

**BRIEF OUTLINE OF ALL COURSES IN THE PROGRAMME**

*Decision No 1087 / QĐ- DT dated 9/12/2020 of the Rector of University of Agriculture and Forestry - Thai Nguyen University*

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

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

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject 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 WesteProfessional 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***

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

Previous subjects: N/A

Prerequisite: N/A

Co-requisites: N/A

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 subject 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***

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

Previous subjects: N/A

Prerequisite: N/A

Co-requisites: N/A

Summary of subject content:

Scientific socialism is a module equipped with knowledge of socio-economic theories created by Marx and Engels. This subject 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. tenet. 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***

Credit points: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject 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***

Credit points: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

This course presents objectively, comprehensively and veningly the basic events of the Party's history through each stage and revolutionary period in its movement, development Professional practicesal relationships. On that basis, it compares with practical requirements for analyzing and evaluatiing 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, outline the nature, general tendencies and objective laws that professional practices the movement of history.

The 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***

Credit points: 4 credits (50 theoretical hours/20 practice hours/120 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

Chemistry course consists of 6 chapters including 50 theoretical hours and 10 practice hours. The theoretical hours equip 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 theoretical hours equip 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**

Credit points: 3 credits (40 theoretical hours/10 practice hours/90 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

Biology course consists of 7 chapters. The theoretical hours provide students 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 hours equip 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 carm deeply ingrain knowledge.

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

Credit points: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

General sociology is a compulsory course to equip students with a systemual knowledge of socio-leading, professional practicing, including: courses, functions, research tasks of socio-leaProfessional practicesing; socio-socion socionual basics. On

the basis of basic concepts, students can understand the relationships among 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**

Credit points: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

Physics course consists of 5 chapters with 17 theoretical hours and 13 hours of exercises and discussions. Theoretical hours provide students general understanding of mechanical, basic forms of movement associated with practice, basic laws of Newton; 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, sound waves and application to the specialties 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 and discussions: Ask students to apply the knowledge in each chapter to solve practical problems: explain the phenomena, apply the knowledge to the main major.

### **10. Mathematics – 2 credits**

Credit points: 2 credits (30 theoretical hours/0 practice hours/60 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

Advanced Mathematics course consists of 3 chapters with 17 theoretical hours and 13 discussion hours. Theoretical course provides students 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.

Equip students 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 students applies apply to solve math exercises in the course and apply in practical problems.

### **11. English 1 – 3 credits**

Credit points: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

This subject provides the basic knowledge about Grammar (sentence structure, tenses...), Phonetic (phonetic & intonation), and Vocabulary (words & word form); Focus on Grammar, Intonation, and Vocabulary as the basic tools for communication practice; Forming the first step of language communication skills such as Listening, Speaking, Reading, The basic concepts of relationships between Language, Culture, and oral communication.

Grammar: simple present; simple past tense; present continuous tense; past tenses; Like/ would like; modal verbs; comparative adjectives.

Vocabulary: words related to daily activities and free time; time expressions in the present and past; words describing feelings; means of transport.

Reading: health; sports; transportation; exploration.

Listening: health; sports; transportation; exploration.

Speaking: ambition; tell a story.

Writing: connecting words; write the report; write the past story.

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

After finishing this course, students have the ability to: skim the main idea; read to get some details, guess the meaning of words in the context; Listen to the main idea and some detailed information, guess words; Make simple sentences and simple conversations to communicate in real situations. Writing simple sentences and topics in the lesson.

### **12. English 2 – 3 credits**

Credit points: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

This subject provides the basic knowledge about Grammar (sentence structure, tenses...), Phonetic (phonetic & intonation), and Vocabulary (words & word form); Focus on Grammar, Intonation, and Vocabulary as the basic tools for communication practice; Form the first step of language communication skills such as Listening, Speaking, Reading, Show the basic concepts of relationships between Language, Culture, and oral communication

Grammar: countable nouns and uncountable nouns; quantifies, articles, to be going, prepositions of place; the present perfect tense, relative clauses and the first conditional sentences.

Vocabulary: words related to materials, words related to jobs, synonym; prefix, suffixes.

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

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

Speaking: report; interview.

Writing: report; e-mail; descriptions; CV; paragraphs; connecting words, topic sentences.

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

After finishing this course, students have the ability to: skim the main idea; read to get some details, guess the meaning of words in the context; Listen to the main idea and some detailed information, guess words; Make simple sentences and simple conversations to communicate in real situations. Writing simple sentences and topics in the lesson.

### ***13. English 3 – 3 credits***

Credit points: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

This subject provides the basic knowledge about Grammar (sentence structure, tenses...), Phonetic (phonetic & intonation), and Vocabulary (words & word form); Focus on Grammar, Intonation, and Vocabulary as the basic tools for communication practice; Form the first step of language communication skills such as Listening, Speaking,

Reading, Show the basic concepts of relationships between Language, Culture, and oral communication

Grammar: Passive Voice (present and past); past perfect tense; Used to.; indirect sentences; indefinite pronouns; the second conditional sentences;

Vocabulary: words related to vacation; animal classification; weather.

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

Listening: language; travel; nature.

Speaking: holiday plans; future prediction

Writing: letters; biography.

Pronunciation: /s /, /z/, intonation.

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

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

Credit points: 3 credits (15 theoretical hours/60 practice hours/90 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

The subject equips knowledge about computers and computer networks, basic computer applications skills. After completing this course, students can proficiently use computers; work 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 to draft 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 Internet for studying and researching; know how to use e-mail to send and receive documents.

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

Credit points: 3 credits (45 theoretical hours/0 practice hours/90 self-study hours)

Previous subjects: N/A

Prerequisites: Advanced Mathematics

Co-requisites: N/A

Summary of subject content:

The Probability and Statistics subject consists of 2 parts: Probability and statistics with 27 theoretical hours and 18 discussion courses. Theoretical hours provide 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 courses 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***

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

Previous courses: No

Prerequisites: No

Parallel courses: No

The Management Science subject 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, to create favorable conditions for them to deeply research and solve reasoning or practical problems separately 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 4 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***

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

Previous courses: Biology

Prerequisites: No

Parallel courses: No

Summary of subject content:

The subject provides students the basic understandings about form, structure, biology, bio-biomedicizing, 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; study the beneficial and harmful aspects of microorganisms in life, especially in the field of agriculture, understand and explain 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. Vietnamese Culture – 3 credits**

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

Previous course: General Sociobiology

Prerequisites: Marxist Philosophy

Parallel course: No

Summary of course content: The study provides comprehensive knowledge about the awareness culture and organizing life culture of Vietnamese people; thereby, educating the kindness, awareness and responsibility of each citizen for the national cultural heritage and the future of Vietnamese culture. On that basis, it helps students recognize Vietnamese cultural values, contribute to preserving and promoting national identity on the path of international integration, building Vietnamese culture and people of developing comprehensively towards the truth – goodness – beauty. The discussion exercises help students apply theoretical knowledge in solving, identifying life problems to exchange, guide and grasp social development trends, equip more positive skills and attitudes to meet the needs of people in the new era.

