

**TRAINING PROGRAM DESCRIPTION OF THE MODULES  
ACCORDING TO THE FRAMEWORK  
IN 2018**

**I. General information**

**Major in:** Veterinary medicine

**Training level:** Bachelor

**Degree name:** Veterinary Medicine

**Training time:** 5 years

**Training Forms:** full time

**II. Brief description of the content and volume of courses**

**1. Marxist-Leninist philosophy – 3 credits**

Time of study: 3 credits (45 theoretical units/0 practice units/90 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: This course is equipped with knowledge of the most common laws of movement and development of nature, society and thinking to form the world view and the most common method of scientific awareness and revolutionary practice. The content of the lesson includes:

Part I: Overview of philosophy and philosophical history

Chapter I: A Vision of Philosophy

Chapter II: A summary of the philosophical history before Mark

Chapter III: The Birth and Development of Marxist-Leninist Philosophy

Chapter IV: Some Mode Professional practices Weste Professional practices

Philosophical Trends

Part II : The basic principles of Marxist-Leninist philosophy

Chapter V: Matter and Consciousness

Chapter VI: Two principles of material defense

Chapter VII: Basic pairs of material defenses

Chapter VIII: The Basics of Material Defense

Chapter IX: Perception Reasoning

Chapter X: Socio-Economic Forms

Chapter XI: Class and Ethnicity

Chapter XII: The State and the Social Revolution

Chapter XIII: social consciousness

Chapter XIV: Marxist-Leninist Philosophical Views on People

**2. Political Economy - 2 credits**

Time of study: 2 credits (30 theoretical units/0 practice units/60 self-study hours)

Previous lesson: No.

Prerequisite: No.

Parallel learning: No.

Summary of subject content: Political economy is a social science that studies the production and exchange of goods placed in relation to politics under the perspective of politicians. Political economics is the module that provides the most basic concepts and knowledge systems for the modern economics faculty such as supply and demand, profit, free trade ... Many views of the main economic schools Values have become the ideological creeds of economists and politicians.

**3. Scientific socialism - 2 credits**

Time of study: 2 credits (30 theoretical units/0 practice units/60 self-study hours)

Previous lesson: No.

Prerequisite: No.

Parallel learning: No.

Course content summary: Scientific socialism is a module equipped with knowledge of socio-economic theories created by Marx and Engels. This module is one of the three constituent parts of Marxism-Leninism, studying social movement aimed at abolishing capitalism and building socialist society, towards building communist society. In a narrow sense, scientific socialism is one of the three parts of Marxism-Leninism. The scientific socialism module will help students build on the philosophical methodology of dialectical materialism and historical materialism, while also on the scientific theoretical bases of economic laws and relations. economy ... to explain scientifically about the process of socialist revolution, formation and development of communist socio-economic form, associated with historical mission. the whole world of the modern working class, aimed at human liberation, social liberation.

**4. Ho Chi Minh's Ideology – 2 credits**

Time of study: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: This course provides a system of views and thoughts of Ho Chi Minh in the revolutionary career summarized and systemized by the Communist Party of Vietnam. This ideology system includes views on the fundamental issues of the Vietnamese revolution, from the People's Democratic National Revolution to the Socialist Revolution; the application and development of Marxism-Leninism to the specific conditions of Vietnam. After studying this part, students will raise awareness of regularly

training, cultivating, studying and following the moral example and Style of Ho Chi Minh to improve themselves and contribute to building the country.

#### **5. *History of the Vietnamese Communist Party – 2 credits***

Time of study: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: This course presents objectively, comprehensively and vividly the basic events of the Party's history through each stage and revolutionary period in its movement, development and international relationships. On that basis, it compares with practical requirements for analyzing and evaluating the Party's activities; affirming the victories, achievements and mistakes and shortcomings in the process of the Party leading the Vietnamese revolution; generalize historical events and events, outline the nature, general tendencies and objective laws that govern the movement of history.

The study and study of this course also has great significance in educating about revolutionary traditions, about nationalism and genuine national spirit, about pride for the Party and for the Vietnamese people; at the same time, it also has the effect of fostering the will to fight revolutionary, urging in the conscious tuition to follow the example of those who have gone ahead, continuing the fight of tenacious, intelligent and creative bravery to protect and develop the revolutionary achievements that the Party and our people have spent so much blood to win. , successfully building socialism and firmly protecting the Socialist Fatherland of Vietnam.

#### **6. *Chemistry – 4 credits***

Time of study: 4 credits (50 theoretical hours/20 practice hours/120 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: Chemistry course consists of 6 chapters including 50 theoretical hours and 10 practice hours. The theory course equips students with basic knowledge of chemical balance, factors affecting chemical balance; application of explanations of the movement of favorable reactions; reaction rate and influential factors. Research on the composition and content of survey samples: dosing analysis, dosing, structural determination, evaluation of product results and quality, separation, division, cleaning, processing of ultra-pure compounds ... etc.

The practice course equips students with some basic laboratory rules; study experiments on the effects of factors on chemical balance, reaction rate, explanation, application to practice; practice of determining the pH value of some common types of solution; study of esthing experiments, determining the content of analytical samples

#### **7. *Biology – 3 credits***

Time of study: 3 credits (40 theoretical hours/10 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: Biology course consists of 7 chapters. The theoretical part equips students with basic knowledge about the chemical composition of the living body, the organizational levels of the living body, the main metabolic methods in living cells, the reproduction and development of living bodies, the ability to in touch and adapt to the habitat of the organism, the evolution of organisms, the application of biology in agriculture and forestry ... etc.

The practice course equips students with some basic laboratory rules; research and practice as a plant-living specimen; observe some fixed specimens of animal cells; visual observation of the spawning agency of some flowers; observe and categorise some results to practicalize theoretical content to help students in carn deeply ingrain knowledge.

#### **8. *General sociology – 2 credits***

Time of study: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: General sociology is a compulsory course to equip students with a systemual knowledge of socio-leaProfessional practicesing,including: courses, functions, research tasks of socio-leaProfessional practicesing; socio-socion socionual basics. On the basis of basic concepts, students can understand the relationships between individuals, groups and society; the role of individuals, social groups, institutions, social organizations, classes and social classes in a society. Based on that knowledge, educating students about socio-professional ethics in the construction of our country today.

#### **9. *Physics – 2 credits***

Time of study: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: Physics course consists of 5 chapters with 17 theoretical hours and 13 hours of exercises and discussions. Theoretical part: equip students with general understanding of mechanical, basic forms of movement associated with practice, basic laws of Nitrogen; common concepts and phenomena in fluid mechanical, analysis of important applications of fluid mechanical fluids in agriculture and forestry; equip basic knowledge of electric fields, soy waves and application to the specialies of agriculture and forestry; provides some knowledge of photoethrosy, photofluorescent, photofluorescent processes; basic knowledge of nuclear physics and the use of certain nuclear techniques in high-tech agriculture. Exercises, discussions: Ask

students to apply the knowledge learned in each chapter to solve practical problems: explain the phenomena, apply the knowledge to the main major.

### **10. Mathematics – 2 credits**

Time of study: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: Advanced Mathematics course consists of 3 chapters with 17 theoretical hours and 13 discussion hours. Theoretical course: Equipped with the concepts of matrix, mathematics on the matrix, application of the matrix in practical problems; system of linear equations, how to solve pttt system; differential equations, differential forms of equations and some applications of differential equations; some optimal forms of mathematics in agriculture and forestry and optimal methods of solve problems. Discussion: Asking students to apply that knowledge to solve problems, especially using software proficiently (Excel) on the computer to solve problems of matrix, linear equations and optimal problems.

Equipped with basic calculation skills, practice analytical skills, mathematical modeling some practical problems such as: Business management, production; The problem of animal feed demographics; The problem of calculating residual chemical content in the environment and food; The optimal problem in Agriculture and Forestry. Equip students with some math solvenic software, from which SV applies to solve math BT in the course and apply in practical problems.

### **11. English 1 – 3 credits**

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content:: this course is equipped with basic and core knowledge about Grammar (sentence structure, dynamic phrases...), Phonetic (phonetic & intonation), and Vocabulary (words & word structure); Reinforce the basics of Grammar, Transcriptet, and Vocabulary as the basis for communication practice; Forming the first step of language communication skills such as Listening, Speaking, Reading, Writing on the basis of masterful theoretical and practical mastery; The basics of in-course relationships between Language, Culture, and speech action.

Grammar: simple present; simple past tense; present tense continues; past tenses; past tenses; Like/ would like; modal verbs; comparative levels of the annth feature.

Vocabulary: Phrases that point to daily activities and in their free time; antonym; expressions of time in the present and past; words describing feelings, states; means of transport.

Reading: health; sports; transportation; exploration.

