MINISTRY OF AGRICULTURE
AND RURAL DEVELOPMENT

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

VIETNAM NATIONAL UNIVERSITY
OF AGRICULTURE

UNIVERSITY TRAINING PROGRAM

TRAINING SECTOR: VETERINARY MEDICINE

MODULE OUTLINE
TY03056: VETERINARY PARASITE IMMUNOLOGY

I . Module information

- o Number of semester: 9
- o Credits: **Total credits : 2 (Theory: 1,5 – Practice 0,5 -Self study: 6)**
- o Credit hours for studying activities

  + Learning theory in class: 22 credits

  + Practice in the lab : 8 credits

- o Self study: 90 credits

- o Unit in charge :

  - ▪ Department: Parasititology

  - ▪ Faculty: Veterinary Medicine

- o The module on knowledge :

Outline □		Basic specialized □		Specialized □	
Required □	Elective □	Required □	Elective □	Required □	Elective ☑

- o Prerequire module: Parasitology 2 (TY03054)
- o Language: English   Vietnamese ☑

II. Objectives and expected sutying results

The module contributes to the following program outcome of the training program based on the following levels:

Expected stuying results Completing this module, students can	Out come of expected result
Specialized knowledge	
CĐR3. Apply veterinary immunology knowledge on diagnosis, treatment and prevention for animal effectively	3.4: Improve animal health
Spacialized skill	
CĐR8. Expert on using diagnosis procedure, immunology method applied for treatment and prevention	8.2: Expert on using diagnosis procedure, animal treatment and prevention
CĐR9. Consultation on veterinary technique, technology and doing bussiness to bring economic benefician	9.2: Consultation on veterinary technology
CĐR10. Using informatic technology and modern equipment to apply for diagnosis and manage animal parasitic disease	10.2: Using biotechnology and equipment apply for diagnosis and disease management
Self control and responsibility	
CĐR12. Follow the law and responsibility for profesional ethical	12.1: Follow the law and responsibility for profesional ethical

III. Objective and expected result

* Objective:

- Provide student the principle of parasite immunology
- Training for student for application of immunology on diagnosis, treatment and prevention of parasitic diseases
- Traning and improve veterinary parasite immunology knowledge which related directly for improve animal health and human protection

− ** Expected result*

The module contributes to the following program outcome of the training program based on the following levels:

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

Module code	Modulename	The level of the module contribution to expected result of training program				
		3.4	8.2	9.2	10.2	12.1
TY 03056	Veterinary parasite immunology	M	R	M	R	R

Ký hiệu	Expected result of module Completing this module, students can	Expected result of training program
Knowledge		
K1	Determined immune mechanism os parasitic diseases and apply on diagnosis Evaluation criterian: Improve animal health for parasitic disease Evaluation method: - Final term evaluation	3.4. Improve animal health
Skill		
K2	Apply on diagnosis of parasitic diseases Evaluation criterian: Expert on using diagnosis method, treament and prevention of parasitic diseases Evaluation method: - Practical class	8.2. Expert on using diagnosis method, treament and prevention of parasitic diseases
K3	Apply immunology knowledge on diagnosis, prevention and treatment of parasitic diseases Evaluation criterian: Consultation on using technology for control parasitic disease Evaluation method: - Practical class	9.2. Consultation on using technology for control parasitic disease
K4	Design experiment for diagnosis, treatment and prevention of parasitic diseases Evaluation criterian: Using modern equipment for diagnosis, treatment and prevention of parasitic diseases Evaluation method: - Group working	10.2. Using modern equipment for diagnosis, treatment and prevention of parasitic diseases
Autonomy capacity and responsibility		
K5	Raising students' awareness on the subject of Veterinary Parasitology Evaluation criterian: Responsibility follow the law and related requirements Evaluation method: - Diligence evaluation	12.1. Responsibility follow the law and related requirements

IV. Module summary (Not to exceed 100 words)

Code: TY03056   **Module name:** Veterinary parasite immunology

(Total number of credits: 2; Total number of theoretical credits: 2.5 – Total of practical credits: 0.5 – Total number of self-study credits: 6)

TY03056. Vet. Parasitology Immunology. (2TC: 1,5-0,5-6). : Veterinary parasite immunology provides knowledge and skills to learners about the immune mechanism of parasitic diseases in livestock The module is equipped with the ability to diagnose parasitic diseases with the application of immune mechanism. Learners can apply skills on immunology to prevent and treat parasitic diseases in animal.