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

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

Previous courses: Biology

Prerequisites: No

Parallel course: No

Summary of subject content:

The subject 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 build a balanced agricultural ecosystem and towards sustainable agricultural development while managing, protecting the habitat and exploiting natural resources in a reasonable and effective way.

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

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

Previous course: Biology

Prerequisites: No

Parallel courses: No

Summary of subject content:

The Economic Geography subject 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.

#### **21. State and Law – 3 credits**

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

Previous course: Marxist-Leninist philosophy

Prerequisites: No

Parallel courses: No

State and Law subject provides 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.

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

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

Previous course: No

Prerequisites: Chemistry, general microorganisms

Parallel course: No

Summary of subject content:

Environmental Pollution subject aims 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 course 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.

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

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

Previous courses: No

Prerequisites: Biology

Parallel courses: No

Summary of subject content:

Molecular Biology is a subject 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 captioning food using molecular biology tools.

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

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

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of subject content:

The Scientific Approach Methodology subject 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.

### **25. Labor Safety – 3 credits**

Distribution of study time: 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 subject content:

Labor Safety subject aims 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 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; Circulars of ministries and inter-ministries and System of technical standards and regulations on occupational safety and sanitation.

Occupational safety course provides students 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 equipments; safe to work with lifting

### **26. Soft Skills**

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

Previous courses: General Sociobiology

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips knowledge and skills in situational handling, agricultural promotion methods and some basic skills; Planning agricultural promotion programs; Methods of examination and assessment with the participation of the citizens; Agricultural extension for special groups, and training of trainers. Thereby, students develop communication and consultation skills and apply multimedia methods, soft skills, independent work, and teamwork at work and systematize knowledge for critical thinking on social and professional issues.

### **27. Academic English – 3 credits**

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

Previous courses: English 3

Prerequisites: No

Parallel courses: No

Summary of course content: The course equips students in major of Animal Science and Veterinary Science with academic English knowledge to help students acquire the necessary skills to be able to study and work in English, and to be able to read and understand documents in English, understand interviews, reports and lectures in English, present personal ideas and write essays in an academic environment. This subject also provides students with a certain amount of specialized English vocabulary suitable for each major.

### **28. Athletics – 1 credit**

Credit points: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

The subject 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.

### **29. Volleyball – 1 credit**

Credit points: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

The subject 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.

### ***30. Badminton – 1 credit***

Credit points: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

The subject 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.

### ***31. Shuttlecock Kicking – 1 credit***

Distribution of study time: 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 Shuttlecock Kicking. After finishing this lesson, students will raise awareness of regular health training to have a better studying and working spirit.

### ***32. Martial Arts – 1 credit***

Credit points: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

The subject 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.

### ***33. Basketball - 1 credits***

Credit points: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

The subject 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.

### **34. Football – 1 credit**

Credit points: 1 credit (0 theoretical hours/30 practice hours/30 self-study hours)

Previous subjects: N/A

Prerequisites: N/A

Co-requisites: N/A

Summary of subject content:

The subject 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.

### **35. Animal Biochemistry – 2 credits**

Distribution of study time: 2 credits (26 theoretical hours/8 practice hours/60 self-study hours)

Previous hours: Biology, Chemistry

Prerequisites: no

Parallel modules: Animal Physiology, Animal Feed & Nutrition, Animal Histology.

Summary of course contents: The course provides learners with knowledge of: i) The structure, nature and functions of the components that make up animal body; ii) The role and biological effects of vitamins, enzymes, hormones on the growth, development of pets and pathogens causing by lack of vitamins, enzymes or hormone disorders; iii) Digestion, absorption, synthesis, resolution and normal activities of the body of poultry cattle; iv) The mechanisms, origins and causes of most common diseases due to metabolic disorders in the body of cattle and poultry.

### **36. Animal Anatomy – 3 credits**

Distribution of study time: 3 credits (39 theoretical hours/12 practice hours/90 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 organs in the body 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 organs in the body of livestock and poultry for medical examination and treatment; compare and distinguish organs of cattle and poultry species; perform animal anatomy operations and have practical applications.

### **37. *Animal embryonic tissue - 2 credits***

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

Previous courses: Biology

Prerequisites: No

Parallel courses: Animal Anatomy, Animal Physiology, Animal Biochemistry.

Summary of course content: The Animal Embryo Tissue Module equips learners with the knowledge of the smallest unit of the body (cytology), general organs / tissues of the body (General studies of organizations, the microstructure of the organ systems such as: respiratory, digestive, genital,... (Specialized studies of organizations) and embryology as the foundation for specialized subjects such as Diagnosis Veterinary diseases, Diagnostic Imaging, Veterinary immunology, Veterinary pathology, Reproductive technology, Specialized husbandry, etc. After studying the Organization module and embryo, students can read microscopic template, describe structure of organizations and agencies; explain the relationship between structure and function, and have practical applications.

### **38. *Animal Physiology - 3 credits***

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

Previous courses: Biology, Animal Anatomy

Prerequisites: No

Parallel courses: Animal Biochemistry, Animal Feed & Nutrition, Animal Breeding and Genetics, Animal Histology...

Summary of course content: The module of Animal Physiology provides learners with knowledge about the functions of the body from the molecular level, cell to organ system; studying the normal process of the organs in animal body with the complete unity and external relations under the regulation of nerves and fluids. From this knowledge, animal husbandry engineers, veterinarians will have the basis to notice the difference in the case of pathology to find out how to adjust the balance of the animal's body or find

out how to adjust normal physiological activities into physiological activities according to human wishes to bring high benefits in animal husbandry and veterinary medicine. This is a very important subject that creates a theoretical basis for students in Veterinary Medicine to acquire specialized knowledge in the direction of controlling growth, development, reproduction, prevention and treatment of animal diseases. After completing this module, students will have a good career attitude in animal welfare practice.

### ***39. Nutrition and Animal Feed - 4 credits***

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

Previous module: Animal Embryo Tissue, Animal Anatomy.

Prerequisites: Animal Biochemistry, Animal Physiology

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

Summary of subject content:

The Animal Feed & Nutrition subject provides university students 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 ... Based on that knowlegde, 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 that knowledge, students can create mixed feed recipes for pets with high nutritional value, low price.

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

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

Prerequisites: Animal Biochemistry, Animal Physiology

Previous courses: General microbiology

Parallel courses: No

The subject focuses on the basics of pharmacology, pharmacokinicology, 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.

#### ***41. Genetics- Animal Breeding- 3 credits***

Time distribution: 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

This subject equips students with basic scientific knowledge about: i) the genetic basis of the edifinds and edifies 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 skills to build a spectrum system on the software in selecting varieties. Proficiently 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.

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

Distribution of study time: 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.

The Veterinary Pathology is a subject 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

#### ***43.. Imaging Diagnosis - 3 credits***

Distribution of study time: 3 credits (15 theories/60 practice hours/90 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...

The Imaging Diagnosis subject 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.