Listening: health; sports; transportation; exploration.

Say: ambition; tell a story.

Write: connecting words; report; the story happened.

Pronunciation: / s/, /z/, /iz /, /d/, /t/, /id/, /ŋ/.

After finishing this course, students have the ability to: Skim the main idea; read some details, guess the meaning of words in the context; Listening to the main idea, listening to some detailed information, hearing guesses from; The ability to make simple conversations and simple sentence patterns to communicate, respond to information given by others within the; Writing skills with content is within the scope of the topics of this course.

### **12. English 2 – 3 credits**

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: this is equipped with basic and core knowledge about Grammar (sentence structure, dynamic phrases...), Phonetic (phonetic & intonation), and Vocabulary (words & word structure); Reinforce the basics of Grammar, Transcript, and Vocabulary as the basis for communication practice; Forming the first step of language communication skills such as Listening, Speaking, Reading, Writing on the basis of masterful theoretical and practical mastery; The basics of in-course relationships between Language, Culture, and speech action.

Grammar: countable noun and uncountable noun for noun; from quantity indicators, words; then the future with be going to, will; the present refers to the near future; a place of words; the present one is complete; relation clauses and category 1 conditional sentences.

Vocabulary: material-only words; consummation; asyms; career-only words; sy smoothies; prefixes.

Reading: : environment; life; events; workplace; exploration.

Listening: environment; planning and planning; job interviews; the importance of technology; new inventions.

Say: present the report; Interview.

Write: report; e-mail; description; CV; paragraph; from joining; topic sentences.

Pronunciation: / tə /, /ð ə/, /ð i /, /w/, intonation in conditional sentences.

After finishing this course, students have the ability to: Skim the main idea; read some details, guess the meaning of words in the context; Listening to the main idea, listening to some detailed information, hearing guesses from; The ability to make simple conversations and simple sentence patterns to communicate, respond to information given by others within the course; Writing skills with content is within the scope of the topics of this course.

### **13. English 3 – 3 credits**

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content:: course is equipped with basic and core knowledge about Grammar (sentence structure, dynamic phrases...), Phonetic (phonetic & intonation), and Vocabulary (words & word structure); Reinforce the basics of Grammar, Transcriptet, and Vocabulary as the basis for communication practice; Forming the first step of language communication skills such as Listening, Speaking, Reading, Writing on the basis of masterful theoretical and practical mastery; The basics of in-course relationships between Language, Culture, and speech action.

Grammar: Dynamic sentences (present and past); then the past is complete; structure Used to.; indirect sentences; unsymed wording; category 2 conditional sentences;

Vocabulary: phrases; words related to vacation; independent no words; animal classification; weather.

Reading: : history; language; travel and vacation; nature.

Listening: language leaProfessional practicesing; travel; nature.

Say: holiday plans; predict the future.

Write: letter; biography.

Pronunciation: /s /, /z/, /key.

After completing this course, students have the ability to communicate in English, compose texts in English, read documents in English at the pre-intermediate level.

#### **14. General Informatic – 3 credits**

Time of study: 3 credits (15 theoretical hours/60 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips knowledge about computers and computer networks, basic skills using basic computer applications. After completing this course, students can: Proficiently use computers; works on Windows operating systems and some application programs; know how to manage and exploit information on computers effectively, use computers safely and have knowledge of the law in the use of information technology; Proficiently use Microsoft Word todraft and present a complete text in a template, using some back-up tools to process text faster; Use Microsoft Excel to build a complete database to solve real-world problems; Use calculation functions in Excel from basic to complex to calculate, statistics, extract necessary information; Use Microsoft PowerPoint to create an engaging and effective presentation; Know how to exploit and connect information available on the Internit for studying and researching; know how to use e-mail to send and receive documents.

#### **15. Probability and Statistics – 3 credits**

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: Advanced Mathematics

Parallel courses: No

Summary of course content: The Probability and Statistics course consists of 2 parts: Probability and statistics with 27 theoretical hours and 18 discussion courses. Theoretical part: Equip knowledge about trials, events, probability of events; random variables (BNN), the law of distribution of probability and characteristic parameters of BNN; overall, samples, characteristic parameters of the sample and calculation; estimating parameters; parameters inspection; correlation and revoicing. Discussion: Ask students to calculate the probability of events through formulas; determine the law of distribution of probability and calculate the characteristic parameters of the BNN; masterfully solve the problems of estimating, checking parameters, finding correlations and writing the rewriting equations of two random variables.

### ***16. Management Science – 3 credits***

Time of study: 3 credits (45 theories/0 practice hours/60 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The Management Science course helps students to be equipped with basic knowledge in the field of management science. On that basis, students have the ability to apply reasoning to management practice, creating favorable conditions for them to deeply research and solve reasoning or practical problems in separate or interdisciplinary fields. Students can master scientific management knowledge, science and technology, quickly and effectively solve problems of management practice; have the capacity to create, analyze and evaluate management policies; have the ability to adapt quickly and appropriately to the changes of the management environment; have the capacity to organize, mobilize and persuade the masses to achieve the objectives of the organization.

Management Science: Management Science is an applied and practical course. The part is designed into 6 chapters, each of which is compiled in an order, presented logically, scientifically, detailing the content of each problem, thereby for researching and studying. The main contents include:

Chapter 1: In-Science Management

Chapter 2: Principles, Functions and Management Methods

Chapter 3: Managers

Chapter 4: Information in Management

### ***17. General Microbiology - 3 credits***

Time of study: 3 credits (39 theoretical hours/12 practice hours/90 self-study hours)

Previous courses: Biology

Prerequisites: No

Parallel courses: No



Summary of course content: The study provides and equips students with basic understandings about form, structural, biological, bio-biomedizing, genetic characteristics ... of groups of microorganisms common in nature and in the human body, animals such as bacteria, viruses, yeasts, mold ... In addition, the course also studies the impact of extra-wing factors on microorganisms, studying the beneficial and harmful aspects of microorganisms in life, especially in the field of agriculture, from understanding and explaining the phenomena and applications of microorganisms in real life and agriculture.

In addition, the study also acts as a premises and basis for students to absorb the knowledge of other specialized courses such as veterinary microbiology, infectious diseases ... at the same time, it can be used as a reference for microbiology, scientists....

### **18. Environmental Ecology– 3 credits**

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous courses: Biology

Prerequisites: No

Parallel course: No

Summary of course content: The course is divided into 5 main parts: General concept in biology; Individual eco-biology; Populations and bio biomedes; Ecosystems; Eco-biology with environmental resource. Provide students with the basics of biology; the relationship between organisms and the environment. On that basis, it is applied to building a balanced agricultural ecosystem and towards sustainable agricultural development while managing, protecting the habitat and exploiting natural resources in a reasonable and effective way.

### **19. Vietnam Economic Geography – 3 credits**

Time of study: 3 credits (45 theoretical hours/0 practice hours/60 self-study hours)

Previous course: Biology

Prerequisites: No

Parallel courses: No

Summary of course content:: The Economic Geography Module is a socio-economic science, studying the current situation and orientation of the development of Vietnam's natural resources. Vietnam's ability to integrate in the region and in the world; World economic associations affecting Vietnam's socio-economic development; Territorial organizations of sectors and economic regions of Vietnam.

### **20. State and Law – 3 credits**

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous course: Marxist-Leninist philosophy

Prerequisites: No

Parallel courses: No

Summary of course contents: State and Law courses provide students with basic knowledge about the state and law such as: origin, historical nature, form, types of state and law; basic legal concepts such as: legal regulations, legal relations, law

implementation, law violations, legal liability, socialist legislation, legal system; basic contents of some important legal branches in the Vietnamese legal system and the law on anti-corruption.

### **21. *Environmental Pollution – 3 credits***

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous course: No

Prerequisites: Chemistry, general microorganisms

Parallel course: No

Summary of course contents:: Environmental Pollution course to meet the requirements of improving quality for students of schools in the management and technical sectors, as well as those working in factories, companies, enterprises, research institutes, schools and State agencies. The environmental pollution component provides students with an overview of environmental knowledge, environmental composition, environmental games, the relationship between development and sustainable development. The course introduces the basic concepts of the main types of environmental pollution, causes of pollution, causes and harms of environmental pollution as well as measures to prevent and minimize environmental pollution. The course includes 5 main contents as follows: Basis for reasoning of environmental pollution, air pollution, water pollution, soil environmental pollution and other forms of environmental pollution.

### **22. *Molecular Biology - 3 credits***

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: Biology

Parallel courses: No

Summary of course content: Molecular Biology is a course on the organization of life on a molecular level, providing a foundational knowledge of biological submolecules (DNA, RNA, proteins) and how to organize and function life at the molecular levels. As a foundation for students to understand the methods of testing and evaluation of food using molecular biology tools.

