direction 211 "Veterinary Medicine"

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Curriculum has been approbated on the Vetsanexamination, microbiology, zoohygiene, safety and quality of animal products Chair  
Protocol № 18 from "25" June 2020

Chief of Vetsanexamination, microbiology, zoohygiene, safety and quality of animal products Chair (  ) (Doctor, prof. T. I. Fotina)

Coordinated by:

Guarantor of the educational program (  ) (L. H. Ulko)

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Registered in electronic data base 02.07. 2020

## 1. Curriculum description

Name of indicators	Branch of knowledge, direction of training, educational-qualification level	Characteristics of the discipline	
		full-time education	
Number of loans- autumn semester-3.0 spring semester -2,0	Branch of knowledge: <b>21 Veterinary Medicine</b> Training direction:	<b>Normative</b>	
Modules -Autumn semester -2; Spring semester -2	<b>Specialty: 211 Veterinary Medicine</b>	<b>Year of training:</b>	
Content modules: Autumn semester -2; Spring semester -2		2020-2021	
		<b>Course</b>	
		4	
		<b>Semester</b>	
The total number of hours of the autumn semester is 60 Spring semester -60		7th-8	
		<b>Lectures</b>	
Weekly hours for full-time study: autumn semester: classroom -3 independent work of the student-1 spring semester: classroom -1 independent work of the student -4	Education level: magister	autumn semester - <b>16</b> Spring semester-10	
		<b>Practical, seminars</b>	
		<b>Laboratory</b>	
		autumn semester - <b>30</b> Spring semester-10	-
		<b>Independent work</b>	
		autumn semester -14 spring semester-40	
		Type of control:	
Autumn semester – the <i>score</i> spring semester- <b>exam</b>			

Correlation of numbers of classes to independent and individual work is – 70%/30% (40/60).

## **1.Purpose and objectives of the discipline**

**Purpose:**The purpose of studying the discipline is to study a complex of sanitary-hygienic, diagnostic and special studies of food (meat, milk, fish, eggs, honey) and raw materials (leather, wool) of animal and vegetable products for the purpose of scientifically substantiated veterinary and sanitary assessment these products.Prevention of human diseases by anthroposoonoses and other diseases transmitted through livestock products.

**Task:**To conduct veterinary and sanitary examination of products of animal and vegetable origin.Identify antropozoonozniand zoonotic diseases andhatm veterinary and sanitary assessment with them.Be able to carry out a veterinary and sanitary evaluation of livestock products in these diseases with the maximum economic efficiency and safety of people.

As a result of studying the discipline, the student must:

### ***Autumn semester:***

#### **Students must know:**

**Module 1:**Veterinary and sanitary requirements for slaughter animals and plants.Post-mortemchanges in meat, biological value and commodity evaluation, hygiene of processing of slaughtered animals, and the method after the slaughter inspection of carcasses and organs, rules for the transport of slaughtered animals.

**Module 2:**veterinary and sanitary assessment of carcasses for infectious diseases in the meat-packing plant and market,veterinary-sanitary assessment of carcasses for invasive and non-contagious diseases of animals.Etiology and pathogenesis of food poisoning and toxicosis, methods of diagnosis and prevention of these diseases.

#### **Students should be able to:**

**Module 1:** Determine the species belonging to the meat, determine the meat of diseased animals and animals killed in agony.

**Module 2:** Todetermine the meat and internal organs obtained from diseased animals, tocarry out laboratory investigations of carcasses and organs in order to exclude infectious diseases.Conduct research on meat and smoked products for the identification of pathogens of toxic infections.

### **Spring semester:**

#### **Students must know:**

**Module 1** Basis of technology of processing and veterinary and sanitary examination of by-products, edible fat, blood, intestinal and endocrine raw materials. Fundamentals of technology, hygiene of milk production and processing, indicators of quality and safety of milk, methods for controlling the naturalness of milk, veterinary and sanitary examination of milk in animal diseases; bases of production technology and veterinary-sanitary examination of dairy and dairy products.