#### ***44. Veterinary microorganisms - 3 credits***

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

Prerequisites: General microorganisms

Previous course: Biology

Parallel courses: no

Summary of course content: The course equips students with knowledge about the biological characteristics of bacteria, fungi, viruses that cause diseases in livestock and poultry: 1. Concept and subspecies. 2. Morphological characteristics, color-catching properties, culturing and biological properties. 3. Resistance and pathogenicity. 4. Diagnosis by culture, isolation and diagnosis of serum. 5. Prevention and treatment of diseases by microorganisms causing diseases to livestock.

#### ***45. Veterinary immunobiology – 2 credits***

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

Previous courses: General microorganisms

Prerequisites: no

Parallel courses: No

Summary of course content: The course equips students with knowledge about; (i) the natural resistance of the animal's body in ecology; (ii) the functional role of components in the body's immune system and the immune response process in the body; (iii) the mechanism of action and the immune state of the body; (iv) the body's immune response against pathogenic microorganisms; (v) application of veterinary immunobiology in testing, diagnosis, prevention and treatment of diseases for animals. After studying this module, students understand the basics of resistance and immune states of the animal's body; understand the rules and mechanisms of the immune response; grasp the concepts, properties of antigens, antibodies and apply some advanced technologies in the prevention and surveillance of epidemics for animals.

#### ***46. Veterinary Epidemiology - 3 credits***

Time distribution: 2 credits (30 theoretical hours/30 practice hours/90 self-study hours)

Previous courses: Diagnosis of veterinary diseases

Prerequisites: no

Parallel courses: Veterinary Infectious Diseases, Professional Practices: Using epidemic management software.

Summary of course content: The course provides students with knowledge about: i) Causes of disease and risk factors for disease formation; ii) Understanding of infectious disease epidemiology and measures to prevent infectious diseases; iii) Methods of calculating epidemiological parameters, analyzing risk factors between diseases and pathogens; iv) Sampling methods and number of samples in the study.

#### ***47. Practice the diagnosis of diseases in aquatic animals - 3 credits***

Distribution of study time: 3 (0 theoretical hours/90 practice hours/90 self-study hours)

Prerequisites: Diseases in aquatic animals

Previous courses:

Parallel courses:

The course provides students with knowledge of the method of observation, recording the outer-characteristics and inner-characteristics of the body of sick aquatic animals in order to shape and form disease diagnosis diagrams by group of infected species or by pathogenic group; provide basic knowledge and skills in the diagnosis and testing of endemantic diseases. (students will observe and perform the manipulations of the routine Method of Diagnosis of Parasites); provide students with a method of diagnosis of fungal diseases by fresh screening; provide students with knowledge and skills in Rapid Diagnostic Methods and Laboratory Microbial Isolation Methods; provide

students with knowledge and skills to identify viral diseases by Fresh Screening Method, Gram Dyeing Method, Tissue Cutting Method and Molecular Method having been widely used in the identification of viral diseases in aquatic animals.

#### ***48. Caring and training practice for pets- 3 credits***

Distribution of study time: 3 (0 theoretical hours / 90 practice hours / 90 self-study hours)

Previous courses: No

Prerequisites: No

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

Summary of course content: Caring and training practice for pets course equips students with knowledge of the biological characteristics of a pet for caring and training.

After completing this course, students are capable of using a number of specialized tools in caring and training for pets and being proficient in caring and training pets.

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

Distribution of study time: 4 (50 theoretical hours / 20 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 course content : The Swine Production course provides students with the following knowledge: (1) Biological characteristics and swine production to help students grasp biological characteristics such as fertility, feed conversion ability, fat meat production ability, adaptability and fertility assessment and fat production indicators to apply in production practice; (2) Breeds and breeding work in swine production to help students know the appearance and production capacity of swine breeds raised in Vietnam and in the world as well as techniques for swine breeding work; (3) Basic knowledge of nutrition and feed for swine; (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 swine and (5) Organization, production and solution for waste disposal in swine breeding help students organize, build and operate the production of swine breeding facility.

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

Distribution of study time: 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 Production 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 farming poultry.

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, farming and equipment in poultry production; vii) laying poultry techniques; viii) poultry breeding techniques; ix) waterfowl production techniques, x) pigeons, ostriches and quails production techniques.

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

Distribution of study time: 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 course content: The course on ruminant production equips students with basic knowledge of sources and methods of updating and using information about buffalo and cows breeds in production; Techniques for assessing the production capacity of buffaloes; Method of keeping; Process of technique, 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; vii) dairy cattle breeding techniques; ix) cattle for meat breeding techniques, x) plowing cattle breeding techniques.

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

Distribution of study time: 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 course content : Veterinary infectious diseases is a 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).

### ***53. Parasites and veterinary parasite diseases - 4 credits***

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

Previous courses: No

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

Parallel courses:

Summary of course content: Parasites and veterinary parasitic diseases is a scientific course 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.

### ***54. Animal Behaviour and Welfare – 3 credits***

Distribution of study time: 3 credits (45 theories/0 practice hours/90 self-study hours)

Previous course: Biology

Prerequisites: No

Parallel courses: Animal Physiology, Animal Biochemistry

Summary of course content: This course equips students with basic scientific knowledge about: i) the factors that influence the behavior of the animal, the recognition of the behavior manifestations that contribute to our understanding of animal welfare; ii) Understand the relationship between nutrition and feeding with “5 No”, the link between welfare and diseases, production capacity and applying principles of environmental improvement when designing a nourishing system for animals

This course helps students: iii) Identify issues around cattle slaughter, humanitarian slaughter methods promoting good practice and protect animal rights, animal protection laws at the time of slaughter; social, cultural, economic and legal factors affecting the quality of the animal's death; iv) Laws on protection of animals during breeding and slaughter.

This course also helps students differentiate between science, ethics and animal welfare laws; explain the principles of humanitarian education, clarify the role of humanitarian education in affecting human attitudes toward animals; and explain the principles of humanitarian education; encourage students to think rationally about animal welfare issues to find support from many sources including local and international sources; play a big role in directly improving animal welfare through their own actions and through influential others to do the same.

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

Distribution of study time: 3 credits (37 theoretical hours/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 course content: Veterinary Internal Medicine-Diagnosis course provide students with knowledge and skills about i) general examination methods, methods of animal's organs examination including 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.

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

Distribution of study time: 3 credits (37 theoretical hours/ 16 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 course content: The Veterinary Surgery-Obstetrics course provides students majoring in Veterinary Pharmacology with knowledge about the basic techniques of veterinary surgery, includes fixed methods, principles of prevention of infection in surgery, methods of anesthesia, anesthesia used in surgery, surgical hemlocking methods, needles and sutures, as well as methods of connecting tissue and some surgical methods and treatment of certain specific surgical diseases on the anatomical areas of the animal. In addition, the study will introduce some obstetric diseases that occur in cattle such as obstetric diseases during cattle pregnancy, during childbirth, difficult calving and diseases in the mammary glands. In summary, this course is closely related to knowledge of animal body, animal physiology, pharmacology and disease diagnosis, in order to provide essential knowledge and skills for veterinary medicine students.

