

COURSE CONTENT AND WORKLOAD

1. GENERAL KNOWLEDGE

1. ML01020. Marxism - Leninism Philosophy (3 credits: 3-0-6). The course is consisted of the following content: Chapter 1: Outline of Philosophy and Marxism - Leninism philosophical school; Chapter 2: Dialectical Materialism; Chapter 3: Historical Materialism.

2. ML01021. Marxism – Leninism Political Economy (2 credits: 2-0-6). The course is consisted of six chapters introducing the following content: Objective, research methodology, and function of Marxism – Leninism Political Economy; Commodity, market, and roles of economic agents; Surplus value; Competition and monopoly; Socialist-oriented market economy and relations of economic interest in Vietnam; Industrialization, modernization and international economic integration of Vietnam.

3. ML01022. Scientific Socialism (2 credits: 2-0-6). The course is consisted of the following content: Introduction to Scientific Socialism; Historical mission theory of the proletariat; Socialism and Socialist Transition; Socialist Democracy and Socialist State; Structure of Social classes and League of social classes in the socialist transition; Issues of ethnicity and Religion in socialist transition; Issues of Family in socialist transition.

4. ML01023. History of the Communist Party of Vietnam (2 credits: 2-0-6). The course is consist of chapters: Objects, functions, tasks, content and methods of studying and studying History of the Communist Party of Vietnam, The Communist Party of Vietnam was born and led the struggle for power (1930-1945), The Party led the two resistance wars to complete the national liberation and reunification of the country (1945-1975); The Party led the country in the transition to socialism and carried out the renovation work (1975-2018), Conclusion on the great victories of the Vietnamese revolution and great lessons on the leadership of the Party.

5. ML01005. Ho Chi Minh Ideology (2 credits: 2–0–6). This course covers the following contents: Objectives, research methods and courses meanings; The foundation and process of Ho Chi Minh ideology’s formation and development; The idea of National issues and Revolutionary Liberation; The idea of Socialism and the road of transition to Socialism in Vietnam; The idea of the Communist Party of Vietnam; The idea of domestic ethnics’ unity and international solidarity; The idea of building a State of the people, by the people and for the people; The idea of culture, morals and new people.

6. ML01009. Introduction to Laws (2 credits: 2-0– 6). This course provides some basic theoretical issues of State and Laws. Basic background on Civil Laws and Criminal Laws. Basic background on Economic Laws, Labour Laws, Laws on Marriage and Family. Basic background on Administrative Laws and Laws on the prevention and combat of corruption.

7. MT01002 - Organic chemistry (2 credits: 1,5 - 0,5 – 6)

The course consists of the following contents: The isomerism; the interactions between atoms and groups of atoms in molecules of organic compounds; the structure and property of important organic compounds; the reaction mechanism of some popular organic reactions; the structure, the property and the role of some groups of natural compounds such as glucose, lipid, amino acids and protein. The practical part consists of the qualitative exercise of the chemical properties of basic organic compounds (3 lab exercises).

8. MT01004 - Analytical Chemistry (2 credits: 1,5 - 0,5 – 6)

The course aims to provide the basic knowledge in analytical chemistry for the students. The content of these lessons consists of three chapters as follows: Chapter 1: The basic concepts of analytical chemistry; Chapter 2: Gravimetric method of analysis; Chapter 3: Titrations in analytical chemistry.

9. MT01008. Ecology and Environment (2 credits: 2-0-6).

This course will provide general knowledge on the general concept of ecology including: (1) interactions between organisms and the environment at the individual level; Populations and interactions among organisms in the community; (2) Population: concepts, characteristics and dynamics; (3) Community: concepts, components, characteristics and dynamics; (4) Ecosystem: composition, structure and dynamics of the ecosystem; (5) Major ecosystems; (6) The relationship between natural resources, the environment and development.