### **23. *Scientific Approach Methodology - 3 credits***

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The Scientific Approach Methodology course aims to help students know how to approach science, some methods of scientific research, how to identify and select research issues, how to write research outlines, organize research, how to write reports and publish the results of scientific topics. When finishing this course, students have the most basic knowledge to participate in scientific research. Skills: The Scientific Approach Methodology course gives students the ability to think logically in science, know scientific reasoning and know how to analyze science.

#### **24. Labor Safety – 3 credits**

Time of study: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: Chemistry, Physics, Biology, General Microorganisms

Parallel courses: No

Summary of course contents: Labor Safety courses to meet the requirements of improving the quality for students of schools in the management and technical sectors such as Veterinary Medicine, Food Technology, Environmental Science, High-tech Agriculture, ... etc., and for those who are working in factories, companies, enterprises, research institutes, schools and State agencies. The Course of Occupational Safety introduces students to the basic concepts of occupational safety and hygiene such as: labor; dangerous and harmful factors at the workplace; occupational accidents and causes of occupational accidents; the concept of labor protection, the nature of labor protection; a culture of occupational safety and digitalization and occupational safety. The course introduces the system of legal policies on occupational safety and hygiene of Viet Nam such as: Law on Occupational Safety and Sanitation; Protection policies for special and dangerous employees; Decrees and decisions of the Government; Professional practices; Circulars of ministries and inter-ministries and System of technical standards and regulations on occupational safety and sanitation.

Occupational safety courses provide students with basic and necessary knowledge about safety, occupational hygiene such as: working conditions, personal protective means at work; how to avoid harmful factors, measures to improve working conditions, prevent occupational accidents, occupational diseases for employees; handle incidents in production and first aid of occupational accidents (theory and practice); develop plans and organize the implementation of the occupational safety and hygiene management system; to build a culture of safety in production; to know the rights and obligations of employers and employees in occupational safety and hygiene.

Moreover, the course also equips students with knowledge about occupational safety techniques such as: Electrical safety techniques; chemical safety techniques; safety when using pressure equipment; safe to work with lifting equipment; fire safety, explosion and laboratory-safe micro-engineering.

#### **25. Athletics – 1 credit**

Time of study: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips students with knowledge, skills in practicing bare-handed exercises and performing athletics content such as running ... After finishing this lesson, students will raise awareness of regular health training to have a better studying and working spirit.

#### **26. Volleyball – 1 credit**

Time of study: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips students with knowledge and skills in volleyball. After finishing this lesson, students will raise awareness of regular health training to have a better studying and working spirit.

**27. *Badminton – 1 credit***

Time of study: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips students with badminton knowledge and skills. After finishing this lesson, students will raise awareness of regular health training to have a better studying and working spirit.

**28. *Shuttlecock Kicking – 1 credit***

Time of study: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips students with knowledge and skills in football. After finishing this lesson, students will raise awareness of regular health training to have a better studying and working spirit.

**29. *Martial Art – 1 credit***

Time of study: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips students with knowledge and skills in martial arts. After finishing this lesson, students will raise awareness of regular health training to have a better studying and working spirit.

**30. *Basketball - 1 credits***

Time of study: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips students with basketball knowledge and skills. After finishing this lesson, students will raise awareness of regular health training to have a better studying and working spirit.

**31. *Football – 1 credit***

Time of study: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips students with knowledge and skills in football. After finishing this lesson, students will raise awareness of regular health training to have a better studying and working spirit.

### **32. *Animal Anatomy – 5 credits***

Time of study: 5 credits (65 theoretical hours/20 practice hours/150 self-study hours)

Previous courses: no

Prerequisites: no

Parallel modules: Animal Biochemistry, Animal Physiology, Animal Histology...

Summary of course content:

The Animal Anatomy Course equips students with knowledge about the location, shape, structure and function of the bodies of cattle (buffalo, cows, horses, pigs, goats) and poultry (chickens).

After finishing the course of animal anatomy, students have the ability to determine the right location and describe the bodies of livestock and poultry for medical examination and treatment; compare and distinguish the agencies of cattle and poultry species; perform the manipulations of the animal's body and have practical applications.

### **33. *Biochemistry - animal physiology - 5 credits***

Time of study: 5 credits (65 theoretical hours / 20 practice hours / 150 self-study hours)

Previous modules: Biology, Organic Chemistry

Prerequisite: no

The module provides learners with the following knowledge about: i) Structure, chemical composition, physical and chemical properties, biological functions of substances in living organisms: blood, muscle, fluid ... The metabolism of the components that make up the living organism, the changes of each organ, tissue in the metabolic process in the animal body. iii) Digestion, absorption in animals, synthesis, breakdown, normal activities of livestock and poultry and pathological mechanisms, metabolic disturbances. iv) The regulation of functional activities to grow, develop and adapt to environmental changes, factors affecting from the habitat to the structure - function of organ systems and the whole animal body.

### **34. *Animal Feed & Nutrition - 4 credits***

Time of study: 4 credits (52 theoretical hours/16 practice hours, 120 self-study hours)

Previous module: Animal Histology, Animal Anatomy.

Prerequisites: Animal Biochemistry, Animal Physiology

Parallel courses: Use management software in the business of animal feed and veterinary medicine.

Summary of the course: The Animal Feed & Nutrition Course provides university students with the following knowledge: i) Essential nutrients for pets such as proteins, lipids, hydrates, minerals, vitamins and their biological role; the need of pets for nutrients;

through the knowledge achieved, students can analyze to see the causes of diseases caused by the lack or excess of nutrients ii) Methods of evaluation of protein quality and nutritional value of feed; on the basis of these methods, students can assess the biological value of proteins and the nutritional value of each feed when there is sufficient data; iii) The demand for nutrients of different livestock courses such as: Livestock growing, feeding, raising children, breastfeeding; poultry growing, laying eggs ... thanks to the knowledge learned, students can apply to calculate the needs of energy and protein for each specific pet object; iv) Common feed materials used in livestock and their nutritional value; the principle of combining raw materials into mixed feed for pets, from this knowledge, students can create mixed feed recipes for pets with high nutritional value, low price.

### **35. *Veterinary Pharmacology - 3 credits***

Time of study: (39 theoretical hours/12 practice hours /90 self-study hours)

Prerequisites: Animal Biochemistry, Animal Physiology

Previous courses: General microbiology

Parallel courses: No

Summary of the study: The course focuses on the basics of pharmacology, pharmacokinetics, mechanism of action of drugs; drugs that act on specialized agencies of the body; medicines that convert, stimulate growth, anti-germs, antifungal medicines, viruses, medicines for parasites and instructions on how to use medicines to prevent diseases for livestock and poultry.

### **36. *Animal Breeding and Genetics - 3 credits***

Time of study: 3 credits (37 theoretical hours/16 practice hours/90 self-study hours)

Previous hours: Biology, Animal Biochemistry

Prerequisites: Animal Physiology, Animal Anatomy

Parallel courses: animal Feed and Nutrition

Summary of the content of the course: This course equips students with basic scientific knowledge about: i) the genetic basis of the findings and edifices in animals; the immune genetics in animals that under the basis for access to veterinary specialized courses; ii) the origin, the process of domestication, the adaptation and characteristics of livestock breeds ; iii) scientific basis and methods of assessment, selection, creation and breeding of livestock in order to set the foundation for students to understand related diseases based on the origin, appearance and health of livestock.

This course helps students (iv) understand the nature, importance of the breed and how to create the breed in breeding thereby explaining the nature of some diseases related to reproduction, etc.). Have the skills to build a spectrum system on the software in selecting varieties. Proficient in identifying, evaluating and classification of physical appearance, thereby selecting seedlings to meet production needs. After finishing the course, students have the ability to apply the knowledge gained in scientific research as well as develop modern techniques and technologies in selecting disease-resistant breeds in livestock breeding.

### **37. *Veterinary Pathology - 3 credits***

Time of study: 3 credits (39 theoretical hours/12 practice hours/90 self-study hours)

Prerequisite Modules: Animal Anatomy, Animal Histology, Animal Biochemistry, Animal Physiology.

Previous hours: Veterinary Pharmacology, Veterinary Immunology, Veterinary Microbiology, Veterinary Internal Medicine – Diagnosis.

Parallel courses: Veterinary Infectious Diseases.