#### ***57. Animal Products Inspection - 3 credits***

Distribution of study time: 3 credits (39 theoretical hours/12 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, etc. aiming to provide humans with high-value animal products, ensure food hygiene and safety, health and safety for consumers and disease safety for livestock and poultry.

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

Distribution of study time: 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 and minimize environmental pollution.

### ***59. Reproductive Technology - 3 credits***

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

Previous courses: No

Prerequisites: Animal Anatomy, Animal Physiology, Animal Histology

Parallel courses: No

Summary of course content: 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 course, students are 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; master 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.

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

Time distribution: 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 students 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 street food and drinks, etc., food quality management systems such as HACCP, ISO, VietGAP in livestock, 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 and 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 food sector in general and livestock and veterinary industry in particular.

#### ***61. Specialized Law – 2 credits***

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

Previous courses: All Basic and specialized courses

Prerequisites: Veterinary Microorganism; Veterinary Pharmacology, Veterinary Epidemiology; Veterinary Infectious Diseases, Parasites and Veterinary parasite diseases, Veterinary Medicine Processing and Testing.

Parallel courses: Animal Hygiene, Animal Products and Inspection, Specialized breeding

Summary of course content: The Specialized Law was passed by the National Assembly on June 19, 2015, became effective on July 1, 2016. The course equips students with laws on prevention of animal diseases; Quarantine of animals and animal products; Control of slaughter of animals, preliminary processing and processing of animals and animal products; inspection of veterinary hygiene. After finishing the Veterinary Laws course, students have sufficient legal knowledge of the industry and are proficient in finding circulars related to specific laws to apply to the work of organizing production and business, registering products, practicing veterinary medicine in accordance with the law; Have skills of independent work and teamwork; Be honest and implement animal welfare.

#### ***62. Design and construction of animal farms – 2 credits***

Time distribution: 2 credits (10 theory periods/40 practice periods/60 self-study periods)

Previous courses: Animal Breeding and Genetic, Swine Production, Poultry Production, Ruminant Production.

Prerequisite courses: Animal Histology; Animal Physiology; Animal Nutrition and Feed.

Parallel course: No

Summary of course content: This course equips students with basic knowledge about: location, structure of sections as well as the whole livestock farm; be suitable with the method of breeding; specifications of each subject. Scientific research relates to methods of breeding.

The contents of the course include: i) Location of farm construction ii) Components of the farm; iii) Structure of the barn; iv) Electrical and information systems; v) Water supply system; vi) The air system; vii) Warehousing system; viii) Quarantine areas; ix) The disinfection zone; x) Waste treatment areas.

### ***63. Experimental methods in animal science and veterinary medicine - 2 credits***

Distribution of study time: 2 credits (30 theoretical lessons/ 0 practice lessons/ 60 self-study lessons)

Previous courses: Animal Physiology, Animal Biochemistry, Animal Breeding and Genetics, Animal Nutrition and Feed.

Prerequisite courses : Probability and Statistics

Parallel courses: Management Science

Summary of course content: This course equips students with knowledge of the basic principles of designing an experiment, one-factor and two-factor experimental design methods, methods of analyzing laboratory data and processing research results using computer-based software such as SAS software, Minitab. After completing this study, students have the ability to detect, analyze research issues, write proposals and write lectures on basic scientific research topics; apply the knowledge learned to design one factor and two factors in production practice; analyze, evaluate laboratory data and master the processing of research results with Minitab software.

### ***64. One health in Veterinary Medicine – 2 credits***

Distribution of study time: 2 credits (24 theory periods/12 practice periods/60 self-study periods)

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 veterinary students with the basics of One Health, including factors affecting One Health, Core Competencies of One Health (Planning and managing plan 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 students 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).

#### **65. Goats, Rabbits and Horse Production - 2 credits**

Distribution of study time: 2 credits (30 theoretical lessons/0 practice lessons/ 60 self-study lessons)

Prerequisite courses: Animal embryonic tissue; Animal bio-physics; Animal bio biomedification, Animal feed nutrition.

Previous courses: Genetics - Livestock Breeds

Parallel courses: No

Summary of course content: This course equips students with basic knowledge including sources and methods of updating and using information about the breed of goats, rabbits and horses production; techniques in evaluating the production of goats, rabbits and horses; Method of raising; Technical process, organization and production management; Scientific research relating to breeding goats, rabbits and horses.

The contents of the course include: i) Breeds and work of goat breeds; ii) Nutrition and feed of goats; iii) Goat farms; iv) Techniques for breeding goats; v) Breeds and rabbit breeds; vi) Nutrition and feed for rabbits; vii) rabbit housing viii) breeding techniques of rabbits; ix) breeds and horse breeds, x) food and housing for horse breeding; xi) techniques for breeding horses.

#### **66. Diseases in cats and dogs - 2 credits**

Distribution of study time: 2 credits (24 theoretical lessons/12 practice lessons/60 self-study lessons)

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

Previous courses: No

Parallel courses: Veterinary Medicine, Veterinary Surgery and Obstetrics,

Summary of subject content: 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.

**67. *Veterinary toxicology - 3 credits***

Distribution of study time: 3 credits (45 theoretical lessons/ 0 practice lessons / 90 self-study lessons)

Prerequisite courses: Animal Biochemistry, Veterinary Pharmacology

Previous courses: No

Parallel courses: No

Summary of course content: Veterinary Toxicology equips learners with knowledge about the concept of poison, how poison enters the animal's body, the effect of poison on the body; Knowing how to diagnose and treating animals when poisoned; Knowing how to prevent poisoning and appropriate treatment measures when animals are poisoned.

**68. *Wild animals diseases- 3 credits***

Distribution of study time: 3 credits (45 theoretical lessons, 0 practice lessons, 90 self-study lessons)

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 content: Wild Animals Diseases course equips learners 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).

**69. *Vaccine production and use technology – 2 credits***

Distribution of study time: 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 content: This course focuses 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

#### **70. Zoonosis - 2 credits**

Distribution of study time: 2 credits (30 theoretical lessons, 0 practice lessons, 60 self-study lessons)

Previous courses: No

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

Parallel courses: No

Summary of course content: this course focuses on: i) An outline of the disease transmitted between animals and humans (including general concepts and introduction of diseases transmitted between animals and humans; 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.

#### **71. Application of Biotechnology in Animal Science and Veterinary Medicine - 3 credits**

Distribution of study time: 3 credits (45 theoretical lessons/0 practice lessons/90 self-study lessons)

Previous courses: Chemistry, Biology, Physics

Prerequisite courses: No

Parallel courses: No

Summary of course content: This course provides students with basic scientific knowledge about biotechnology and the most outstanding applications of biotechnology in animal science, veterinary medicine (breeding work, nutritious feed, disease prevention, product processing, waste treatment and environmental protection). After finishing this course, students identify the basic techniques of biotechnology, know how to apply biotechnology to animal science and veterinary medicine.