10. SH01001 - General Biology (2 credits: 1,5 – 0,5 – 6).

This course covers the following contents: Scientific study of life; Two main forms of cells; Bioenergetics of cells; Reproduction and cell cycle; Regulation and adaptation to environment of organism; An evolutionary framework for biology and practices of using microscope

11. SN01032 - English 1 (3 credits: 3 - 0 - 9).

This course consists of five units at pre-intermediate level about the five topics including It's a great job (Unit 1), Great vacations (Unit 2), Cities around the world (Unit 3), Wildlife (Unit 4), All about sports (Unit 5). In each unit, English grammar, vocabulary, and skills are provided and practiced by students through different parts: Start, Listening, Vocabulary, Grammar, Reading, Song/Culture, Pronunciation, Conversation Takeaway, Writing Takeaway, Test Takeaway.

12. SN01033 - English 2 (3 credits: 3 - 0 - 9).

This course consists of five units at pre-intermediate level about the five topics including Good luck, bad luck (Unit 1), My favorite things (Unit 2), Memorable experiences (Unit 3), I love chocolate (Unit 4), How can we help? (Unit 5). In each unit, English grammar, vocabulary, and skills are provided and practiced by students through different parts: Start, Listening, Vocabulary, Grammar, Reading, Song/Culture, Pronunciation, Conversation Takeaway, Writing Takeaway and Test Takeaway.

Prerequisite course: English 1

13. SN01016. Introduction to Psychology (2 credits: 2-0-6).

The course provides students with basic knowledge about Psychology as subjects and tasks of psychology; the nature of human psychology; the natural basis and social basis of psychology; psychological formation, consciousness; cognitive activities; emotional life and human personality.

14. SN03049. English for Animal Science (2 Credits: 2 -0-6). This course consists of 9 units including Unit 1-Organ and organ systems, Unit 2- The digestive system, Unit 3- The skeletal system, Unit 4- The excretory system, Unit 5- The circulatory system, Unit 6- The respiratory system, Unit 7- The nervous system, Unit 8- Gastric function, Unit 9- Number of animals in herb/room.

Prerequisite course: English 2

15. CN01103. Biodiversity (2 credits: 1,5-0,5-6).

This course consists of 5 theoretical chapters on the concept and measurement of biodiversity; the distribution and values of biodiversity; the degradation of biodiversity; the conservation of biodiversity; biodiversity in Vietnam. Three practice sessions including: 1. The comparison of species in the community; 2. The method of evaluating the number of individuals in population; 3. The observation diversity of animals.

16. CN01201. General microbiology (2 credits: 1,5-0,5-6).

This course consists of 6 chapters including: Morphology, cell structure and Reproduction of microorganisms; Microbial physiology; Effects of environmental factors on microbial growth; Microbial genetics; Distribution of microorganisms in nature.

This course also consists three Lab exercises: (1) Lab exercise 1: Microbial smear preparation and Gram staining method; (2) Lab exercise 2: General microscopy techniques and morphological identification of bacteria, fungi and yeasts and (3) Lab exercise 3: General microbial cultivation techniques. *Prerequisite course: General Biology*

17. CN01203. Animal Behaviour and Welfare (2 credits: 1,5-0,5-6).

The course provides students with knowledge about the biological mechanism of animal behavior, and the function of behavior. Explain the behavioral mechanisms based on physiology, genetics and influence of the living environment on behavior. To know the specific behavior in each kind of animals. Research methods on animal behavior and application of behavior to animal husbandry practices. Animal welfare issues, welfare impacts on productivity, quality of livestock products and human health, solutions to improve welfare in livestock production. The course includes 3 practical lessons: (1) Lesson 1: Observing behavior and assessing animal welfare at the zoo; (2)

Lesson 2: Watch behavior videos of some wild animals; (3) Lesson 3: Observing the behavior and assessing the welfare of pigs at the pig farm.

18. CN01302. Writing a scientific paper (2 credits: 1,5-0,5-6).

This course consists of 10 theoretical chapters: Scientific research and scientific documents; Scientific style; Outline and research results; Title; Introduction; Overview; Materials and methods; Results and discussion; Conclusion - Summary and Keywords; Citations and references. This course includes three practice sessions: (1) Session 1: Search for references; (2) Session 2: Use of EndNote software for text editing, searching, managing and citing references; (3) Session 3: Write outline graduation thesis.

19. TH01007. Probability and Statistics (3 credits: 3 – 0 – 9).

This course consists of 7 chapters: Descriptive statistics; Probability; Random variable; Sampling distributions; Estimation; Hypothesis testing; Simple linear regression model.

