

TY03011: VETERINARY PARASITOLOGY I (FOR THE COURSE WITH PROJECT)

1. General information

- Term: 7
- Credits: **Total credits: 2 (Lecture: 1.5 – Practice: 0.5 - Self-study: 6)**
 - Credit hours for teaching and learning activities: + Lecture: 17hrs
+ Implement Project: 5hrs
+ Practice in lab: 8hrs
- Self-study: 90hrs.
- Department conducting the course:
 - Department: Veterinary Parasitology
 - Faculty of Veterinary Medicine
- Kind of the course:

Foundation ☐		Fundamental ☐		Specialized ☒	
Compulsory ☐	Elective ☐	Compulsory ☐	Elective ☐	Compulsory ☒	Elective ☐

- Prerequisite course(s): Veterinary Pathology 1 (TY02020)
- Course language: English ☐ Vietnamese ☒

2. Course objectives and Program learning outcomes

* *Course objectives:*

- Knowledge: Course provided for students with knowledge in veterinary parasitology, parasitic diseases in domestic animals.
- Skills: Course provide students with skills in diagnose, treat parasitic diseases in animals in Vietnam
- Attitude: Course provide students with attitudes in Veterinary parasitology course. This is an important compulsory course related to productivity and quality of animal products, and protecting human health.

* *Course expected learning outcomes*

This course contributes to program expected learning outcomes as follows:

I – Introduction; P – Practice; R – Reinforce; M – Master

Code	Course name	Program learning outcome's performance criteria					
		2.3	4.1	8.2	10.2	11.4	13.1
TY03011	VETERINARY PARASITOLOGY I	P	P	R	R	R	R

Notation	Course expected learning outcomes After successfully completing this course, students are able to	Program learning outcome's performance criteria
Knowledge		
CELO1	Apply veterinary parasitology knowledge to the prevention and control of animal parasitic diseases effectively	2.3: Implement animal disease prevention and control programs

CELO2	Design programs for diagnosis and treatment of parasitic disease for domestic animals, procedures for disease prevention and control for animals according to prescribed standards.	4.1: Design programs for diagnosis and treatment of disease for domestic animals
Skills		
CELO3	Implement proficiently clinical and non-clinical skills, technical procedures in disease diagnosis and treatment for domestic animals, and animal parasitic disease prevention and control to contribute to the protection of public health	8.2: Implement proficiently clinical and non-clinical skills, technical procedures in animal disease prevention and control to contribute to the protection of public health
CELO4	Use proficiently information technology and modern equipment of the veterinary industry to serve animal parasitic disease diagnosis, treatment, prevention and management to achieve the set goals	10.2: Use modern veterinary equipment for animal disease diagnosis, treatment, prevention and management to achieve the set goals
CELO5	Precisely design scientific experiments in the diagnosis and treatment of parasitic diseases	11.4: Conduct research to successfully solve veterinary issues
Ethics and Attitude		
CELO6	Demonstrate responsibility to protect the environment, improve human health through veterinary work	13.1: Demonstrate responsibility to protect the environment, improve human health through veterinary work

3. Course description

Code:TY03011- Name: Veterinary Parasitology 1 (Total credits 2: lecture 1,5- practice 0,5- self-study 6)

Brief description of the course: Veterinary Parasitology I helps students master the basic principles of parasitology such as parasites, hosts, routes of entry, harm and effects of parasites on the host. Students master basic knowledge about disease, morphology, life cycle, epidemiology, pathogenesis, symptoms and lesions, thereby proposing diagnostic methods and preventive measures for some diseases. The parasite mainly parasitizes cattle, pigs and poultry. Teaching method: Teachers use communication media (writing board, lights, sound system, ...) to present the lecture content. Students receive lectures on the basis of individual work. . Assessment method: Attendance: 10%, Project: 30%, Exam: 60%. Prerequisites: Veterinary Pathology 1 (TY02020)

4. Teaching and learning methods

4.1. Teaching methods

Lecturers use the means of communication (writing board, lights, sound system, ...) to present the content of the lecture. Students receive lectures on the basis of individual work.