Summary of course content: The Veterinary Pathology is a course that studies the functional and physical changes of tissues and cells when the body is sick. This course equips students with some basic principles in pathology as the basis for diagnosing the disease. At the same time, it equips veterinary students with a basic understanding of specialized pathology characteristics including the physical characteristics in the body bodies of the animal, the pathology characteristics caused by various causes in animals, making it possible for veterinarians to diagnose and differentiate between diseases quickly and accurately, thereby giving reasonable and effective treatment for animal's diseases

### **38. *Imaging Diagnosis - 2 credits***

Time of study: 2 credits (26 theories/08 practice hours/60 self-study hours)

Previous hours: Veterinary Pathology, Veterinary Diagnosis

Prerequisites: Animal Anatomy

Parallel courses: Veterinary Epidemiology, Vaccine Utilization and Production Technology, Reproductive Technology, Veterinary Infectious Diseases...

Summary of the course content: The Imaging Diagnosis course equips students with knowledge about: physical basis, principles, techniques of imaging methods such as: routine radiographic, ultrasound of organs in the cattle's body such as: heart, lungs, blood vessels, genital system, urinary, bone, joints, nerves, digestion. After studying this part, the student has the ability to apply the general knowledge about the use of ultrasound and radiographic machines in the diagnosis of diseases for pets; know how to ultrasound some organs in the body: heart, lungs, blood vessels, genitourinary system, urinary tract, bones, joints, nerves, digestion; know how to take X-rays to diagnose diseases related to bones, joints, nerves, abdomen and molars.

### **39. *Practice in Veterinary Medicine Diagnostic - 3 credits***

Time of study: 3 credits (0 theories/120 practice hours/90 self-study hours)

Prerequisite modules: Veterinary microbiology, Diagnosis of veterinary diseases

Previous modules: Animal Physiology, Biochemistry - Animal Physiology

Parallel modules: Veterinary pathology, Veterinary infectious diseases ...

Summary of subject content: The module on Veterinary Clinical Diagnostic Skills provides students specializing in Animal Husbandry with high quality fixed methods and general clinical examination on buffaloes, cows, and goats, pigs, dogs, cats and poultry (domestic animals), methods of examination of the systems of organs, ultrasound methods, X-rays, rumen puncture, and gastroenteritis on goats; In addition, this module

also helps students manipulate how to use modern equipment to diagnose diseases for livestock and poultry that are popular today such as ultrasound, endoscope, X-ray machine ... Finally, the module equips students with skills to adapt to the working environment of veterinarians in practice.

#### **40. Practice in Veterinary Non-Clinical Diagnostic - 3 credits**

Time of study: 3 credits (0 theories/120 practice hours/90 self-study hours)

Prerequisite: Animal Physiology, Veterinary Infectious Diseases

Previous subjects: General Microbiology, Biochemistry - Animal Physiology, Veterinary Internal Medicine, Veterinary Pathology, Diagnostic Imaging.

The module trains students in non-clinical diagnostic skills through sample testing, using a number of modern equipment to diagnose diseases in livestock and poultry such as ultrasound, blood tests, urine, microbiological tests; Diagnosis of the disease is through the transformation of the healthy organism and the pathological structure.

#### **41. Swine production - 4 credits**

Time of study: 4 (52 theoretical hours / 16 practice hours / 120 self-study hours)

Previous courses: No

Prerequisite: Animal Physiology, Animal Breeding and Genetics, Animal Feed and Nutrition

Parallel courses: No

Summary of the course: The Swine Production course provides students with the following knowledge: (1) Biological characteristics and swine production so that the student can grasp biological characteristics such as fertility, feed conversion ability, fat meat production ability, adaptability and fertility assessment and fat production indicators thereby applying in production practice; (2) Breeds and breeding work in swine production so that students know the appearance and production capacity of swine breeds raised in Vietnam and in the world as well as techniques for swines breeding work; (3) Basic knowledge of nutrition and feed for swines; (4) Breeding techniques for breeding boars and breeding sows, piglets and commercial pork including breeding facilities, feeding techniques, techniques for care, management, exploitation and use of various types of swines and (5) Organization, production and solution for waste disposal in swine breeding help students organize, build and operate the production of swine breeding facility.

#### **42. Poultry production - 4 credits**

Time of study: 4 (50 theoretical hours / 20 practice hours / 120 self-study hours)

Previous courses: No

Prerequisite Module: Animal Physiology, Animal Breeding and Genetics, Nutrition and Animal Feed

Parallel courses: No

Summary of course content: Poultry breeding course equips students with basic knowledge about: Sources and updating methods, using poultry breed information in production; Techniques for assessing the poultry production; Method of keeping;



Technical process; Production organization and management; Scientific research, in laying and poultry farming.

The content of the course includes: i) origin, characteristics of poultry; ii) current popular poultry breeds iii) poultry production work; iv) Techniques for assessing the production capacity of poultry; v) poultry nutrition; vi) breeding procedures, farmings and equipments in poultry production; vii) laying poultry techniques; viii) poultry breeding techniques; ix) waterfowl production techniques, x) pigeons, ostriches and quail's production techniques.

#### **43. Ruminant production - 3 credits**

Time of study: 3 (39 theoretical hours / 12 practice hours / 90 self-study hours)

Previous hours: Approaching the profession and building career profiles 1, Animal Biochemistry.

Prerequisite: Animal Physiology, Animal Breeding and Genetics, Animal Anatomy, Nutrition and Animal Feed.

Parallel courses: No

Summary of the course: The course on ruminant production equips students with basic knowledge: Sources and updating methods and using information about buffalo breeds and cows in production; Techniques for assessing the production capacity of buffaloes; Method of keeping; Technical process, organization and production management; Scientific research related to the breeding of buffaloes and cows.

The content of the course includes: i) origin, domestication and biological characteristics of buffalo ii) Breeds and work of buffalo breeds; iii) nutrition and feed for buffalo; iv) Female buffalo and cow breeding techniques; v) bulls breeding techniques; vi) heifers breeding techniques; vii) calf breeding techniques; viii) dairy breeding techniques; ix) beef breeding techniques, x) working buffalo and cow breeding techniques.

#### **44. Veterinary Infectious Diseases – 4 credits**

Time of study: 4 credits (52 theoretical hours/16 practice hours/120 self-study hours)

Previous courses: No

Prerequisites: Veterinary Pharmacology, Veterinary Microbiology, Veterinary Immunobiology, Veterinary Diagnosis

Parallel courses: Veterinary Pathology

Summary of the course: Veterinary infectious diseases is scientific course about: i) Outline of veterinary infectious diseases (including the concept and manifestations of infections, types of infections, pathogens dynamics, periods of disease progress, stages of the course of infectious diseases, factors affecting the course of infectious diseases, methods of transmission of infectious diseases, principles and measures to prevent and control infectious diseases); ii) Specialized infectious diseases (including: general infectious diseases of many cattle species, infectious diseases of cattle, infectious diseases of pigs, infectious diseases of poultry).

#### **45. Parasites and veterinary parasite diseases - 3 credits**

Time of study: 3 credits (39 theoretical hours/12 practice hours/90 self-study hours)

Previous courses: No

Prerequisites: Veterinary Immunobiology, Animal Anatomy, Veterinary Pathology, Veterinary Disease Diagnosis, Veterinary Pharmacology

Parallel courses:

Summary of the course content: Parasites and veterinary parasitic diseases is scientific courses about: i) the basic problems of veterinary parasites (including the concepts, classification, life characteristics of parasites, the doctrine of the destruction of helminthiasis, methods of diagnosing parasitic diseases, methods of diagnosis and prevention of parasitic diseases); ii) Specialized parasites, including: flukes and some flukes, tapeworms and some tapeworms, roundworms and some roundworm diseases, parasitic gashropods and some diseases of gashropods, single-celled and some single-celled diseases in cattle and poultry.

#### **46 . Veterinary Internal Medicine-Diagnosis - 3 credits**

Time of study: 3 credits (37 theories/16 practice hours/90 self-study hours)

Previous courses: General microorganisms; Animal Physiology, Animal Biochemistry

Prerequisite Modules: Animal Anatomy, Animal Histology, Veterinary Microorganisms

Parallel courses: Veterinary infectious diseases, Parasites and veterinary parasite diseases ...

Summary of the course content: Veterinary Internal Medicine-Diagnosis course provide students with knowledge and skills about i) general examination methods, methods of animal 's organs examination: vascular examination and blood examination, respiratory system examination, respiratory system examination, urinary - genital examination,nervous system examination ; ii) Common Inner-diseases in cattle and poultry.

#### **47 . Veterinary Surgery-Obstetrics– 3 credits**

Time of study: 3 credits (35 theories/20 practice hours/90 self-study hours)

Previous hours: Reproductive Technology, Veterinary Pharmacology, Veterinary Internal Medicine-Diagnosis.