20. TH01009. Introduction to Informatics (2 credits: 1,5 – 0,5 –6).

The course consists of 7 chapters: Introduction; Computer organization; Computer software and operating system; Computer networks and the Internet; The social issues of information technology; MS Word and MS PowerPoint; MS Excel.

21. TH01011. Advanced Mathematics (3 credits: 3-0-9).

This course provides basic knowledge about matrix, determinant, system of linear equations, and differential calculus of single-factor and multi-variable functions; integral calculus of single-valued function and the basic concepts of differential equations, methods that solve certain first-degree differential equations.

2. FUNDAMENTAL KNOWLEDGE

22. CN02101. Zoology (3 credits: 2 – 1 - 9).

This course consists of 10 theoretical chapters presenting general characteristics, structural characteristics, physiological activities and classification systems of animal phyla (Protozoa, Porifera, Coelenterata, Ctenophora, Plathelminthes, Nematelminthes, Annelida, Mollusca, Arthropoda, Echinodermata, Chordata phylum). Three practice sessions of invertebrates and three practice sessions of vertebrates: (1) Lab 1: Slipper animalcules and Giant intestinal fluke; (2) Lab 2: Pig roundworm and Earth worm; (3) Lab 3: Apple snail and Cockroach dissection; (4) Lab 4: Carp and Frog dissection; (5) Lab 5: Chicken dissection; (6) Lab 6: Rabbit dissection.

23. CN02301. General Biochemistry (2 credits: 1,5-0,5-6).

This course contains 8 chapters: Protein and amino acids; Vitamins, Enzymes; Nucleic acids; protein and amino acids metabolism; Carbohydrates and carbohydrates metabolism; Lipids and

lipids metabolism; Bioenergetics and metabolism. This subject also contains 3 practice lessons: Lesson 1: experiment on amino acids and proteins; Lesson 2: experiment on enzyme and Lesson 3: experiment on carbohydrates

24. CN02302. Animal Biochemistry (2 credits: 1,5-0,5-6).

This course contains 7 chapters: Hormones; Biological membranes and transport; Immune biochemistry; Carbohydrate metabolism in animals; Lipid metabolism in animals; Protein metabolism in animals; Relationship between metabolic processes. The module contains 3 practice lessons: Lesson 1: Practice of carbohydrates metabolism. Lesson 2: Practice of Lipids metabolism and Lesson 3: Practice of protein metabolism

25. CN02303. Animal Physiology 1 (2 credits: 1,5-0,5-6).

This course includes 6 chapters which describe physiological functions of anatomical systems and organs in the body such as: nervous system, endocrinological system, physiological excitation...., and 3 practical lessons which include experiments that aim to prove theoretical lectures; Lesson 1: animal's bioelectricity; Lesson 2: Central nervous system and its application in establishing reflexes in dogs; Lesson 3: Endocrine physiology.

26. CN02305. Animal Physiology 2 (2 credits:1,5-0,5-6).

This course includes 7 chapters which describe physiological functions of anatomical systems and organs in the body: Chapter 1: Digestive system physiology; Chapter 2: Circulatory system physiology; Chapter 3: Blood physiology system physiology; Chapter 4: Respiratory system physiology; Chapter 5: Reproductive physiology; Chapter 6: Urinary system physiology; Chapter 7: Physiology of lactation. The module contains 3 practical lessons which include experiments that aim to prove theoretical lectures: Lesson 1: Determines some physiological indicators of blood Lesson 2: Determines some physiological parameters of respiration and circulation Lesson 3: Methods of studying digestive physiology.

27. CN02501. Animal genetics (2 credits: 1,5-0,5-6).

This course includes these following chapters: genetic materials, molecular genetics, genetics of sex, immunogenetics, population genetics and quantitative genetics. The course includes three practical lessons, as below: - Practice 1: Sample preparation and incubation - Practice 2: Isolation, precipitation, and purification of total DNA - Practice 3: Check and evaluate the DNA quality.