Table 1: Matrix of Teaching methods and CELOs

CELOs Teaching methods	CELO1	CELO2	CELO3	CELO4	CELO5	CELO6
Lecturing	x	x				x
Teaching through practical work			x	x	x	
Implement project	x	x	x	x	x	x

4.2. Learning methods

Active learning method, in which students read material about the subject matter in advance. In the classroom, students listen to the lecturer's lecture and at the same time exchange and discuss between students and with the lecturer. Students participate in project implementation, final report and project presentation.

5. Student tasks

- Attendance: All students attending this course must attend school fully according to regulations
- Prepare for the lecture: All students attending this module must read the reference books in the list below before coming to class.
- Prepare for practical content: All students attending this module must read reference books and materials provided by lecturers before coming to class.
- Practice: All students participating in this module must perform the techniques in the course content, students can do group reports or individual reports.
- Mid-term exam: all students must take the mid-term exam
- Project implementation: all students must do the project and present the project.
- Final exam: Students must take the final exam

6. Text books and references

* Text Books/Lecture Notes:

1. Nguyen Van Tho, Nguyen Thi Hong Chien, Duong Duc Hieu, Bui Khanh Linh, Nguyen Thi Nhien, Nguyen Van Phuong, Nguyen Thi Hoang Yen, (2019). Textbook of veterinary parasites, University of Agriculture Publishing House.
2. Bui Khanh Linh, Nguyen Van Tho, Nguyen Thi Hoang Yen, Nguyen Van Phuong, Nguyen Thi Hong Chien, Duong Duc Hieu, Nguyen Thi Nhien, Tran Hai Thanh, (2021). Textbook of veterinary parasitology practice. University of Agriculture Publishing House.

* Additional references:

1. Dennis Jacobs, Mark Fox, Lynda Gibbons, Carlos Hermosilla (2016). Principles of veterinary parasitology. Wiley Blackwell.
2. Pham Sy Lang, Nguyen Huu Hung, Nguyen Van Dien, Nguyen Ba Hien, Bach Quoc Thang, Ha Thuy Hanh (2015). Parasitic diseases in cattle and poultry in Vietnam. Agricultural publisher.
3. Pham Sy Lang, Hoang Van Nam et al (2012). The disease is transmitted from animals to humans. Agricultural publisher.
4. Anne M. Zajac, Gary A. Conboy, Susan E. Little, Mason V. Reichard (2021) Veterinary Clinical Parasitology, 9th Edition.
5. Dwight D. Bowman (2020). Georgis' Parasitology for Veterinarians, 11th Edition

* Research and research results:

7. Course outline

Week	Content	Course expected learning outcomes
1	Chapter 1: Introduction of Veterinary Parasitology	
	A/ Main contents: (2 hours) Theory: 1.1. Parasitism and definition of parasites 1.2. Contents of Veterinary Science 1.3. Relationship between Veterinary Parasitology and other subjects 1.4. Damages caused by Parasites 1.5. Measures to prevent parasites	K1, K6
	B/ Self- study contents: (6 hours) 1.6. Introduction to Veterinary Parasitology	K1
2	Chapter 2: Biological basis of parasites	
	A/ Main contents: (2 hours) Theory: 2.1. Origin of parasitic life 2.2 Characteristics of parasitic life 2.3. Host and whereabouts of the parasite 2.4. The influence of external environment on parasites 2.5. Interactions between the ecosystem and the environment	K1, K6
	B/ Self- study contents: (6hours) 2.6. Biological basis of parasites	K1
3	Chapter 3: Parasitic diseases	
	A/ Main contents: (2 hours) Theory: 3.1. Definition and naming of parasite disease 3.2. Free of parasites 3.3. Epidemiology of parasites and the theory of natural epidemics 3.4. Integrated prevention method	K1, K6
	B/ Self- study contents: (6 hours) 3.5. Parasitic diseases	K1
3,4,5	Chapter 4: Diagnostic methods for parasitic helminths	
	A/ Main contents: (9 hours) Theory: (1hours) 4.1. Diagnostic methods for parasitic helminths Practice: (8hours) 4.2 Method of testing stool for eggs, larvae, adult helminths (2.5 hours) 4.3. Surgical method (3 hours) 4.4. Some morphological characteristics, development life cycle and drugs to prevent and treat parasites (2.5 hours)	K2, K3, K4, K5
	B/ Self- stusy contents: (27hours) Diagnostic methods for parasitic helminths	K3, K4, K5
4,5	Implement project (5 hours) Name of project: Diagnosis of parasitic diseases by dissection of livestock and poultry - Implementation time: 02 weeks - Presenting project results reports	K1, K2, K3, K4, K5, K6