Prerequisites: Animal Histology, Animal Physiology, Animal Biochemistry. ,

Parallel courses: No

Summary of the course content: The course provides learners with basic knowledge about Foreign - Veterinary Medicine, as well as researching about causes, symptoms, diagnosis and treatment methods of External - Obstetrics in cattle. The Veterinary - Veterinary Medicine Course consists of 8 chapters. Chapter 1. The basic techniques of veterinary surgery such as anesthesia, anesthesia, bleeding, hemostasis, connective tissue connection and prevention of infection during surgery. Chapter 2. Surgical methods of organs in cattle. Chapter 3. Surgical pathology, classification of surgical infections, factors influencing surgical infections and principles of prevention of surgical infections.

Chapter 4. Volunteers, symptoms, diagnosis and treatment of diseases during pregnancy. Chapter 5. Volunteers, symptoms, diagnosis and treatment of diseases during farrowing. Chapter 6. Difficulty delivery phenomenon, causes, symptoms and intervention steps in case of difficult delivery. Chapter 7. Volunteers, symptoms, diagnosis and treatment of diseases during postpartum cattle. Chapter 8. Diseases of the mammary gland, causes, symptoms and treatment methods of mammary gland diseases.

#### **48 . *Animal Reproducibility Inspection - 3 credits***

Time of study: 3 credits (41 theoretical hours/8 practice hours/90 self-study hours)

Prerequisites: Veterinary Infectious Diseases, Parasites and Veterinary Parasites

Previous courses: Veterinary Microorganisms, Veterinary Disease Diagnosis

Parallel courses: Specialized law.

Summary of course contents: Animal Products Inspection course equips students with basic knowledge about: methods of preserving animal products; methods of transporting animals and animal products to ensure veterinary hygiene requirements; animal quarantine procedures when transporting; veterinary hygiene requirements for places of slaughter, processing of animal products; inspection and care of livestock and poultry before slaughter; inspection of meat of livestock and poultry after slaughter; preservation, processing and veterinary hygiene inspection of animal products ... aims to provide humans with high-value animal products, ensure food hygiene and safety, health and safety for consumers and disease safety for herds and poultry.

#### **49. *Animal hygiene - 2 credits***

Time of study: 02 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous courses: Veterinary Infectious Diseases, Parasites and Veterinary Parasites...

Prerequisites: Animal bio-chemistry; Animal physiology; Specialized breeding.

Parallel courses: Veterinary Laws; Animal Products Inspection; Food Hygiene and Safety

Summary of course content: The course equips students with basic and up-to-date knowledge about the effects of external factors on the health and production health of pets. Cattle hygiene standards contribute to improving livestock productivity and methods of treatment of livestock waste, minimizing environmental pollution.

#### **50. *Reproductive Technology – 2 credits***

Time of study: 3 credits (26 theoretical hours/8 practice hours/60 self-study hours)

Previous courses: No

Prerequisites: Animal Anatomy, Animal Physiology, Animal Histology

Parallel courses: No

Summary of the course: The course on Reproductive technology equips students with knowledge about the breeding activities of male and female cattle; the movement of eggs, sperm and the duration of life of sperm in the genitals of female cattle and the process of fertilization; techniques for the extraction of semen of male cattle, techniques

for checking the quality of semen, dispensing, preservation and transportation of semen; techniques of artificial insemination of livestock and poultry; technology of implantation of cow embryos and generalization of sex control in livestock reproduction. After finishing the study, the student's fertility technology is capable of applying knowledge about the breeding activities of male cattle to master the skills of semen extraction of boars, bulls and roosters; analysis of semen quality of male cattle; application of techniques for dilution, conservation and transportation of semen; mastered the technique of artificial insemination for pigs and the application of artificial insemination techniques for cows; understand and apply the basic steps of cow embryo transplantation technology and gender control measures in livestock reproduction.

**51. Veterinary toxicology - 2 credits**

Time of study: 2 credits (30 theoretical hours/0 practice hours / 60 self-study hours)

Prerequisite courses: Animal Biochemistry, Veterinary Pharmacology

Previous courses: No

Parallel courses: No

Summary of course contents: Veterinary Toxicity equipped with knowledge: The concept of poison, how poison enters the animal's body, the effect of poison on the body. Know how to diagnose and treat animals when poisoned, know how to prevent poisoning and appropriate treatment measures when animals are poisoned.

**52. Wild animals Diseases- 2 credits**

Time of study: 2 credits (30 theoretical hours, 0 practice hours, 60 self-study hours)

Previous courses: Veterinary Laws, Veterinary Internal Medicine and  
Diagnosis, Veterinary Pharmacology

Prerequisites courses: Veterinary Microbiology, Veterinary Immunobiology

Parallel courses: Veterinary Infectious Diseases, Parasites and Veterinary Parasites

Summary of course contents: Wild Animals Diseases course equipped with knowledge about: i) Classification of animals, classification of birds, classification of reptiles, classification of rodents; ii) Some common diseases in wild animal (including: infectious diseases, parasites, internal - external - obstetric diseases); iii) Some common diseases in birds (infectious diseases, parasites); iv) Some common diseases in reptiles (infectious diseases, parasites); v) Some common diseases in rodents (infectious diseases, parasites).

**53. Vaccine Utilization and production technology – 2 credits**

Time of study: 2 credits (30 theoretical lessons/0 practice lessons/90 self-study lessons)

Previous courses: General Microorganisms.

Prerequisites courses: Veterinary Microbiology, Veterinary Immunobiology

Parallel courses: Veterinary Infectious Diseases

Summary of course contents: This course is focused on: i) the basics of vaccines (including: the concept and classification of vaccines, the basic characteristics of vaccines, the composition of vaccines, the characteristics of certain vaccines used in veterinary medicine); ii) Technologies for vaccine production and testing, including:

principles of vaccine production, vaccine production, some vaccine production processes, vaccine testing, some vaccine testing processes; iii) Use of vaccines in disease prevention for livestock and poultry (including: principles of use of vaccines, rules of formation of specific antibodies after the use of vaccines in animals, principles when using vaccines, some vaccines used to prevent diseases for livestock and poultry)

#### **54. Food hygiene and safety - 2 credits**

Time of study: 2 credits (30 theoretical hours, 0 practice hours, 60 self-study hours)

Prerequisites: no

Previous hours: General Microorganisms, Animal Biochemistry, Animal Physiology

Parallel courses: no

Summary of course content: The course equips knowledge about food safety and hygiene. The most basic concepts of food and food safety and hygiene. Basic knowledge of microorganisms infecting food, routes of infecting food, and characteristics of certain microorganisms that cause disease to humans through food, knowledge of food production facility hygiene, hygiene requirements for food, street drinks ... about food quality management systems such as HACCP, ISO, VietGAP in livestock, on the food safety and hygiene code.

This course gives students the ability to apply the knowledge of the course in the organization of production, implementation and management of food safety and hygiene for food production establishments, for the products of livestock. The student has skills in identifying hazards and proposes solutions related to food safety and hygiene in the production, organization and management in the food sector in general and part of the livestock and veterinary industries.

#### **55. Design and construction of animal farms – 3 credits**

Time of study: 2 credits (41 theoretical hours, 8 practice hours, 90 self-study hours)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Animal feed nutrition; Genetics - Breeds of livestock; Poultry Breeding

Previous subject:

The housing design practice module includes 10 lessons. Equip students with basic knowledge of site selection and identification of the required components of an industrial scale farm. Select materials suitable for each item. The barn meets the natural habits of the livestock, is convenient for care, nurturing, traceability of products, and environmental protection.

#### **56. Farm Management – 3 credits**

Time of study: 3 credits (45 theoretical hours; 0 practice hours; 90 self-study hours)

Previous courses: Animal Physiology, Animal Anatomy, Veterinary Pathology

Prerequisite courses: Veterinary Pharmacology, Veterinary Internal Diagnosis

Parallel courses: Veterinary Surgery Diseases, Diseases in Cats and Dogs

Summary of course contents: The Farm Management course provides students with basic concepts and generalizations about farm administration, scientific basis of farm

administration; elaborating and formulating farm production and business plans; knowledge of management, establishment, production organization, production resources, techniques of the farm and the role, importance of traceability, application in farm administration in the era of application of information technology 4.0 to livestock products. After finishing school, the student farm management section is capable of applying the knowledge learned to build, manage production and business activities, trace the origin of a farm to meet practical requirements.

**57. *One health in Veterinary Medicine – 2 credits***

Time of study: 2 credits (24 theoretical hours /12 practice hours /60 self-study hours)

Prerequisites: No

Previous courses: Veterinary Epidemiology, Veterinary Internal Medicine - Diagnostics, Veterinary Infectious Diseases, Parasites and Veterinary Parasites.