**Module 2:** Chemical composition, nutritional value, commodity classification of eggs and veterinary examination of eggs in poultry diseases; chemical composition, nutritional value, classification of industrial fish species, veterinary and sanitary examination in diseases and poisonings of fish. Food mentioned chemical composition and biological value of honey, honey in classification, veterinary and sanitary examination of honey and bee products for diseases of bees.

**Students should be able to:**

**Module 1:** Carry out an organoleptic assessment of fermented fats, determine the degree of freshness of fat, conduct techno-chemical studies of the quality of food fats. To carry out the organoleptic studies of drinking milk, to determine the purity of milk, the impurities of abortive milk in the combined, to conduct microbiological studies of milk, control of the naturalness of milk; to conduct organoleptic studies, physical and chemical research and control of the naturalness of dairy products.

**Module 2:** carry out sampling, external examination, organoleptic studies and ooscopy of food eggs; to conduct sampling, external inspection, organoleptic and physico-chemical studies of fresh, salty and smoked fish and fish products. Provide organoleptic evaluation and laboratory research of honey and bee products.

**Program of the discipline**

Work curriculum is based on the curriculum on veterinary and sanitary expertise on the basics of technology and standardization of livestock products approved by the Department of Personnel Policy, Agrarian Education and Science of the Ministry of Agrarian Policy of Ukraine (05.03.2016p) and the curriculum approved by the rector of the SNAU for 2020-2021 n.r.

**Autumn semester**

**Module 1.** Slaughter animals, their transportation, pre-slaughter and slaughter, the method of inspection of carcasses and internal organs. Morphology, chemistry and commodity study of meat.

**Theme 1:** Veterinary and sanitary principles of preparation of animals and poultry before slaughter. Transportation of slaughtered animals. Introduction. Historical essay on the history of veterinary examination. Raw materials for meat industry.

**Theme 2:** Veterinary and sanitary requirements for harvesting, transportation and pre-slaughter of animals. Cases in which it is abandoned to send to slaughtered animal enterprises. Transportation of animals. Means of transport.

**Topic 3:** Basics of technology and hygiene of processing of slaughter animals. Organization and method of inspection of carcasses and internal organs. Stunning slaughter animals. Nutrition of animals. Disassembling carcasses of animals. Points of veterinary and sanitary examination. Features of the technological conveyor of animals of different species

**Module 2. Veterinary and sanitary examination of animal slaughter products in case of detection of diseases, poisonings, food infections Changes in meat during storage. Fundamentals of technology and hygiene for preserving meat and meat products.**

**Theme4:** Veterinary and sanitary examination of products of slaughter of animals in case of disease detection. Foot and mouth disease, anaerobic dysentery of lambs. Siberia, Listeriosis, Pasteurellosis. Bacteremia of pigs. Rabies. Aujeszky's disease will be eradicated. Brucellosis. Swine flu. A classic plague of pigs. Malignant edema. Infectious anemia of horses. Q-fever. Tuberculosis. Pseudotuberculosis.

**Topic5:** Veterinary and sanitary examination of products of slaughter of animals in case of detection of invasive diseases. Cysticercosis of cattle. Trichinosis. Echinococcosis. Fascioliasis. Dicrocoeliasis. Pyroplasmiasis. Cerebral encephalitis. Sarcosporidiosis. Ascariasis of pigs. Toxocarosis (neostosis). Trypanosomiasis of ruminants. Metastrongylosis of pigs. Dictyocaulosis of ruminants. Toxoplasmosis. Hypodermatitis of cattle. Estrus

**Theme 6.** Veterinary and sanitary examination of products of slaughter of animals in case of detection of non-communicable diseases. Veterinary examination and evaluation of slaughter products in the case of non-communicable diseases. Veterinary expertise and evaluation of slaughter products in poisoning of animals. Veterinary examination and evaluation of slaughter products when processing animals with veterinary drugs.