#### **72. Silkworms, bees and rare animals production - 3 credits**

Distribution of study time: 3 (41 theoretical lessons/08 practice lessons/90 self-study lessons)

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

Summary of course content: The rare animal production course consists of 4 parts:

Part 1. Honey bee keeping techniques: The role and benefits of the bee; Bee breeding work; Bee keeping tools; Basic breeding techniques; prevention and treatment of honey bees

Part 2. Silkworm breeding techniques: Breeding work; Silkworm rearing tools; Basic breeding techniques; prevention and treatment of silkworm diseases

Part 3: Wild boar breeding techniques: Economic benefits of the development of wild boar breeding; Breeding work; Barn – Wild boar food; Basic breeding techniques; prevention and treatment of wild boars.

Part 4: Ostrich breeding techniques: Economic benefits of ostrich breeding development; Introduction to the breed; Barns – Food for ostriches; Basic breeding techniques; prevention and treatment of ostriches.

Part 5: Deer breeding techniques: Economic benefits of deer breeding development; Introduction to the breed; Barns – Food for deer; Basic breeding techniques; prevention and treatment of deer diseases.

This course equips students with the basic knowledge of breeding some rare animals to create specialty products, helping students learn about the economic benefits, knowing about the rare animal breeds; Basic technical problems of their housings, feed and techniques of nurturing and caring for each specific rare animal.

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

Distribution of study time: 3 (39 theoretical lessons/12 practice lessons/90 self-study lessons)

Prerequisite courses: Animal Biobiology, Genetics - Livestock Breeds, Animal Nutrition, Veterinary Hygiene

Previous courses: Biology, Animal Biology, Genetics - Livestock Breeds, Animal Nutrition, Veterinary Hygiene

Parallel course: No

Summary of course content: Summary of course content: The course provides learners with information on the situation of hatchery production and freshwater fish

farming. Appearance characteristics, production ability and factors affecting productivity of some freshwater fish varieties being cultured in Vietnam. Techniques, organization of seed production and freshwater fish farming. From there, application to the implementation of freshwater fish farming process.

#### ***74. Animal waste and Environment management– 3 credits***

Distribution of study time: 3 credits (45 theoretical lessons/0 practice lessons/90 self-study lessons)

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

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

Parallel courses: Veterinary Laws; Animal Product 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 of animal. Environmental treatment techniques for animal waste contribute to improving animal production and reducing environmental pollution.

#### ***75. Veterinary Herbal Medicine – 2 credits***

Distribution of study time: 2 credits (28 theoretical lessons/4 practice lessons/60 self-study lessons)

Previous courses: No

Prerequisite courses: Veterinary Pharmacology, Veterinary Infectious Diseases, Parasites and Veterinary Parasites...

Parallel courses: Veterinary toxicity, Zoonosis

Summary of course content: The Veterinary Herbal Medicine provides students with basic knowledge about medicinal herbs, the history of the development of medicinal herbs in the world and in Vietnam, how to name the medicinal herbs, the principles and methods of harvesting medicinal herbs, methods of drying medicinal herbs, methods of selection, packaging and preservation of medicinal herbs, methods of medicinal herbs according to Oriental medicine; Chemical and pharmaceutical components found in medicinal herbs, pharmacological effects and therapeutic applications of such components; Methods of evaluation and testing of medicinal herbs; Morphological characteristics, distribution, chemical components, pharmacological effects and application of some medicinal herbs in the treatment of diseases for livestock such as infectious diseases, parasites, obstetric diseases, medical diseases, etc. in the organs such

as the retinal system, digestive system, genital system, urinary system, etc. Folk remedies in the treatment of diseases; Some toxic medicinal herbs for prevention.

#### ***76. Production and Inspection Veterinary Medicines-3 credits***

Distribution of study time: 03 credits (41 theoretical lessons/8 practice lessons/90 self-study lessons)

Previous courses: Chemistry, Biology

Prerequisite courses: Veterinary Pharmacology, General Microorganisms, Veterinary Microorganisms

Parallel courses: No

Summary of course content: This course equips learners with the basis of theory and practical techniques for dispensing and manufacturing common forms of medicines; quality standards, packaging, preservation and testing techniques of such medicines in order to maximize the therapeutic effect of medicines, ensuring safety and convenience for users and meeting economic efficiency.

The contents of the course include: i) basic knowledge about medicine preparation, testing and bio-pharmacology; ii) some methods of manufacturing medicines; iii) some basic methods and technical technologies for veterinary medicine testing.

#### ***77. Practice in Veterinary Clinical Diagnosis - 3 credits***

Distribution of study time: 3 (0 theoretical lessons/90 practice lessons/90 self-study lessons)

Prerequisite courses: Veterinary Microorganisms, Veterinary Disease Diagnosis

Previous courses: Animal Histology, Animal Physiology, Animal Biochemistry

Parallel courses: Veterinary Pathology, Veterinary infectious diseases...

Summary of course content : The Practice in Veterinary Clinical Diagnostic module provides students with a high-quality veterinary students with fixed methods and general clinical examinations on buffalo, cows, goats, pigs, cats and poultry (pets), methods of examining the body systems, ultrasound methods, X-rays, rumen pokes, cardi poking leaves on goats; abdominal sinus punctures on goats, pigs. In addition, this module also helps students manipulate how to use modern equipment to diagnose diseases for livestock and poultry today such as ultrasound machines, endoscopy machines, X-ray machines, etc. Finally, the course also equips students with skills to adapt to the working environment of veterinarians in practice.

#### ***78. Practice in Veterinary Laboratory Diagnosis- 3 credits***

Distribution of study time: 3 (0 theoretical lessons/90 practice lessons/90 self-study lessons)

Previous courses: General microorganisms; Animal Physiology, Animal Biochemistry.

Prerequisite courses: Animal Histology, Veterinary microorganisms, Veterinary Diagnostics.

Parallel course: Veterinary pathology, Veterinary Infectious Diseases

Summary of course content: this course provides students with knowledge and skills in blood testing methods, urine tests, ultrasonic methods on dogs and cats; Methods of preparing instruments in microbial culture, environment used to culture and isolate bacteria, methods of dispensing culture environment, isolating certain species of pathogenic bacteria in animals and identifying bacteria; Equipment and chemicals used for microscopic specimens, methods of copying and reading microscopic specimens of the organ systems of cattle and poultry such as respiratory system, digestive system, genital system, urinary system; Methods of doing polymerase chain reaction (PCR) on bacteria, viruses and parasites.

### ***79. Practice in Artificial Insemination and Poultry Egg Incubation - 3 credits***

Distribution of study time: 3 credits (39 theoretical lessons/12 practice lessons/90 self-study lessons)

Previous courses: Biology, Animal Biochemistry, Animal Anatomy, Animal Histology, Animal Physiology, Animal Breeding and Genetics, Animal Nutrition and Feed, Productive Technology, Poultry Production.

Prerequisite courses: Poultry Production

Parallel courses: No

Summary of course content: The artificial insemination and poultry egg incubation course consists of 12 lessons,:

Lesson 1: Overview of poultry incubation.