Parallel courses: Zoonosis

Summary of course content: The One Health in Veterinary Medicine course provides high-quality Veterinarian special students with the basics of One Health, including factors affecting One Health, Core Competencies A Health (Planning and Management of Plans in Disease Control; Cultural factors, beliefs and One Health; Leadership, cooperation, One Health partnership; Ethical values, system thinking One health in disease control and food safety; Communication, information, policy and advocacy in One Health) and the application of core competencies to address a specific health issue in the community (infectious diseases and food safety issues). In summary, this subject gives student the ability to identify issues in the field of One Health in the community and proposes a solution with the participation of many stakeholders (health, veterinary medicine, the environment and other disciplines).

**58. *Diseases in cats and dogs - 3 credits***

Time of study: 2 credits (39 theoretical hours /12 practice hours /90 self-study hours)

Prerequisites courses: Animal Anatomy, Veterinary Pharmacology, Veterinary Internal Diagnosis

Previous courses: No

Parallel courses: Veterinary Medicine, Veterinary Surgery and Obstetrics,

Summary of subject contents: this course provides high-quality veterinary students with basic knowledge about the method of fixation, examination of the organs of dogs, cats (skin, lymph nodes, digestive system, respiratory system, excretion system, genital system). In addition, the study also provides knowledge about a number of infectious diseases, common parasites, and internal medicine common on cats and dogs such as diseases, causes of diseases, pathogens, diagnostic and prevention methods to help students have the ability to think, analyze and offer prevention solutions, effective treatment for actual cases of the disease. Finally, the course also equips students with skills to adapt to the working environment of veterinarians in practice.

**59. *Zoonosis - 3 credits***

Time of study: 3 credits (45 theoretical hours, 0 practice hours, 90 self-study hours)

Previous courses: No

Prerequisite courses: Veterinary Pathology, Veterinary Pharmacology, Veterinary Microbiology, Veterinary Immunobiology, Veterinary Diagnostics.

Parallel courses: No

Summary of course contents: this course is focused on: i) An outline of the disease transmitted between animals and humans (including The general concept and introduction of diseases transmitted between animals and humans; The main types of infectious diseases; Types of carriers of the disease. ); ii) Diseases transmitted between animals and humans caused by viruses; iii) Diseases transmitted between animals and humans caused by bacteria; iv) Diseases transmitted between animals and humans by parasites; v) Application of One health in the prevention of diseases transmitted between animals and humans.

#### ***60. Application of Biotechnology in Veterinary Medicine - 3 credits***

Time of study: 3 credits (45 theoretical hours /0 practice hours /90 self-study hours)

Previous courses: Chemistry, Biology, Physics

Prerequisite courses: No

Parallel courses: No

The module on Biotechnology in Veterinary Medicine provides basic knowledge about biotechnology and the application of biotechnology in breeding (assisted reproduction technology, biotechnology engineering. learning in breeding animals, biotechnology in conservation of livestock breeds, biotechnology in aquatic breeds); application of biotechnology in the production of animal feed (biotechnology in the production of raw green feed, biotechnology in the production of aquaculture feed); Application of biotechnology in ensuring the health and safety of diseases for animals (tissue and cell culture of high-value medicinal plants, production of medical products by improved cells, production of biopharmaceuticals products, prevention and treatment of aquatic species diseases) and application of biotechnology in preserving, processing agricultural products and treating agricultural waste to protect the environment.

#### ***61. Silkworms, bee and rare animals production - 3 credits***

Time of study: 3 (41 theoretical hours /08 practice hours /90 self-study hours)

Prerequisite courses: Animal Physiology, Animal Breeding and Genetics, Animal Nutrition and Feed, Veterinary Hygiene.

Previous courses: Biology, Animal Physiology, Animal Breeding and Genetics, Animal Nutrition and Feed, Veterinary Hygiene.

Parallel course: No

The module provides learners with knowledge of: Regulations on registration of breeding, transportation and use of rare animal products; Breeding techniques, production organization, management, and research on bees, silkworms and other rare animal species.

#### ***62. Fresh water fish production - 3 credits***

Time of study: 3 credits (39 theory hours / 12 practice hours / 90 self-study hours)

Prerequisite Subject: Animal Physiology, General Microbiology; Animal feed nutrition.

Previous subject: Genetics - Animal breeds

The Freshwater Fish Breeding module provides learners with biological characteristics of some commonly raised freshwater fish species in Vietnam, techniques for fish hatching and rearing, freshwater fish farming techniques prevention and treatment techniques for freshwater fish.

### **63. Animal waste and Environmental management– 3 credits**

Time of study: 3 credits (45 theoretical hours /0 practice hours /90 self-study hours)

Previous courses: Veterinary Infectious Diseases, Veterinary Internal Diseases, Parasites and Veterinary Parasits

Prerequisite courses: Animal biochemistry; Animal Physiology; Specialized Breeding; Veterinary Infectious Diseases.

The module consists of 5 chapters. Chapter 1: General information about livestock with the environment and health; Chapter 2: Managing air environment in livestock production; Chapter 3: Environmental sanitation in livestock production; Chapter 4: Water sanitation in livestock production; Chapter 5: Waste sanitation in livestock production. The course equips learners with basic knowledge and principles of impact of external factors on the animal's health and production. In addition, the module also delves into the concepts of livestock waste environment and livestock waste treatment techniques. From the knowledge of the module, learners can apply it into practical production, contributing to creating the best living environment for animals and minimizing environmental pollution caused by waste

### **64. Practice in Poultry Egg Incubation - 2credits**

Time of study: 2 credits (0 theoretical hours / 60 practice hours / 60 self-study hours)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Animal feed nutrition; Genetics - Breeds of livestock; Poultry Breeding

Previous subject:

The Poultry Egg Incubation Practical Module consists of 15 lessons. Equip students with techniques of incubation of poultry eggs. Implement Biosecurity in poultry hatching. Classify young birds according to their quality and specificity.

### **65. Practice in Artificial Insemination for livestock and poultry - 3 credits**

Time of study: 3 credits (0 theoretical hours / 90 practice hours / 90 self-study hours)

Prerequisite subject: Zoology, Biochemistry - Animal Physiology.

Previous subjects: Reproductive technology, Pig breeding, Livestock farming

The practice module on infusing artificial sperms for cattle and poultry equips basic knowledge and skills on transferring artificial sperms to female pigs, cows and poultry.

### **66. Practice of design and construction of animal farm - 2 credits**

Time of study: 2 credits (0 theoretical hours / 60 practice hours / 60 self-study period)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Animal feed nutrition; Genetics - Breeds of livestock; Poultry Breeding



Previous subject:

The housing design practice module includes 10 lessons. Equip students with basic knowledge of site selection and identification of the required components of an industrial scale farm. Select materials suitable for each item. The barn meets the natural habits of the livestock, is convenient for care, nurturing, traceability of products, and environmental protection.

**67. Practice in Veterinary Surgery - 3 credits**

Time of study: 3 credits (0 theoretical hours / 90 practice hours / 90 self-study hours)

Prerequisite: Animal Physiology, Biochemistry - Animal Physiology

Previous subjects: Reproductive Technology, Veterinary Pharmacology, Internal Medicine - Veterinary Medicine, Surgery - Veterinary Medicine

The module provides learners with the basic techniques of Veterinary Surgery, while also implementing intensive techniques for the intervention and treatment of surgical diseases in animals.

**68. Practice in Veterinary Surgery-Obstetrics– 3 credits**

Time of study: 3 credits (0 theoretical hours /90 practice hours /90 self-study hours)

Previous courses: Animal Histology, Animal Biochemistry, Veterinary Microbiology, Veterinary Pharmacology, Veterinary Pathology, Veterinary Disease Diagnosis.

Prerequisite courses: Animal Anatomy, Animal Biology, Veterinary Surgery and Obstetrics

The module provides learners with the basic techniques of Surgery - Veterinary Medicine, and implementing specialized techniques to intervene and treat Surgery - Veterinary Medicine diseases in animal.

**69. Practice in Pet spa - 2 Credits**

Time of study: 2 credits (0 theory hours / 60 practice hours / 60 self-study hours)

Prerequisite subjects: Pet care and training practices, Advanced pet diagnostic and treatment practices ...

Previous Subject: Zoology,

Nowadays, many people are interested in and focused on pet beauty. Not always pet owners have enough time and conditions to bathe and groom themselves at home. Therefore, they need to bring them to professional spas to enjoy the best care.

With this subject, students will master some of the most basic techniques to take care of their pets as well as those of customers.

**70. Practice in Pet Diagnostic and Treating - 2 credits**

Time of study: 2 credits (0 theory hours / 60 practice hours / 60 self-study hours)

Prerequisite subjects: Veterinary microbiology, Diagnosis of veterinary diseases

Previous Subject: Animal Physiology, Biochemistry - Physiology

The course equips the skills of animal immobilization, anesthesia, diagnostic manipulation and treatment of some common skindiseases, infectious diseases, parasites, and maternal care in dogs and cats.