28. CN02601. Animal Nutrition (3 credits: 2,5-0,5-9).

The course includes chapters: Water nutrition; Protein and amino acids nutrition; Vitamin nutrition; Mineral nutrition; Energy nutrition; Energy and estimation of energy value of feeds; Methods for determining the nutritional content of feed; Nutrient requirements for maintenance; Nutrient requirements for growth; Feeding standards for reproduction; Nutrient requirements for milk production; Feeding standards (Definition of feeding standards, feeding standards for

animals). The module has 3 practical exercises, including: Lesson 1: Methods of sampling, analyzing dry matter and ash total. Lesson 2: Practice methods for analyzing crude protein, crude lipid, and crude fiber. Lesson 3: Methods of assessing feed quality and selecting feed ingredients and calculating nutrient requirements for animals.

29. CN02701. Experimental Design (2 credits: 1,5-0,5-6).

This course consists of 7 theoretical chapters: Descriptive statistics; Estimating and testing hypotheses; Concepts of experimental design; One-factor experiments (completely random design, complete random block design, Latin squares); Two-factor experiment; Correlation and linear regression; Contingency table. This course includes three practice sessions: (1) Session 1: Descriptive statistics, estimating one sample and compare two samples; (2) Session 2: Compare more than two groups with one and two factors; (3) Session 3: Contingency table.

30. SH01006 Fundamental Molecular Biology (2 credits: 1,5-0,5-6).

This course consists of 7 chapters: Chapter 1 - History of molecular biology; Chapter 2- Macromolecules: Nucleic acid and Protein; Chapter 3- Structure of gene and genome; Chapter 4: DNA replication; Chapter 5: DNA mutation and repair; Chapter 6: Gene transcription in eukaryotic; Chapter 7: Genetic code and translation; and 3 practical lab lessons: Lesson 1-DNA structure model, Lesson 2-simple DNA extraction method and Lesson 3-Chemical and physical properties of DNA and RNA.

31. TY02001. Domestic Animal Anatomy 1 (3 credits: 2-1-9).

This course provides the basic knowledge about the structure of body of animals: cow, buffalo pig, horse, dog, cat, and poultry. The content of the module includes: Introductions about body's organs (skeletal system, muscular system, nervous system and senses, circulatory system, lymphatic system, endocrine system, digestive system, respiratory system, reproductive system, urinary system); the position, the shape, the general structure, the distribution of blood vessel and nerve, functions and the relationship between organs and organ systems inside the body.

32. TY02003. Veterinary Histology 1 (2 credits: 1,5-0,5-6).

This course provides the basic concept, cytology, epithelium, connective tissue, muscular tissue, nervous tissue.

3. SPECIALIZED KNOWLEDGE

33. CD03204. Engineering in Animal Production (2 credits:1,5–0,5–6). The course provides the knowledge about the Mechanization of breeding farm; Main equipment in breeding farm; Specialized equipment in different breeding farm; Utilization of mechanical equipment in breeding.

34. CD03434. Livestock Feed Processing Equipment (3 credits: 2-1-6).

The course provides the knowledge about the General concepts of mechanization in livestock feed processing; important machines and equipment in production lines of livestock feed processing;

Technological processes and equipment system of livestock feed processing; Basis for designing livestock feed factory.

35. CN03101. Animal breeding (3 credits: 2,5-0,5-6).

This course includes these following chapters: Taming, adapting, and concept of livestock breeds. Evaluate animal traits. Pedigree and genetic relationships between individuals. Genetic parameters and selection response. Breed value and animal selection methods. Pure breeding. Methods of crossbreeding. Structure of breeding programs. The course includes three practical lessons, as below:

- Practice 1: Inspection and measuring dimensions of breeding animals
- Practice 2: Evaluate the productivity and quality of livestock products
- Practice 3: Estimation of inbreeding coefficients and genetic relationships among individuals.

Prerequisite course: General Genetics.