Lesson 2: Biosecurity in poultry incubation.

Lesson 3: Preparation of conditions for incubating eggs.

Lesson 4: Selection, disinfection and preservation of incubated eggs.

Lesson 5: Operating incubator hatching machine and adjusting the incubation mode.

Lesson 6: Putting eggs in the incubator, removing the young poultry from the incubator.

Lesson 7: Biological testing techniques in poultry incubation.

Lesson 8: Process of incubating chicken eggs.

Lesson 9: Process of incubating quail eggs.

Lesson 10: Process of incubating duck eggs.

Lesson 11: Process of incubating goose eggs

Lesson 12: Selection of young poultry according to quality and special characteristics

This course equips learners and students with technical procedures for incubating poultry eggs; Performing biosecurity in incubating poultry eggs; Classifying young poultry by qualities and special characteristics.

#### **80. *Pet Spa Practice - 3 credits***

Distribution of study time: 3 credits (0 theoretical lessons/90 practice lessons/90 self-study lessons)

Previous courses: Animal Physiology, Animal Biochemistry, Animal Histology, Animal Nutrition and Feed, Veterinary Microbiology, Veterinary Disease Diagnostics, Veterinary Pharmacology

Prerequisite courses: No

Parallel courses: Veterinary Epidemiology, Imaging Diagnosis, Veterinary Pathology, Veterinary Surgery and Obstetrics.

Summary of course content: The pet spa practice course equips students with knowledge about combing, bathing, spa and beautifying pets.

After completing the pet spa practice module, students will master some specialized equipment for beautifying pets; at the same time students are able to master the most basic techniques for pet care and beauty.

#### **81. *Practice in Veterinary Surgery-Obstetrics– 3 credits***

Distribution of study time: 3 credits (0 theoretical lessons/90 practice lessons/90 self-study lessons)

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

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

Summary of course content: This course equips students with basic techniques of Veterinary Surgery, and implementing specialized techniques to intervene and treat ectopic diseases in cattle. In order to improve skills, perform professional manipulations, the course also provide and practice methods of cattle sterilization; Methods of connecting cell tissue for cattle; Method of connecting cattle bones; Method of cutting, returning the rectum to the owl position in cattle; Method of hernia surgery for cases of malformations in cattle; Method of patching buffalo and cow noses to restore the aesthetics of buffaloes, cows and manage more easily, Method of sawing, cutting buffalo horns, cows to fight infections in cases of rationing, sterilization of buffalo horns, cows to

avoid endangering managers; Methods of dissecting the rumen of ruminant for the restoration and treatment of diseases in the rumen; Method of cutting the intestines of cattle to restore intestinal tract to animals; Method of checking the female genitals and diagnosing pregnant cattle, thereby having appropriate management and care; Treatments for endometritis, uterus and caesarean section to overcome fertility for animals.

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

Distribution of study time: 3 credits (45 theoretical lessons; 0 practice lessons; 90 self-study lessons)

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 the course contents: The Farm Management course provides students with basic concepts and generalization 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 applying information technology 4.0 to livestock products. After finishing this course, students are capable of applying the knowledge learned to build and manage production and business activities, trace the origin of a farm to meet practical requirements.

### **83. Marketing - 3 credits**

Distribution of study time: 3 credits (30 theoretical lessons/30 practice lessons/90 self-study lessons)

Previous courses: No

Prerequisite courses: No

Parallel courses: No

Summary of course content: The Marketing course equips students with basic knowledge about marketing in the context of goods economy development in Vietnam and integration with the world economy. The section helps students understand the market, market approaches, know how to find, create and develop products that meet market needs. In addition, the study also equips students with the most basic knowledge and skills in choosing new products, optimizing resources in production, flexible placement strategies, building a consumption network and promoting effective and sustainable product brand development. Understanding market needs and finding ways to satisfy market needs are the core content of marketing lessons to help production and business activities succeed.

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

Distribution of study time: 3 credits (35 theoretical lessons/20 practice lessons/90 self-study lessons)

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, etc. 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.

#### **85. *Biological risk management - 2 credits***

Distribution of study time: 2 credits (45 theoretical lessons/0 practice lessons/90 self-study lessons)

Previous courses: No

Prerequisites courses: Biology, General Microorganism

Parallel courses: No

Summary of course content: This course includes the basic knowledge of improving biosecurity risks, biosecurity levels; basic and advanced knowledge about laboratory safety practices, safe microbiology techniques, and risk assessment and management of genetically modified organisms and genetically modified organism-derived products. Thus, learners can apply the management of biological risks in research and production practice.

#### **86. *Entrepreneurship– 3 credits***

Distribution of study time: 3 credits (45 theoretical lessons/0 practice lessons/90 self-study lessons)

Previous courses: No

Prerequisites courses: No

Parallel courses: No

Summary of course content: The course consists of four chapters. Chapter 1 introduce the basis for business creation, Chapter 2 refers to the formation, evaluation and selection of business ideas, Chapter 3 refers to business planning, Chapter 4 refers to the development of the business start-up model and business development. After studying this course, students will have the ability to summarize the basic knowledge of business

and entrepreneurship; apply methods of analyzing, assessing their strengths and weaknesses, opportunities in life, thereby forming, evaluating and building business ideas; Be able to develop and implement a Business Plan.

### **87. Brand Management**

Distribution of study time: 3 credits (45 theoretical lessons/0 practice lessons/90 self-study lessons)

Previous courses: No

Prerequisites courses: No

Parallel course: No

Summary of course content: This course provides the process of brand asset management for product brands. The aim is to develop strategies and tactics to build, maintain, and develop customer-oriented brands.

At the end of the module, students are equipped with knowledge applied to management with a focus on the contents such as modeling, brand design and recognition, positioning strategies, communication strategies and intellectual property.

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

Distribution of study time: 3 credits (30 theoretical lessons/30 practice lessons/90 self-study lessons)

Previous courses: No

Prerequisites courses: No

Parallel courses: No

Summary of course content: The course of Business Communication and 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 course, students have scientific knowledge in business negotiation, including common issues of business negotiation; the main contents, strategies, tactics of business negotiations; stages of negotiation and legal basis of business negotiations.

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

Distribution of study time: 3 credits (45 theoretical lessons/0 practice lessons/90 self-study lessons)

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 this course, students can master the tools of analyzing price chain analysis, apply policies in linking and developing livestock and veterinary value chains.

**90. Business Administration – 3 credits**

Distribution of study time: 3 credits (30 theoretical lessons/30 practice lessons/90 self-study lessons)

Previous courses: Management Science

Prerequisites: No

Parallel courses: Entrepreneurship, Brand construction and development

Summary of course content: This course equips students with basic knowledge about Business Administration including: Introducing business issues, business environment, introducing basic issues in management (human resource management, production and operation management, quality management, cost management, results and corporate finance policies) as well as issues related to inspection and control in business. The course also helps students develop the skills they need to become a truly dynamic, skilled and professional administrator.