**Theme7:** Fundamentals of technology, hygiene of production and veterinary examination of sausages. Introduction. Classification of sausage products; Requirements for raw materials and materials. The technology of making sausage products. Production of meat of smoked meat. Control at the sausage shop; Veterinary and sanitary examination of sausage and smoked products; Defective spoilage of sausages and smoked products.

**Theme8:** The basics of the technology of making canned meat. Fundamentals of canning production technology; classification of canned food; cans; technological process of production of canned cans; main types of raw materials used for making canned food; veterinary and sanitary control in canning industry; canned food defects.

**Spring semester**

**Module 1. Fundamentals of technology and veterinary-sanitary examination of by-products, edible fats, blood, intestinal, endocrine and technical raw materials.**

Fundamentals of technology, hygiene of reception, veterinary and sanitary examination of milk, milk and lactic acid products

**Theme 1** Fundamentals of technology and veterinary and sanitary examination of by-products. Classification of by-products. Fundamentals of processing of by-products. Veterinary and sanitary examination of by-products. Fundamentals of processing technology and veterinary examination of edible fats. Basics of processing technology and veterinary examination of blood. Basics of processing technology and veterinary examination of intestinal raw materials. Fundamentals of processing technology and veterinary examination of endocrine raw materials.

**Theme2.** Fundamentals of technology, hygiene of obtaining and veterinary and sanitary examination of milk. Fundamentals of technology, milk hygiene. Indicators of quality and safety of milk. Characteristics of milk of different species of animals.

Veterinary and sanitary evaluation of milk from animals infected with diseases. Veterinary and sanitary evaluation of milk from animals infected with non-communicable diseases. Veterinary and sanitary evaluation of milk when poisoning animals. Veterinary and sanitary evaluation of milk in the treatment of antibiotics.

## **Module 2. Veterinary and Sanitary Expertise of Food Eggs, Fish and Meat of Sea Mammals and Honey**

**Theme3.** Veterinary and sanitary examination of food eggs. Nutritional value of eggs. Structure and chemical composition of eggs. Commodity classification of food eggs. Veterinary and sanitary examination of food eggs in case of infectious diseases of poultry. Waste of food eggs

**Topic4.** Veterinary and sanitary examination of fish and meat of marine mammals. The nutritional and biological value of marine mammal fish. The chemical composition of fish meat. Classification of industrial fish species. Veterinary and sanitary examination for infectious diseases of fish. Veterinary and sanitary examination for poisoning of fish.

**Theme5.** Veterinary and sanitary examination of honey and beekeeping products. Nutritional value and biological value of honey. The chemical composition of honey. Classification of honey. Veterinary and sanitary examination of honey and beekeeping products in diseases of bees.

### **4. Structure of the discipline**

#### **Autumn semester**

Names of content modules and themes	Number of hours				
	Full-time				
	Total	including			
		lec		lab	ind
1	2	3			
<b>Module 1. Slaughter animals, their transportation, pre-slaughter and slaughter, the method of inspection of carcasses and internal organs. Morphology, chemistry</b>					