36. CN03201. Applied microbiology in animal science (2 credits: 1,5-0,5-4).

This course consists of 5 chapters and 01 project including: Utilize of beneficial microbes on animal feed preservation and processing; Application of beneficial microorganisms on production of microbial products using in livestock production; The role of gastrointestinal tract microbiota and probiotics in livestock production; Contaminated microorganisms in livestock products; Utilize of microbes in livestock waste treatment. Project topics: Processing fermented feed for growing pigs and broilers from available agricultural byproducts. *Prerequisite course: General microbiology*

37. CN03302. Animal Feed (2 credits: 1,5-0,5-6).

The course provides the knowledge about the Feed classification; Energy Feed; Protein Feed; Roughage; Principle of using feed additives; Diet formulation for cattle, pig and poultry. The course includes 3 practices: (1) Practice 1: Processing methods of raw foods; (2) Practice 2: Processing method of concentrate feedstuffs; (3) Practice 3: Formulating diets by using software.

38. CN03303. Feed crops (2 credits: 1,5-0,5-6).

This course consists of characteristics of growth and development of feed crops; Some grasses using in livestock; Some legumes using in livestock; Other feed crops using in livestock; Building and managing pastures; Storing/preserving feed crops for animal.

39. CN03304. Principle of HACCP (Hazard Analysis and Critical Control Points and Application in feed manufacturing (2 credits: 2-0-6).

The course provides the knowledge about the concept and principles of the hazard control system in animal feed and food hygiene and safety; HACCP system: concepts, principles and implementation steps applied in the production of animal feed.

40. CN03305. Industrial Feed Technology (2 credits: 2-0-6).

The course includes chapters: Methods of processing raw materials for industrial animal feed production; Factory producing industrial animal feed; Technological process of industrial animal feed production; Material management in industrial animal feed production; Organization of the production of industrial animal feed. The course crosses 3 lessons, including: (1) Lesson 1: Check the quality of raw materials, mixed feed for pets; (2) Lesson 2: Surveying the production line of animal feed and designing a model of the production line of industrial animal feed; (3) Lesson 3: Develop a production plan of an industrial feed factory with a scale of 5000 tons/year.

41. CN03306. Feed Quality Evaluation (2 credits: 1,5-0,5-6).

The course provides the knowledge about the Methods for determining the chemical composition and nutritional value of raw materials and animal feeds; Building a product quality control room (KCS) of an animal feed factory; Documents, management system, registration and quality control of animal feed.

42. CN03307. Feed supplements and additives (2 credits: 1,5-0,5-6).

The course provides the knowledge about the Concepts and classification of feed supplements and feed additives; Technology of feed additives; Nutrient feed additives; flavour and pigment sensible feed additives; Feed additives for livestock; Mineral-vitamin premixes manufacturing. The course includes 3 practices: - Practice 1: Evaluation and identification of feed supplements and feed additives. - Practice 2: Calculation of feed supplements to complete feeds - Practice 3: Formulation of mineral-vitamin premixes.

43. CN03308. Nutritional Disorders in Animals (2 credits: 2-0-6).

The course provides the knowledge about Some diseases caused by lack and excess of nutrients; Mycotoxins in animal feed; Heavy metals in animal feed and drinking water; A number of harmful substances in animal feeds with plant and animal origin; Some metabolic diseases in domestic animals; Control food and limit some diseases caused by nutrition.

44. CN03501. Pig Production (3 credits: 2-1-9).

The course consists of the general introduction of pig production in Vietnam and 8 theory chapters: Origin and behaviour of pigs; Pig breeds and breeding management; Pig nutrient requirement and feed; Pig housing; Boar production; Sow production; Piglet production; Growing-finishing pig production. The course has 3 practical lessons: (1) Lesson 1: Pig diet formulation (or Pig feed processing); (2) Lesson 2: Pig housing requirement determination and evaluation; (3) Lesson 3: Evaluation of carcass characteristic and meat quality (or planning to establish a commercial pig farm).

Prerequisite course: Animal breeding

45. CN03502. Cattle and Buffalo production (3 credits: 2-1-9).

Overview of domestic and world cattle and buffalo production; breeds and breeding program; nutrition and feed. Housing and management of cattle waste; Techniques for breeding, calf raising, beef cattle production, dairy cattle production and draft cattle and buffalo production. The course includes three practices: (1) Practice 1: Formulating diets for beef and dairy cattle; (2) Practice 2: Evaluating housing facilities, animal production procedures, and body condition of cattle; (3) Practice 3: Evaluating milk quality.