The course is divided into 05 chapters with logical and easy-to-understand order, providing a full range of basic knowledge as well as applying skills to practice. The specific layout is as follows:

Chapter 1: General Business Administration issues

Chapter 2: Business environment of business

Chapter 3: Planning in Business Administration

Chapter 4: Basic Areas of Business Administration

Chapter 5: Business results management and control in business

**91. Agroforestry– 3 credits**

Distribution of study time: 3 credits (45 theoretical lessons; 0 practice lessons; 90 self-study lessons)

Previous courses: Specialized breeding, Cultivation

Prerequisite courses: No

Parallel course: No

Summary of course content: The course provides students with basic concepts and generalization about agroforestry farm management and forestry 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 applying information technology 4.0 to livestock products. After finishing the course, students have the ability to apply the knowledge learned to build, manage production and business activities, trace the origin of a agroforestry farm to meet practical requirements.

### **92. Cultivation – 3 credits**

Distribution of study time: 3 credits (45 theoretical lessons/0 practice lessons/90 self-study lessons)

Previous courses: No

Prerequisite courses:

Parallel courses: Entrepreneurship, Brand construction and development

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

The main contents include: 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;

### **93. Project construction and management – 3 credits**

Distribution of study time: 3 credits (45 theoretical lessons/0 practice lessons/90 self-study lessons)

Previous courses: No

Prerequisite courses: No

Parallel courses: No

The course includes the following main contents: Basic concepts of project management; Construction of development projects; Project analysis and appraisal; Project implementation; Project monitoring and evaluation.

### **94. Planning and vaccination for diseases prevention and control – 4 credits**

Distribution of study time: 4 credits (0 theoretical lessons/240 practice lessons/120 self-study lessons)

Previous courses: Animal Anatomy, Veterinary Pharmacology, Veterinary Pathology, Vaccine Utilization and Production Technology

Prerequisites courses: Veterinary Diseases Diagnosis

Parallel courses: Skills in diagnosis, prevention and treatment of pets at Veterinary Infirmary

Summary of course content: The course equips students with skills to approach reality and implement epidemic prevention for animals. At farming systems, students will apply the knowledge learned to implement effective work, proficiently implement skills in vaccination such as how to use and preserve vaccines, how to approach to cattle, and techniques in vaccination.

**95. Professional practice: Accessing to career and building career profiles 1 - 1 credit**

Distribution of study time: 1 credit (0 theoretical lessons/60 practice lessons/30 self-study lessons)

Previous courses: No

Prerequisites courses: No

Parallel courses: No

Summary of course content: This course consists of two main contents. Firstly, visiting a number of veterinary-related establishments (Veterinary Medicine Factory, Livestock Farms, Pet Hospitals, Wildlife Sanctuary, Livestock Institute, Veterinary Institute, Regional Veterinary Center, Animal Husbandry and Veterinary Department, Concentrated Slaughterhouse, etc.). Secondly, studying the basics of professional records, the capacity profile of veterinary engineers and the outcome standards of veterinary medicine. The module equips learners with basic knowledge on how to organize, manage and produce in establishments; have knowledge of professional records, veterinarian's capacity records and veterinary outcome standards. This knowledge helps students better understand their chosen profession, have a good orientation for future learning, and have some basic skills in communication, presentations and reporting. After completing this course, students can orient their work position after graduation, identify goals and learning methods to achieve greater efficiency. In addition, the study also helps students practice soft skills, independent working skills, teamwork and improve communication efficiency.

**96. Professional practice: Accessing to career and building career profiles 2**

Distribution of study time: 1 credit (0 theoretical lessons/60 practice lessons/30 self-study lessons)

Previous courses: No

Prerequisites courses: No

Parallel courses: No

Summary of course content: The content of this course equips students with the basic knowledge of career profiles, the competency profile of Veterinarians and the outcome standards of Animal Science and Veterinary Medicine major. By the final semester, students will summarize the accumulated results of knowledge, skills and

extracurricular activities, they will know their level of completion, in order to have a good orientation for their learning and their future, and have some basic skills in summarizing results and writing reports. Along with the assessment of students' results (based on student transcripts, number of soft skills training certificates, certificates of participation in extracurricular activities, volunteering), lecturer will have advice to promote student learning, encourage students to participate in soft skills training and be more active in extracurricular activities. In addition, this course also helps students practice more soft skills, independent working skills, and teamwork and improve communication efficiency.

### ***97. Writing outlines thesis skills***

Distribution of study time: 1 credit (0 theoretical lessons/60 practice lessons/30 self-study lessons)

Previous courses: No

Prerequisites: No

Parallel courses: No

Summary of course content: The course includes 2 contents. Part 1: Outline writing skills. This section includes the following contents: 1. raising the issue of the urgency of the research topic; Overview of domestic and foreign research results related to research matters; the urgency of the research topic; the purpose and objectives of the research topic and the scientific significance of the research topic. 2. Scientific basis of research topics; Basic conditions for implementation; Overview of domestic and abroad research results. 3. Materials, contents and methods of research; An overview of the place, time, material, content and method of research. 4. Expected results during the implementation of monitoring contents and targets. 5. Conclusions and recommendations after completing the internal research. Part 2: Writing graduation thesis. On the basis of the outline that has been developed, the contents have been implemented, the collected results processed by biological statistics and analyzed through the graduation thesis..

### ***98. The organization and management of poultry farms - 5 credits***

Distribution of study time: 5 credits (0 theoretical lessons/300 practice lessons/150 self-study lessons)

Prerequisite courses: Animal Anatomy; Animal Histology, Animal Physiology, Animal Biochemistry.

Previous courses: Veterinary Pharmacology, Veterinary Infectious Diseases, Vaccine Utilization and Production Technology, Veterinary Internal Medicine-Diagnosis.

Parallel courses: Animal Hygiene, One Health in Veterinary Medicine

Summary of course content: The course equips students with skills in planning rooms, diagnosing and treating diseases for poultry on the farm; Applying knowledge and experience in veterinary management on farms to plan the prevention, diagnosis and treatment of diseases for poultry on farms; Being proficient in the skills of diagnosis, prevention and treatment of poultry at the production facility; Having teamwork skills and the ability to collaborate in solving problems of livestock and veterinary medicine at the facility; Having professional health and ethical qualities in taking samples of specimens and performing animal welfare.

**99. *The organization and management of pig farms - 5 credits***

Distribution of study time: 5 credits (0 theoretical lessons/300 practice lessons/150 self-study lessons)

Previous courses: Parasites and Veterinary parasite diseases, Veterinary Diagnostics, Veterinary Department, Veterinary Surgery-Obstetrics, Animal Hygiene ...

Prerequisites courses: Veterinary Pharmacology, Veterinary Infectious Diseases

Parallel courses: No

Summary of course content: this course provides students with knowledge about procedures of transmitting diseases in pets, methods of indirect and direct transmission of diseases; regularity of the disease, different levels of disease outbreaks, seasonal, regional, and cyclical diseases; the process of disease management, the schedule of prevention and treatment of diseases for pigs, barns, food and water, barn temperature of the farm, caring, nurturing, disinfection; disease control measures on the livestock farm; disease prevention methods of for pigs with medicines and vaccines, ways of bringing medicines and vaccines into the body of pigs; some medicines to prevent and treat diseases for pigs and how to use them; methods of prevention of diseases for pigs with sanitizer, methods of sanitization; some common diseases in pigs and measures for prevention and treatment; measures to deal with epidemics on the farm.