<b>and commodity study of meat.</b>						
<b>Theme 1:</b> Veterinary and sanitary principles of preparation of animals and poultry before slaughter.	<b>8</b>	<b>2</b>		<b>2</b>	<b>2</b>	
<b>Theme 2:</b> Veterinary and sanitary requirements for harvesting, transportation and pre-slaughter of animals.	<b>8</b>	<b>2</b>		<b>2</b>	<b>2</b>	
<b>Theme 3:</b> Fundamentals of technology and hygiene of processing of slaughter animals. Organization and method of inspection of carcasses and internal organs	<b>6</b>	<b>2</b>		<b>2</b>	<b>2</b>	
<b>Total for 1 content modules</b>	<b>22</b>	<b>6</b>		<b>6</b>	<b>6</b>	
<b>Module 2. Veterinary and sanitary examination of products of slaughter of animals in case of detection of diseases, poisonings, food infections. Changes in meat during storage. Fundamentals of technology and hygiene for preserving meat and meat products</b>						
<b>Theme4:</b> Veterinary and sanitary examination of products of slaughter of animals in case of detection of infectious diseases.	<b>8</b>	<b>2</b>		<b>4</b>	<b>2</b>	
<b>Theme5:</b> Veterinary and sanitary examination of products of slaughter of animals in the event of the detection of invasive diseases.	<b>8</b>	<b>2</b>		<b>4</b>	<b>2</b>	
<b>Theme6:</b> Veterinary and sanitary examination of products of slaughter of animals in the case of non-communicable diseases.	<b>8</b>	<b>2</b>		<b>4</b>	<b>2</b>	
<b>Theme7:</b> Fundamentals of technology, hygiene of production and veterinary examination of sausages.	<b>6</b>	<b>2</b>		<b>4</b>	<b>-</b>	
<b>Theme8:</b> Fundamentals of technology, hygiene of production and veterinary examination of wicker products. Foundation technology production of canned meat. Veterinary expertise in meat canning	<b>8</b>	<b>2</b>		<b>4</b>	<b>2</b>	
<b>Total for 1 content modules</b>	<b>38</b>	<b>10</b>		<b>24</b>	<b>8</b>	
<b>In a year</b>	<b>60</b>	<b>16</b>		<b>30</b>	<b>14</b>	

### Spring semester

Names of content modules and themes	Number of hours	
	Full-time	
	Total	including



		lec		lab	ind	
1	2	3				
<b>Module 1. Fundamentals of technology and veterinary-sanitary examination of by-products, edible fats, blood, intestinal, endocrine and technical raw materials. Fundamentals of technology, hygiene of reception, veterinary and sanitary examination of milk, milk and lactic acid products</b>						
<b>Theme 1.</b> Fundamentals of technology and veterinary-sanitary examination of by-products Fundamentals of technology and veterinary-sanitary examination of edible fat, blood, intestinal and endocrine raw materials.	12	2		2	8	
<b>Theme 2 .</b> Fundamentals of technology, hygiene of obtaining and veterinary and sanitary examination of milk. Veterinary and sanitary evaluation of milk from animals infected with diseases, non-contagious diseases, with poisoning and treatment with antibiotics.	12	2		2	8	
<b>Total for 1 content modules</b>	<b>24</b>	<b>4</b>		<b>4</b>	<b>16</b>	
<b>Module 2. Veterinary and Sanitary Expertise of Food Eggs, Fish and Meat of Sea Mammals and Honey</b>						
<b>Theme3.</b> Veterinary and sanitary examination of food eggs.	10			2	8	
<b>Theme4</b> Veterinary and sanitary examination of fish and meat of marine mammals.	14	4		2	8	
<b>Theme5.</b> Veterinary and sanitary examination of honey and beekeeping products	12	2		2	8	
<b>Total for 2 content modules</b>	<b>36</b>	<b>6</b>		<b>6</b>	<b>24</b>	
<b>Total hours</b>	<b>60</b>	<b>10</b>		<b>10</b>	<b>40</b>	

## 5. Themes and lecturese plan

### Autumn semester

	Topic	Number hours
1	Theme 1: Veterinary and sanitary principles of preparation of animals and poultry before slaughter Plan 1. Introduction. 2. Historical essay on the history of veterinary examination. 3. Raw materials for meat industry.	2