### **71. Practice in Pet care and training - 2 Credits**

Time of study: 2 credits (0 theory hours / 60 practice hours / 60 self-study hours)

Prerequisite subjects: Infectious diseases, Cat and dog diseases ..., Practice of caring and training pets, Advanced practice in diagnosing and treating pet diseases ...

Previous Subjects: Animal Physiology, Biochemistry - Animal Physiology. The pet care and training course consists of 15 exercises, divided into the following contents:

- Pet care and feeding operations: food, nutrition, care regimen, detection and treatment of some common diseases.

- Actions and steps to train some basic pet commands.

### **72. Practice in Pet Surgery-Obstetrics - 2 Credits**

Time of study: 2 credits (0 theory hours / 60 practice hours / 60 self-study hours)

Prerequisite subject: Veterinary microbiology, Foreign - Veterinary medicine.

Previous Subject: Animal Physiology, Biochemistry - Physiology

The Practice in Pet Surgery-Obstetrics (dogs and cats are the main pets), includes 15 exercises, divided into the following contents:

- Methods of anesthesia, anesthesia, blood transfusion, infusion ... are performed when providing surgical and obstetric treatments for pets.

- Some surgical and obstetric procedures for pets.

- Apply some modern equipment in diagnosing pet diseases

### **73. Animal Welfare and Specialized Law – 2 credits**

Time of study: 2 credits (30 theory hours / 0 practice hours / 60 self-study hours)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Testing for Animals, Infectious Diseases, Parasites and Veterinary Parasitic Diseases.

Previous subject: Animal feed nutrition. General microbiology,

- The Animal Welfare and Law subject includes 3 main contents:

Content 1: Includes chapters on Introduction to animal welfare; animal welfare assessment based on criteria; evaluation of animal welfare according to physiology, automatic nervous system; Evaluate animal welfare according to physiology - nervous system, endocrine system.

Content 2: Introduction to the Veterinary Law No. 97/2015 / QH13;

Content 3: Introduction to the Law on Livestock Production No. 32/2018 / QH 14

### **74. Scientific research method – 2 credits**

Time of study: 2 credits (30 theory hours / 0 practice hours / 60 self-study hours)

Prerequisite subjects: Biochemistry - Animal Physiology; Genetics - Breeds, Nutrition and animal feed.

Previous subject: Probability - Statistics

The Scientific Research Methodology module is equipped with basic knowledge of experimental design methods, experimental data analysis methods and statistical data processing by computer software..

### **75. Marketing – 3 credits**

Time of study: 3 credits (45 theory hours / 0 practice hours / 90 self-study hours)

Previous lesson: No.

Prerequisite: No.

Parallel learning: No.

Summary of the course content: The Marketing module equips learners with basic knowledge of marketing in the context of commodity economic development in Vietnam and integration with the world economy. The module helps learners understand the market, market approaches, and know how to find, create and develop products that meet market needs. In addition, the module also equips learners with the most basic knowledge and skills on selecting new products, optimizing resources in production, flexible pricing strategies, building sales networks and advertising. promoting effective and sustainable product branding. Understanding market needs and finding ways to satisfy market demands is the core content of the Marketing module that helps production and business activities succeed.

#### **76. Business Communication and Negotiation – 3 credits**

Time of study: 3 credits (45 theoretical hours /0 practice hours /90 self-study hours)

Previous courses: No

Prerequisites courses: No

Parallel courses: No

Summary of course content: The course of Trading and Business Negotiation aims to convey to students the basics of business negotiations, the basic principles of trading, the psychological basis of transactions, multilateral transactions and ceremonies in the transaction, the main contents of negotiations and strategies in negotiations, the stages of negotiation and the conclusion of negotiations, the legal basis of negotiations. After studying this section, students have scientific knowledge in business negotiation, including specific issues: Common issues of business negotiation; the main contents, strategies, tactics of business negotiations; stages of negotiation and legal basis of business negotiations.

#### **77. Business startup – 3 credits**

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

Previous lesson: No.

Prerequisite: No.

Parallel learning: No.

Course summary: The module consists of four chapters. Chapter 1 introduces the foundations for starting a business, Chapter 2 deals with forming, evaluating and choosing a business idea, Chapter 3 deals with business planning, Chapter 4 deals with business planning. to building a business start-up and business development model. After completing this module, learners will be able to: summarize the basic knowledge of business, entrepreneurship and starting a business; Applying analytical methods, assessing their own strengths and weaknesses, opportunities in life, from which to form, evaluate and build business ideas. Ability to develop and implement a Business Plan.

#### **78. Value Chain Analysis - 3 credits**

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

Previous courses: No

Prerequisites courses: No

Parallel courses: No

Summary of course content: The course equips the basics of value chain analysis and approaches and value chain evaluation. Practice value chain analysis tools for livestock products. After finishing school, students can master the tools of analyzing price chain analysis, applying policies in linking and developing livestock and veterinary value chains.

### ***79. Blockchain applications in agricultural economics - 3 credits***

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

Previous courses: No

Prerequisites courses: No

Parallel courses: No

Summary of course content: The course focuses on issues such as management and development of online transactions, online marketing, exchange of data for production and business of veterinary livestock, traceability of QR code, electronic payment ... At the end of the course, students have the ability to apply a number of available technology applications in traceability, production management and online transactions, e-marketing and electronic payments to organize, manage production and start-up in the field of veterinary medicine.

### ***80. Branding and product development - 3 credits***

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

+Prerequisite subject: No.

+ Previous subject: No.

The Branding and Development module equips students with knowledge applicable to corporate governance, focusing on aspects such as branding, designing and identifying branding models. brand, brand positioning strategies, communication and brand protection.

### ***81. Business Administration – 3 credits***

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

Previous lesson: Management Science

Prerequisite: No.

Parallel modules: Starting a business, building and developing a brand

Summary of the course content: The business administration module aims to equip students with basic knowledge of business administration skills, including: Introduction of business issues, business environment, introduction the basics of governance (human resource management, production and operational management, quality management, cost management, results and corporate financial policy) as well as related issues. related to the inspection and control in the enterprise. The module also helps learners form the

necessary skills to become a truly dynamic administrator with good skills and professionalism.

The module is built into 05 programs with logical sequence, easy to understand, providing full basic knowledge as well as applying skills into practice. The layout is as follows:

Chapter 1: General corporate governance issues

Chapter 2: The business environment of the business

Chapter 3: Planning in corporate governance

Chapter 4: Basic areas in corporate governance

Chapter 5: Business results management and control in the business

### **82. *Postharvesting and processing of Agro-products- 3 credits***

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

Prerequisite:

Previous subject:

Preservation and processing of agricultural products is a specialization referring to the nature and nature of preserving agricultural products and foodstuffs in the process of industrial production, especially in the food industry. Thereby giving directions to preserve agricultural products, good quality food for a long time in the production process.

### **83. *Agroforestry– 3 credits***

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

Previous courses:

Prerequisite courses: No

Parallel course: No

The module provides learners with the basic and general concepts of agroforestry farm management, the scientific basis of farm governance; establishment and construction of farm production and business plans; knowledge of management, establishment, production organization, production resources, farm technology and the role, importance of traceability, application in farm management in the age of application information technology 4.0 for livestock products. After completing the course, students will be able to apply the knowledge they have learned into the construction, management of production and business activities, and traceability of an agroforestry farm to meet practical requirements.

### **84. *Food technology – 3 credits***

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

Conditions for participation in the study module:

Prerequisite subjects: Advanced math, physics, chemistry, biology

Equip learners with basic concepts and knowledge of processes in food production such as sorting, sedimentation, filtration, centrifugation, heat, extraction, and drying. Variations and influencing factors occur in food processing. Applying and operating equipment systems for food production with high productivity and efficiency

**85. *Biological risk management - 3 credits***

Time of study: 3 credits (45 theory hours / 0 practice hours / 90 self-study hours)

Previous lesson: No.

Prerequisite: Biology, General Microbiology

Parallel learning: No.

Summary of the module content: This course includes basic and advanced knowledge about biological risks, biosafety levels; basic and advanced knowledge of safe laboratory practices, microbiological techniques, and risk assessment and management of genetically modified organisms and products of variable organisms. genetically modified. From there, learners can apply in the management of biological risks in research and production practices.

**86. *Cultivation – 3 credits***

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

Previous courses: No

Prerequisite courses:

Parallel courses: Entrepreneurship, Brand construction and development

This is an external course for students in the field of Agronomy, so this course helps students accumulate knowledge of specialized facilities: Plant Biology, Soil Science, Nutrition and Fertilizer, Plant Diseases (outline and specialties), main crops such as fruit trees, food and food crops.