Prerequisite course: Animal breeding

46. CN03503. Poultry production (3 credits: 2-1-9)

The course includes chapters: Physiological characteristics of poultry; Breeds and breeding management; Productivity of Poultry; Nutrition and feed for poultry; Artificial incubation of eggs; Housing and livestock equipment; Techniques for raising chickens. The course has 5 practical exercises, including: (1) Lesson 1: Evaluate the quality of poultry eggs; (2) Lesson 2: Evaluate the quality of poultry meat; (3) Lesson 3: Surveying the housing; (4) Lesson 4: Formulating chicken diets; (5) Lesson 5: Chicken farm planning exercise.

Prerequisite course: Animal breeding

47. CN03504. Goat and rabbit production ((2 credits: 1,5-0,5-6).

This course includes chapters: Overview of domestic and world goat and rabbit production; Breeds and breeding program; Nutrition and feed; Housing and management of goat and rabbit waste; Techniques for breeding of goats and rabbits at different stages. The course includes three practices: - Practice 1: Formulating diets for goat - Practice 2: Evaluating housing facilities and animal production procedures - Practice 3: Rabbit survey surgery

48. CN03509. Livestock waste management (2 credits: 1,5-0,5-6).

The course includes the following chapters: General situation of animal waste production, Management of solid waste, Management of liquid waste, Management of odour and gas waste, Cleaner production in animal husbandry. Students have to conduct the projects with one of following topics: (1) Trial to raise earthworm for animal waste treatment; (2) Trial to grow aquatic plants to treat liquid waste from animal farms; (3) Trial to compost animal manure by different methods; (4) + Trial to use different microbiological products to treat animal waste.

49. CN03510. Agrarian systems (2 credits:1,5-0,5-6).

This course includes the following chapters: Role, perspective in the development of agrarian systems in the world and in Vietnam; General system theory; Dynamics of agrarian systems in the world and in Vietnam; Household and household production systems; Diagnosis and development of agrarian systems. Students have to conduct the projects with one of following topics: (1) Formulate and improve a livestock production system at household level (poultry, pigs, cattle); (2)

Formulate and improve an integrated agricultural production system (VAC, VA, VC, AC) at the household level.

50. CN03802. Vocational practice of animal production 1 (1 credits: 0-1-3).

The course provides the practicing of taking care processes for breeding boars; Sows reproduce at different stages; Piglets from birth to weaning and porker; Practicing breeding techniques; Procedures for disease prevention and disease prevention; Treatments for common diseases in pigs.

51. CN04806. Vocational Practice of Feed Production (3 credits: 0-3-9).

This course provides students a vocational training program at a pig/cattle/ goat or poultry farm on following topics: Livestock feed production planning and management; Implement all of the feed production procedures at farm; Feed quality assessment; and evaluate the impact of animal feed on the productivity of livestock at the farm.

52. CN04813. Animal Production Internship 1 (10 credits: 0-10-30).

The course includes the practical content at the farms as follows: General information about the pig farms, breeding program, pig production program for each stage, farm facilities and animal health management, product consumption status, and calculating economic efficiency of the farm; advantages, disadvantages and development strategies of the farms.

Parallel course: Pig Production.

53. CN04814. Animal Production Internship 2 (10 credits: 0-10-30).

Students are trained and supported to fully understand the course objectives and expected outcomes before going to do practices at ruminant/poultry farms according to the outline approved by the department; At the end of the internship, students submit their reports and attend an interview for final assessment.

Parallel courses: Cattle and Buffalo production or Poultry production

54. CN04815. Internship on Feed production (10 credits: 0-10-30).

During internship time, learners will identify and evaluate the materials and animal feed; Participate in all activities related to the manufacturing and processing of animal feed, as well as the evaluation of its quality and efficiency.

Parallel course: Industrial Feed Technology

55. CN04997. Graduation Thesis (10 credits: 0 – 10 – 30).

In this course, the lecturer discusses with students to find out the research topic, set up a research plan, and conduct experiments at the laboratory or in the animal farm. Students can choose one of the two following options: (1) Animal production and health or (2) Animal nutrition and Feed

technology. At the end of this course, students are guided by the lecturer to write a research report and defend their thesis in front of the faculty committee.