2	<p>Theme 2:Basics of technology and hygiene of processing of slaughter animals.Organization and method of inspection of carcasses and internal organs.</p> <p style="text-align: center;">Plan.</p> <ol style="list-style-type: none"> <li>1. Stunning slaughter animals.</li> <li>2. Nutrition of animals.</li> <li>3. Disassembling carcasses of animals.</li> <li>4. Points ALL.</li> <li>5. Features of the technological conveyor of animals of different species</li> </ol>	2
3	<p>Topic 3:Veterinary and sanitary examination of animal slaughter products in case of disease detection.</p> <p style="text-align: center;">Plan.</p> <ol style="list-style-type: none"> <li>1. Foot and mouth disease, anaerobic dysentery of lambs.</li> <li>2. Siberia, Listeriosis, Pasteurleozes.</li> <li>3. Bashiha of pigs. Rabies. Aujeszky's disease, bradzot.</li> </ol>	2
4	<p>Topic 3:Veterinary and sanitary examination of animal slaughter products in case of disease detection.</p> <p style="text-align: center;">Plan.</p> <ol style="list-style-type: none"> <li>1. Brucellosis.Swine flu.A classic plague of pigs.</li> <li>2. Malignant edema.Infectious anemia of horses.</li> <li>3.Ku-fever.Tuberculosis.Pseudotuberculosis.</li> </ol>	
5	<p>Theme 4:Veterinary and sanitary examination of products of slaughter of animals in case of detection of invasive diseases.</p> <p style="text-align: center;">Plan.</p> <ol style="list-style-type: none"> <li>1. Cysticercosis of cattle</li> <li>2. Trichinosis</li> <li>3. Echinococcosis</li> <li>4. Fasciolysis</li> <li>5. Dicroceliasis</li> <li>6. Pyroplasmizoses</li> <li>7. Cenurosis iscerebral</li> <li>8. Sarcocystosis</li> <li>9. Ascariasis ofpigs</li> <li>10. Toxocarosis(neoastarosis).</li> <li>11. Tryhostronhildozyruminants.</li> <li>12. Metastrongylosispigs.</li> <li>13. Dictyocaulosis of ruminants</li> <li>14. Toxoplasmosis</li> <li>15. Hypodermosisof cattle</li> <li>16. Estrus</li> </ol>	2
6	<p>Theme 5:Veterinary and sanitary examination of products of slaughter of animals in case of detection of non-communicable diseases.</p> <p style="text-align: center;">Plan.</p> <ol style="list-style-type: none"> <li>1. Veterinary examination and evaluation of slaughter products</li> </ol>	2

	<p>in the case of non-communicable diseases</p> <ol style="list-style-type: none"> <li>2. Vetsanexpertiza and evaluation of slaughter products in poisoning of animals with organic compounds</li> <li>3. Veterinary examination and evaluation of slaughter products when processing animals with veterinary drugs.</li> <li>4. Veterinary examination and evaluation of slaughter products when poisoning animals with inorganic compounds</li> </ol>	
7	<p>Theme 6: Fundamentals of technology, hygiene of production and veterinary examination of sausages.</p> <p>Plan.</p> <ol style="list-style-type: none"> <li>1. Introduction. Classification of sausage products;</li> <li>2. Requirements for raw materials and materials.</li> <li>3. Meat-meat production</li> <li>4. Control at the sausage shop;</li> <li>5. Veterinary and sanitary examination of sausage and smoked products;</li> <li>6. Defective spoilage of sausages and smoked products.</li> </ol>	2
8	<p>Theme 7: The basics of the technology of making canned meat. Plan.</p> <p>Fundamentals of canning production technology;</p> <ol style="list-style-type: none"> <li>1. Classification of canned food;</li> <li>2. Cans;</li> <li>3. Technological process of production of canned cans;</li> <li>4. The main types of raw materials used for making canned food;</li> <li>5. Veterinary and sanitary control in canning industry;</li> <li>6. Canned food defects</li> </ol>	2
	Together	16

### Spring semester

	Title of topic	Number hours
1	<p><b>Theme 1:</b> Fundamentals of technology and veterinary-sanitary examination of by-products. Fundamentals of Technology and Veterinary and Sanitary Expertise of Edible Fat, Blood, Intestinal and Endocrine Raw Materials</p> <p>Plan</p> <ol style="list-style-type: none"> <li>1. Classification of by-products</li> <li>2. Fundamentals of processing of by-products</li> <li>3. Veterinary and sanitary examination of by-products</li> <li>4. Fundamentals of processing technology and veterinary examination of edible fats.</li> <li>5. Basics of processing technology and veterinary examination of blood</li> <li>6. Basics of processing technology and veterinary examination</li> </ol>	2