The main content includes: Chapter 1: General overview of Agronomy; Chapter 2: Introduction to the classification of the main crops. Chapter 3: Assessing the importance of crops; Chapter 4: Research on plant biology. The relationship between crops and external conditions;

**87. *Environmental technology- 3 credits***

Time of study: 3 credits (45 theoretical hours / 0 practice hours / 90 self-study hours)

The module provides learners with knowledge of the process of waste generation, quantity, composition, harm and integrated measures of waste treatment to minimize the negative impact of livestock waste on the environment. ensure a safe and sustainable ecosystem, and at the same time apply this knowledge to farming practices.

**88. *Visiting factories producing animal feed, veterinary medicine and farms- 1 credit***

Time of study: 1 credits (0 theoretical hours / 60 practice hours / 60 self-study hours)

Prerequisite: no

Previous subject: no

The module equips learners with the basics of organization, management and production at feed factories, veterinary medicine, and livestock farms.

**89. *Prevention Vaccination - 2 credits***

Time of study: 2 credits (0 theory hours / 120 practice hours / 120 self-study hours)

Prerequisite subjects: Veterinary pharmacology, Animal physiology.

Previous subjects: Internal Medicine - Veterinary Medicine, Veterinary Pharmacology, Technology for manufacturing and using vaccines.

The module is equipped with skills on how to use and preserve vaccines, how to approach animals, and techniques in vaccination.

**90. *The Organization and management of poultry farms - 5 credits***

Time of study: 5 credits (0 theory hours / 300 practice hours / 300 self-study hours)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Genetics - Animal breeds, Animal feed nutrition.

Previous subjects: Genetics - Animal breeds, Poultry production.

The module equips learners with skills to prepare poultry farming conditions (barns, tools ... in poultry farming); Rules of a poultry farm; Fodder for poultry; Characteristics of poultry species raised in the establishment; Poultry selection techniques; Poultry breeding techniques (Sanitation of barns, feeding, drinking ...); Check and evaluate the poultry health status; Implementation of the process of disease prevention and treatment (Veterinary hygiene, prevention with vaccines, use of medicines for prevention and treatment ...); Waste treatment in poultry farms; Find out about the farm's production plan through books / interviews; Know the economic efficiency of poultry / year.

**91. *The Organization and management of pig farms - 5 credits***

Time of study: 5 credits (0 theory hours / 300 practice hours / 300 self-study hours)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Genetics - Animal breeds, Animal feed nutrition.

Previous subjects: Genetics - Animal breeds, Swine production.

The module equips learners with skills to prepare conditions for pig raising (barn, livestock tools ...); Rules of a pig farm; Fodder for pigs; Characteristics of pigs raised in the establishment; Pig selection techniques; Pig breeding techniques (Sanitation of barns, feeding, drinking ...); Check and evaluate the health status of pigs; Implementation of the process of disease prevention and treatment (Veterinary hygiene, prevention with vaccines, use of medicines for prevention and treatment ...); Waste treatment in pig farms; Find out about the farm's production plan through books / interviews; Know the economic efficiency when raising pigs / year.

**92. *The Organization and management of pig farms - 5 credits***

Time of study: 5 credits (0 theory hours / 300 practice hours / 300 self-study hours)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Genetics - Animal breeds, Animal feed nutrition.

Previous subjects: Genetics - Animal breeds, Ruminant production.

The module equips learners with skills to prepare conditions for raising buffaloes, cows, goats, and sheep (barns, livestock tools ...); Rules of a ruminant farm; Food for ruminants; Characteristics of subjects ruminants cultured in the establishment; Ruminants selection technique; Ruminants breeding techniques (Sanitation of barns, feeding, drinking ...); Check and evaluate the health of ruminants; Implementation of the process of disease prevention and treatment (Veterinary hygiene, prevention with vaccines, use of medicines for prevention and treatment ...); Waste in ruminants breeding facilities; Find out about

the farm's production plan through books / interviews; Know the economic efficiency when raising ruminants / year.

**93. Animal Science Thesis – 10 credits**

Time of study: 10 credits (0 theory hours / 600 practice hours / 600 self-study hours)

Previous courses: Veterinary Infectious Diseases, Veterinary Internal Diseases, Veterinary Obstetrics Diseases, Parasites and Veterinary Parasites, Veterinary External Diseases.

Prerequisites courses: Veterinary diagnosis, Veterinary Pharmacology, Planning and organization of animal disease prevention, Disease management and veterinary practice at poultry farms, Diagnostic skills, prevention and treatment of livestock at Veterinary Infirmary

Parallel course: No

Summary of course content: this course is the final part of the training program and plays an important role in the current education. Course also help students access and grasp the reality of production, consolidate the knowledge learned, and apply theory to production practice, thereby improving their professional knowledge to master scientific research methods. In addition, the time of graduation is also the time for students to train and learn from the experiences of their forelimbs, in order to equip themselves with professional knowledge and management after graduation can become a scientific staff with professional qualifications, solid skills, improve soft skills and effective communication ability.

**94. Planning production and use software in management and trading animal feed and veterinary drugs – 1 credit**

Time of study: 1 credits (0 theory hours / 60 practice hours / 60 self-study hours)

Prerequisite subjects: Biochemistry - Animal Physiology; Animal feed nutrition, Pharmacology, Farm management.

Previous subjects: Animal feed nutrition, Pharmacology, Farm management.

The internship module on production planning and use of animal feed and veterinary medicine management and trading software provides learners with knowledge about the steps of planning for food production and veterinary medicine. organize and manage feed and veterinary medicine using software.

**95. Basic laboratory skills– 1 credit**

Time of study: 1 credits (0 theory hours / 60 practice hours / 60 self-study hours)

Previous subjects: General microbiology

Parallel subjects: Animal physiology, Biochemistry - animal physiology; Veterinary pharmacology

The course equips students with skills in cleaning and disinfecting laboratory equipment and tools. How to prepare the medium, culture, and dye the specimen in the microbiological laboratory.

**96. Process of care, nutrition and prevention and treatment of diseases for poultry – 3 credits**

Time of study: 3 credits (0 theoretical hours / 180 practice hours / 180 self-study hours)



Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Genetics - Animal breeds, Animal feed nutrition.

Previous subjects: Genetics - Animal breeding, Poultry production, cattle production, swine production.

The module equips learners with skills to prepare poultry farming conditions (barns, tools ... in poultry farming); Rules of a poultry farm; Fodder for poultry; Characteristics of poultry species raised in the establishment; Poultry selection techniques; Poultry breeding techniques (Sanitation of barns, feeding, drinking ...); Check and evaluate the poultry health status; Implementation of the process of disease prevention and treatment (Veterinary hygiene, prevention with vaccines, use of medicines for prevention and treatment ...); Waste treatment in poultry farms; Find out about the farm's production plan through books / interviews; Know the economic efficiency of poultry / year.

**97. Process of care, nutrition and prevention and treatment of diseases for pig – 3 credits**

Time of study: 3 credits (0 theoretical hours / 180 practice hours / 180 self-study hours)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Genetics - Animal breeds, Animal feed nutrition.

Previous subjects: Genetics - Animal breeding, Poultry production, cattle production, swine production.

The module equips learners with skills to prepare conditions for pig raising (barns, tools ... in pig breeding); Rules of a pig farm; Fodder for pigs; Characteristics of pigs raised in the establishment; Pig selection techniques; Pig breeding techniques (Sanitation of barns, feeding, drinking ...); Check and evaluate the health status of pigs; Implementation of the process of disease prevention and treatment (Veterinary hygiene, prevention with vaccines, use of medicines for prevention and treatment ...); Waste treatment in pig farms; Find out about the farm's production plan through books / interviews; Know the economic efficiency when raising pigs / year.

**98. Process of care, nutrition and prevention and treatment of diseases for ruminant – 3 credits**

Time of study: 3 credits (0 theoretical hours / 180 practice hours / 180 self-study hours)

Prerequisite: Animal Physiology; Biochemistry - Animal Physiology; Genetics - Animal breeds, Animal feed nutrition.

Previous subjects: Genetics - Animal breeding, Poultry production, cattle production, swine production.

The module equips learners with skills to prepare conditions for raising buffaloes, cows, goats, and sheep (barns, livestock tools ...); Rules of an establishment ruminants; Food for ruminants; Characteristics of ruminants in baseline subjects; Ruminants selection technique; Ruminants breeding techniques (Sanitation of barns, feeding, drinking ...); Check and evaluate the health of ruminants; Implementation of the process of disease prevention and treatment (Veterinary hygiene, prevention with vaccines, use of medicines for prevention and treatment ...); Waste in ruminants breeding facilities; Find out about the farm's production plan through books / interviews; Know the economic efficiency when raising ruminants / year.