Prerequisite course: Animal production Internship 1

56. KQ03107. Basic of Marketing 1 (2 credits: 2-0-6).

Overview of marketing; customer behavior and target market; product strategy; price strategy; distribution strategy; mixed promotion strategy.

57. KT03031. Project Management (3 credits: 3-0-6).

The course provides students with basic concepts of the project managements, project preparation management, project implementation management and post-project management.

58. TS03710. General Aquaculture (2 credits: 1.5-0.5-6).

The course provides the knowledge about the Basic concepts of aquaculture; Fish biology; Aquaculture water quality management; Fish nutrients; Fish breeding and culture techniques; Aquaculture disease treatment.

59. TY03011. Veterinary parasitology I (2 credits: 1.5-0.5-6).

This course helps students understand basic principles about parasitology including parasites, hosts, how parasites enter the hosts, and the impacts of parasites on host. Student will master the basic knowledge about the disease: morphology, life cycle, epidemiology, pathogenesis, symptoms and lesion. After that, students can diagnose methods and measures to prevent some parasites related diseases in cattle, pigs and poultry.

60. TY03014. Veterinary Hygiene 1 (2 credits: 1,5-0,5-6).

The course provides the knowledge about the Scientific principles of air, water and soil sanitation in animal husbandry, cattle and poultry slaughtering and food processing of animal origin products for the purpose of protecting animal health, disease prevention, food pollution reduction. The scientific principles of cleaning barns, health care, slaughtering hygiene.

61. TY03034. Introduction to Veterinary Medicine (2 credits: 1,5-0,5-6).

The course introduces basic knowledge about the disease causes, pathogenesis, methods of examination, diagnosis and treatment of some internal diseases, obstetrical diseases, infectious diseases and parasitic diseases in animals

62. TY03035. Veterinary Diagnosis and Veterinary Internal Medicine (2 credits: 1,5-0,5-6).

This course provides basic knowledge about methods for diagnoses: observation, palpation, knocking, hearing organs inside the body. It also provides basic knowledge about treatment, finding the pathological characters, the causes, symptoms, and treatment for internal diseases in specific organs.

63. TY3036. Veterinary Pharmacology and Toxicology (2 credits: 1,5-0,5-6).

This course provides the scientific basis of interaction between drug/toxin and animal's body, factors that effect the drug use and of toxin. The special section introduces psychoactive drugs, anti-inflammation drugs, disinfectants and antiseptics, antibiotics, antiparasitic drugs. Toxins derived from plant protection products; inorganic are taught.

64. TY03051. Veterinary Infectious Diseases 1 (2 credits: 1,5-0,5-6).

The course provides the knowledge about the Prevention of infectious diseases; infectious disease between animals and humans; Infectious disease of ruminant species; Infectious diseases of pigs and infectious diseases of poultry. Practice diagnosis of some common infectious diseases in cattle and poultry.

65. TY03053. Veterinary Reproduction 1 (2 credits: 1,5-0,5-6).

The course provides the knowledge about the Cattle reproduction 1 includes contents related to animal reproduction. The module describes the biological nature of sexual reproduction, physiological mechanisms that regulate sexual reproduction, maturity in mammals. Reproductive activity of male and female animals, physiology of fertilization, reproductive hormones and their application in animal husbandry - veterinary. Artificial insemination of animal, embryo transfer technology and generalization of sex control in animal reproduction.

66. TY03062. Vocational Practice of Veterinary (2 credits: 2-0-6).

The course provides the knowledge about the Treatment for animal. Students need to know method approach, how to prescribe, create medical records for cattle, how to use veterinary equipment and schedule vaccination; Examination of cattle is essential to make the first diagnosis; Treatment such as injection, infusion ...; Surgery for specific cases of cattle. The course has 6 practical exercises, including: (1) Lesson 1: Prescriptions, medical records for animal, how to use vaccines; (2) Lesson 2: How to approach animal, how to fix animal; (3) Lesson 3: Take medical through the digestive tract; (4) Lesson 4: Intramuscular injection, subcutaneous injection for animal; (5) Lesson 5: Intravenous infusion for animal; (6) Lesson 6: Introduction to stitches, how to tie knots in surgical surgery, and castration methods for animal.