	of intestinal raw materials <b>7. Fundamentals of processing technology and veterinary examination of endocrine raw materials.</b>	
2	<b>Theme 2:</b> Fundamentals of technology, hygiene of obtaining and veterinary and sanitary examination of milk. Veterinary and sanitary evaluation of milk from animals infected with diseases, non-contagious diseases, with poisoning and treatment with antibiotics Plan <ol style="list-style-type: none"> <li>1. Fundamentals of technology, milk hygiene</li> <li>2. Indicators of quality and safety of milk.</li> <li>3. Characteristics of milk of different species of animals</li> <li>4. Veterinary and sanitary evaluation of milk from animals infected with diseases.</li> <li>5. Veterinary and sanitary evaluation of milk from animals infected with non-communicable diseases.</li> <li>6. Veterinary and sanitary evaluation of milk when poisoning animals.</li> </ol> <b>7. Veterinary and sanitary evaluation of milk in the treatment of antibiotics ..</b>	2
3	<b>Theme3:</b> Veterinary and sanitary examination of fish and meat of marine mammals Plan <ol style="list-style-type: none"> <li>1. The nutritional and biological value of marine mammal fish.</li> <li>2. The chemical composition of fish meat.</li> <li>3. Classification of industrial fish species.</li> <li>4. Veterinary and sanitary examination for infectious diseases of fish.</li> </ol> <b>5. Veterinary and sanitary examination for poisoning of fish.</b>	4
4	<b>Theme4:</b> <i>Veterinary and sanitary examination of honey and beekeeping products.</i> Plan <ol style="list-style-type: none"> <li>1. Nutritional value and biological value of honey.</li> <li>2. The chemical composition of honey.</li> <li>3. Classification of honey.</li> <li>4. Veterinary and sanitary examination of honey and beekeeping products in diseases of bees.</li> </ol> <b>5. Fundamentals of production technology and veterinary and sanitary examination of cheeses.</b>	2
	Together	<b>10</b>

## 6. Topics of laboratory lessons

### Autumn semester

	Title of topic	Number hours
1.	Determination of the species composition of meat by organoleptic	2

	methods.	
2.	Determination of the species composition of meat by laboratory methods.	2
3.	Determination of the degree of freshness of meat by organoleptic methods	2
4.	Determination of the degree of freshness of meat by laboratory methods	2
5.	Definition of meat of patients and dead animals	2
6.	Gluing meat	2
7.	Bacteriological study of meat	2
8.	Trihynesoscopy of meat.	2
9.	Investigation of meat on cysticercosis	2
10.	Investigation of carcasses and organs on echinococcosis.	2
11.	Veterinary and sanitary examination of sausage products.	2
12.	Technochemical studies of sausage products.	2
13.	Veterinary and sanitary research of canned meat	2
14.	Chemical and morphological composition of meat.Nutritional value of meat and meat products.	2
15.	Veterinary and sanitary examination of carcasses and products of slaughter of forced animals	2
	<b>Together</b>	<b>30</b>

### Spring semester

	Title of topic	Number hours
1.	Veterinary and sanitary research of food fats.Veterinary and sanitary evaluation of milk from animals infected with diseases, non-contagious diseases, with poisoning and treatment with antibiotics	2
2.	Organoleptic studies of drinking milk.Microbiological studies of milk ..Determination of milk purity	2
3.	Veterinary and sanitary research of eggs and egg products.	2
4.	Veterinary and sanitary research of fish Veterinary and sanitary expertise of fish and meat of marine mammals	2
5.	Veterinary and sanitary research on honey.	2
	<b>Together</b>	<b>10</b>