**100. *The Organization and management of ruminant farms– 5 credits***

Distribution of study time: 5 credits (0 theoretical lessons/300 practice lessons/150 self-study lessons)

Previous courses: Veterinary Pharmacology

Prerequisites courses: Veterinary Internal Medicine and Diagnosis, Veterinary Infectious Diseases, Veterinary Obstetrics and Gynecology, Epidemic Prevention...

Parallel courses: One Health in Veterinary Medicine, Animal Welfare

Summary of course content: The course equips learners with skills to prepare conditions for raising buffaloes, cows, goats, sheep (barns, livestock tools ...); Rules of a ruminant farm ; Food for all kinds of ruminants; Characteristics of ruminants cultured in

the farm; Techniques for selecting ruminants; ruminants breeding techniques (Sanitation, feeding, drinking, etc.); Checking and evaluating health status of ruminant herds; Implementing the process of disease prevention and treatment (Veterinary hygiene, prevention with vaccines, use of medicines for prevention and treatment, etc.); Waste treatment in ruminant livestock farm; Finding out about the farm's production plan through books/interviews; Knowing how to calculate the economic efficiency of raising ruminants/year.

***101. Basic laboratory skills– 3 credits***

Distribution of study time: 01 credits (0 theoretical lessons/60 practice lessons/30 self-study lessons)

Previous courses: General Microorganism

Prerequisites courses: No

Parallel courses: No

Summary of course content: This course equips students with basic skills in the rules of safety in the laboratory; Knowing how to clean, disinfect laboratory stuffs and master laboratory machines and equipment; How to take specimens, cultivate and isolate strains of microorganisms; dyeing the original, reading the text and making antibiotics in the microbial laboratory; Procedures for making microscopic slides and how to read some common specimens.

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

Distribution of study time: 01 credits (0 theoretical lessons/60 practice lessons/30 self-study lessons)

Previous courses: Animal Physiology

Prerequisites courses: No

Parallel courses: Animal Pharmacology, Animal Veterinary Microorganism

Summary of course content: This course equips students with the knowledge and skills to carry out the steps of planning the production of veterinary medicines; implementing the management of the business of veterinary medicines by software.

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

Distribution of time study: 3 credits (0 theoretical lessons/180 vocational training lessons/90 self-study lessons)

Previous courses: Biology, Animal Physiology, Animal Anatomy, Animal Histology, Animal Biochemistry, Animal Breeding and Genetics, Animal Feed and Nutrition, Reproductive Technologies, Poultry production.

Prerequisite course: Poultry Production.

Summary of course content: This course consists of 10 lessons and 01 general introduction on the content of the work when students go to practice at poultry farms including:

Introduction: Regulations on training poultry farming

Lesson 1 and 2: Stating the basic contents of the work when conducting cleaning inside the poultry farm and general cleaning, disinfection outside the barn.

Lesson 3: Cleaning techniques for poultry farms.

Lesson 4: Cleaning techniques for feeding trays/feeders, drinking troughs/drinking knobs, drinking cups.

Lesson 5: Feed used in poultry breeding facilities and poultry feeding techniques.

Lesson 6:: Technique of selecting chickens to raise and pinch chicks.

Lesson 7: Technique of cutting chicken beaks / cutting rooster nails.

Lesson 8: Vaccine techniques for poultry

Lesson 9: Techniques for collecting and preserving eggs and incubating poultry eggs.

This part equips and trains students with the main manipulations and skill training from basic manipulations of chicken breeding techniques on a breeding chicken and broiler farm, from farm access, sanitation, barn cleaning to the most basic technical manipulations for breeding chickens and broilers, helping students master the skills and gradually forming professional skills.

#### ***104. Process of care, nutrition and prevention and treatment of diseases for pigs – 3 credits***

Distribution of study time: 3 credits (0 theoretical lessons/180 vocational training lessons/90 self-study lessons)

Previous courses: Biology, Animal Physiology, Animal Anatomy, Animal Histology, Animal Biochemistry, Animal Breeding and Genetics, Animal Feed and Nutrition, Reproductive Technologies, Swine production.

Summary of course content: The training course on pig farming consists of 10 lessons and 01 general introduction as followings:

Lesson 1 and 2: Stating the basic contents of the work when conducting cleaning inside the pigsty and general cleaning, disinfection outside farming systems.

Lesson 3: Learning about food and carrying out the stages of transporting food, feeding manipulation with each pig object: sows, piglets, pork pigs, etc.

Lesson 4 and lesson 5: Basic technical manipulations performed when caring for and nourishing breeding sows.

Lesson 6 to lesson 9: Basic technical manipulations when caring for suckling piglets of the sows and weaning the piglets.

Lesson 10: Basic problems and manipulations when vaccinating pigs on the farm.

Also, this course equips and trains students with the main manipulations and skills training of pig breeding techniques on a sow breeding farm and caring for suckling piglets, from accessing to the farm, sanitation, cleaning farming system to the most basic technical manipulations for sows and piglets, helping students master the skills and gradually forming professional skills.

***105. Process of care, nurture and prevention and treatment for ruminant cattle – 3 credits***

Distribution of study time: 3 credits (0 theoretical lessons/180 vocational training lessons/90 self-study lessons)

Previous courses: Biology, Animal Physiology, Animal Anatomy, Animal Histology, Animal Biochemistry, Animal Breeding and Genetics, Animal Feed and Nutrition, Reproductive Technologies, Poultry production.

Prerequisite course: Animal Breeding and Genetics, Poultry Production, Ruminant Production

Summary of course content: This course equips students with skills in preparing conditions for raising buffalo, cows, goats, sheep (farms, breeding equipments, etc.) ; Regulation of ruminant breeding facility; feeds for ruminant; Characteristics of ruminants raised in farms; ruminant selection technique; ruminant breeding techniques (farm cleaning, feeding, drinking, etc.); Examination and evaluation of ruminant health status; Carrying out the procedure of disease prevention (Veterinary hygiene, prevention with vaccines, use of medicines for disease prevention and treatment); Waste treatment in ruminant farms; Finding out farming system plan through books/ interviews; Knowing how to calculate economic efficiency in raising ruminant/year.

***106. Graduation internship – 10 credits***

Distribution of study time: 10 credits (0 theoretical lessons/600 practice lessons/300 self-study lessons)

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 today education. The course also helps 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 graduation internship period is also the time for students to train and learn from the experiences of their predecessors, in order to equip themselves with professional knowledge and management after graduation to become a scientific staff with professional qualifications, solid skills, soft skills and effective communication ability.

**RECTOR**

**DEAN ASVM**



HIỆU TRƯỞNG  
PGS.TS. *Trần Văn Điền*



**Phan Thi Hong Phuc**