Week	Content	Course expected learning outcomes
	Self-study content in the laboratory (15 hours) + Stage 1: exploiting and reading documents; Prepare tools, chemicals, animals for surgery + Stage 2: conduct a dissection, collect parasite samples, distinguish the types of parasites collected + Stage 3: Write a report	
4	Chapter 5: The main fluke diseases in livestock A/ Main contents: (2 hours) Theory: (2hours) 5.1. Morphological characteristics, life cycle and classification of flukes 5.2. The fluke diseases in livestock 5.2.1. Liver fluke disease in ruminants 5.2.2. Intestinal fluke disease in pigs Self- study contents: (6hours) The main fluke diseases in livestock	K2, K6
	Chapter 6. Major Tapeworm Diseases in domestic animals A/ Main contents: (2hours) Theory: (2hours) 6.1. Morphological characteristics, life cycle and taxonomy of tapeworms 6.2. Tapeworm diseases and tapeworm larvae in livestock 6.2.1. Chicken tapeworm disease 6.2.2. Cysticercosis in pigs 6.2.3. Cysticercosis in cattle Self- study contents: (6hours) 6.3. Major Tapeworm Diseases in domestic animals	K2, K6
6	Chapter 7. Major roundworm diseases in livestock A/ Main contents in class: (2 hours) Theory: (2 hours) 7.1. Morphological characteristics, life cycle and taxonomy 7.2. Roundworm diseases in pets 7.2.1. Roundworm disease in pigs 7.2.2. Roundworm disease in calves and calves 7.2.3. Roundworm disease in chickens B/ Self-study contents: (6 hours) 7.3. The main roundworm diseases in pets	K2, K6
	Chapter 8. Major arthropod diseases of domestic animals A/ Main contents: (2hours) Theory: (2hours) 8.1. Morphological characteristics, life cycle and taxonomy 8.2. Diseases caused by arthropods 8.2.1. Underground scabies disease in cattle B/ Self-study contents: (6 hours) 8.3. Diseases caused by arthropods mainly in domestic animals	K2, K6
8	Chapter 9. Major protozoan diseases in livestock A/ Main contents: (2hours) Theory: (2hours)	K2, K6

Week	Content	Course expected learning outcomes
	9.1. Morphological characteristics, life cycle and taxonomy 9.2. Diseases caused by protozoa 9.2.1. Coccidiosis in chickens 9.2.2. Babesiosis disease in cows B/ Self-study contents: (6 hours) 9.3. Major protozoan diseases in livestock	

8. Project

The project is a mandatory part of the course. Information about the project is as follows:

8.1. The reason for choosing the topic of the project

For parasitic diseases, an accurate diagnosis will help in effective treatment and prevention. Some parasitic diseases can be diagnosed based on clinical symptoms or through stool tests. However, in order to accurately determine the number of parasites, the location of the parasites, the pathological lesions caused by the parasites, it is necessary to use the surgical method. This is a feasible and highly effective method for diagnosing parasitic diseases in livestock.

8.2. General description of the project

- Project name: Diagnosis of parasitic diseases by dissection method of cattle and poultry
- Products and product requirements: Report results, images of parasites collected from autopsy method

8.3. Learning outcomes expected from the project

- Knowledge: Students clearly recognize the steps in the cattle dissection technique to diagnose parasitic diseases
- Skills: Students practice the correct technique of dissection of cattle to diagnose parasitic diseases
- Capacity for autonomy and responsibility: implementing projects to form students' initiative to practice/research in the parasitology laboratory

8.4. Project implementation organization

- Number of students/group: 5-7 students/group.
- Implementation time: 02 weeks and divided into phases:
 - + Stage 1: exploiting and reading documents; Prepare tools, chemicals, animals for surgery
 - + Stage 2: conduct a dissection, collect parasite samples, distinguish the types of parasites collected
 - + Stage 3: Report writing, report presentation.
- Location: Practice room, Department of Parasitology, Faculty of Veterinary Medicine.