## 7. Independent work

### Autumn semester

No. w / o	Title of topic	Number hours
1	Nutritional infections, toxicoinfection and intoxication and their	2

	prophylaxis.	
2	Fundamentals of technology, hygiene and veterinary examination of meat under conservation of biological methods.	2
3	Chemical and morphological composition of meat.Nutritional value of meat and meat products.	2
4	Methods for detecting anaerobes	2
5	Veterinary-sanitary examination of carcasses and organs with anthrax.Isolation scheme of anthrax pathogen	2
6	Selection and identification of pathogens of beechi pigs, listeriosis andpasteurellosis	2
7	Veterinary and sanitary examination of carcasses and organs in tuberculosis.Diagram of isolation of mycobacteria.	2
	<b>Total</b>	44

### Spring semester

	Title of topic	Number hours
1.	Veterinary and sanitary examination of eggs and egg products at infectious diseases of poultry	4
2.	Veterinary and sanitary examination of meat of marine mammals	4
3.	Veterinary and sanitary examination of fish in the case of infectious and invasive diseases, poisoning.	4
4.	Transportation of products that are spoiled, theirveterinary controlon refrigerated transport.	4
5.	Methods for determining the quality of natural honey	4
6.	Wounds of plant products that are taken into account in the veterinary-sanitary assessment.	4
7.	Veterinary and sanitary examination of marinated, salted vegetable products on the market	4
8.	Veterinary and sanitary examination of products of slaughter of animals in case of the use of alternative treatments (probiotics,eubiotics,prebiotics).	2
9.	Sanitary research of plant products: vegetable oils, flour, cereals, starch, cereals and legumes	2
10.	Sanitary research of plant products	2
11.	Classification of mushrooms.Methods of studying fungi.	2
12.	Sanitary expertise, classification and commodity evaluation of wines.Determination of the content of sugar, alcohol in natural grape wines.	2
13.	Determination of physico-chemical indicators of honey quality.	2
	Together	40

## 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.

## 8. Methods of control

1. Rating control of a 100-point scale assessment ECTS.

2. An intermediate control during the semester (interim certification).

3. Criteria assess of the current work of students:

- the level of knowledge demonstrated in practical classes;

- active in the discussion of issues brought to the class;

- quick control during classes;

- self-study topics in general or specific issues;

- perform analytical calculation tasks;

- writing essays;

- test results;

- writing assignments during the tests;

- production situations, cases and more.

4. Direct consideration in the final assessment of student performance of certain individual tasks:

- educational and practical study of the presentation of results and more.

## 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

## 11. Methodical Support

1. Hygiene of animals and veterinary sanitation. Methodological instructions for student practice 6.110.101 "Veterinary Medicine". Recommendation. to print mtd. SNAU Council dated March 6, 2012. pp. №6., 22 pp.
2. Hygiene of animals and veterinary sanitation. Methodical instructions for the final control of the knowledge and skills acquired by students during the course of training for students in the direction of 6.110.101 "Veterinary Medicine". Shuttle Method by council of SNAU from 6.03.12. pp. № 6. Recommendation. to print mtd. SNAU Council dated 6.03.12. pp. № 6., 41 pp.
3. Workbook for conducting laboratory lessons for students of the 2nd year of FVM in the discipline of animal zoohygiene. Recommendation. to print mtd. SNAU Council dated December 21, 2006. pp. № 2., 43 pp.
4. Methodological guidelines for construction materials for livestock buildings and sanitary-hygienic requirements to them from the discipline "Zoohygienea" for students of VFM. Recommendation. to print mtd. SNAU Council of 13.03.2000. pp. № 4, 25 pp.
5. Methodological instructions and tasks for laboratory and practical classes on the course "Hygiene of animals" for students of the Physical Education. (Part 1: Sanitation hygienic assessment of the air environment in the premises for animals). Recommendation. to print mtd. Council of the SNAU dated 12.12.1997. pp. № 4., 53 pp.
6. Methodical instructions and tasks for laboratory-practical classes on the course "Hygiene of animals" for students of the Physical Education. (Part 2: sanitary and hygienic assessment of soil and water). Recommendation. to print mtd. Council of SNAU dated 12.10.1998. Ave No. 1., 32 p.
7. Methodical instructions and tasks for laboratory-practical classes on the course "Hygiene of animals" for students of the Physical Education. (Part 3: Sanitary-hygienic assessment of feed). Recommendation. to print mtd. Council of SNAU dated 12.10.1998. Ave No. 1., 29 p.
8. Methodical indications for independent work on the study of the discipline "Hygiene of Farm Animals" Part I "General Zoo" and self-control by students of the second year of specialty 7.130501 "Veterinary Medicine". Recommendation. to print mtd. SNAU Council dated December 21, 2006. pp. № 2., 12 pp
9. Express-guide (methodical instructions) for carrying out laboratory-practical classes and independent work of students of computer-controlled games (Part 1) Recommendation. to print mtd. SNAU Board dated 8.05.2012. Ave No. 8., 13 p.
10. Methodological instructions and test tasks for the current and final control of knowledge assessment of students in veterinary hygiene discipline and animal sanitation.



Recommendation. to print mtd. SNAU Council dated 23.01.2013. Ave No. 4., 13 pp., 25 p.

## **11. Recommended literature**

### **Basic**

1. Hygiene of animals / M.V.Demchuk, M.V.Chorny, M.P.Visokos, Y.S. Pavlyuk; for ed. M.V.Demchuk. - K.: Harvest, 1996. - 384 pp.
2. Demchuk MV, Chorny MV, Vysokos MP Workshop for laboratory and practical classes on hygiene. - Kharkiv, Espauda, 2003. - 215 p.
3. Demchuk MV Hygiene of Animals: Workshop / V.V.Demchuk, J.V.Andrusyshyn, E.S.Gavrylets and others; Ed. M.V.Demchuk. - K.: "Agricultural Education", 1994 - 328 p.
4. Hygiene of farm animals: 2 kn. / Ed. AF Kuznetsova and MV Demchuka - M.: Agropromizdat, 1991 - 1992. Kn. 1.192 s.; Kn.2.- 398 pp.
5. Onegov AP Handbook on Hygiene of Agricultural Animals. / Onegov AP, Dudarev Yu.I., Khabibulov MA - Rosselkhozizdat, 1984- 303 pp.
6. Khrabustovsky I.F. Workshop on zoohygiene / I.F. Khrabustovsky, M.V.Demchuk, APOnegov: Pod. Rev. I.F. Khrabustovsky. - M.: Kolos, 1984. - 270 p.

### **Auxiliary**

1. Kochish I.I. Zoogigina / Kochish I.I., Kalyuzhny N.S., Volchkova LA: Publishing House "Lan", 2008. - 464 p.
2. No. 2707-XII of October 16, 1992, the Law of Ukraine "On the Protection of Atmospheric Air".
3. VNTP-APK-07.06 Departmental standards of technological design. Objects of veterinary medicine.
4. VNTP-SGIP-46-8.94 Departmental standards of technological design. Objects for harvesting, storage and preparation of forages for livestock breeding.
5. VNTP-APK-09.06 Departmental standards of technological design. Systems for the removal, treatment, preparation and use of manure. - K.: Ministry of Agrarian Policy of Ukraine, 2006. - 100 p.
6. Zasekin DA Sanitary norms for livestock and processing enterprises of Ukraine / Д.А. Zasekin, V. Polyakovsky. - K.: LLC "NVP INTERSERVICE". - 2011. - 220 pp.
7. Bukalova N.V. Veterinary and sanitary examination of feed, feed additives and raw materials for their production: training. manual / N.V. Bukalova, N.M. Bogatko, O.A. Hickey - K.: Agrarian Education, 2010. - 461 pp.

## **12. Information resources**

1. [www.izhgsha.ru](http://www.izhgsha.ru)
2. <http://dic.academic.ru>
3. <http://www.slovar.plib.ru>
4. <http://www.nedug.ru>
5. <http://zhivotnovodstvo.net.ru>
6. <http://www.martindalecenter.com/Vet.html>
7. <http://www.vetscape.co.uk>
8. <http://www.aboutus.org/AgriSurf.com>
9. [www.cnsnb.ru](http://www.cnsnb.ru)