Teaching method

Lecturers use the means of communication (writing boards, lights, sound systems , ...) to present the lecture content. Practice under supervision of lecturer**. Evaluation method:** Attendance: 10%, Midterm: 30%,Final exam: 60%. Last module: Parasitology 2

V. Teaching and learning methods

1. Teaching method

Lecturers use the means of communication (writing boards, lights, sound systems , ...) to present the lecture content.

Table 1. **Teaching method**

Teaching method	K1	K2	K3	K4	K5
Theory	x				x
Practical		x	x		
Group working				x	

2. Learning method

Active learning method, in which students read materials of course content in advance. In the classroom, students listen to lectures delivered by lecturers and at the same time exchange and discuss among students with and lecturers

VI. Student duties

- Diligence: All students attending this module must attend school fully.
- Preparing for the lecture: All students attending this module must read the reference book in the list below before going to class.
- Preparing for practice content: All students attending this module must read reference books and materials provided by lecturers before coming to class.
- Practice: All students attending this session must implement the techniques in the module content, students can make a report in group or by individual.
- Mid-term exam: all students must take the mid-term exam
- Final exam: Students must take the final exam

VII. Evaluation and scoring

1. Thang điểm: 10

2. Điểm trung bình của học phần là tổng điểm của các rubric nhân với trọng số tương ứng của từng rubric:

1. Score scale: 10

2. The final score is the average of the following component points:

- Diligence: 10%
- Process score/Mid-term test score: 30%
- Final exam score: 60%

3. Evaluation method

Table 2. Evaluation matrix

Evaluation	K1	K2	K3	K4	K5	Time/study week
Progress evaluation (40%)						
Rubric 1. Attendance (10%)	x	x	x	x	x	Week 1 - 8
Rubric 2. Middle term exam evaluation (30%)	x	x	x			Week 4
Final evaluation (60%)						
Rubric 3. Final exam (60%)	x	x	x	x	x	University schdule

Rubric 1. Diligence (Attendance)

Criteria	Rate (%)	Good 100%	Fairy good 75%	fair 50%	Poor 0%
Attendance attitude	50	Always pay attention and participate in activities	Quite attentive, involved	Attention, little participation	Not paying attention/not participating
Attendance time	50	Compulsory attendance at 100% of theoretical and practical sessions. Students absent for 1 theory session without plausible reasons shall be deducted 20%. Students absent for 1 practice session may not take the final exam.			

Rubric 2. Evaluation of mid-term exam

Exam content	Criteria of module evaluate through question	Expected result evaluate through question
Basic knowledge of parasite immunology	Improve animal health on parasitic diseases	K1
Determine of parasitic immune mechanism	Improve animal health on parasitic diseases	K1

Rubric 3. Final exam evaluation

Exam content	Criteria of module evaluate through question	Expected result evaluate through question

Basic knowledge of parasite immunology	Improve animal health on parasitic diseases	K1
Determine of parasitic immune mechanism	Improve animal health on parasitic diseases	K1
Apply immunology on parasitic disease prevention	Expert on apply immunology technique on parasitci diseases diagnosis, treatment and prevantion	K2, K3
Practice immuno parasitology	Apply mordern equipment on diagnosis, treatment and prevention of parasitic diseases	K4

Table 3. **Implement indicators**

Expected result	Chỉ báo thực hiện KQHTMĐ
K1. Determined immune mechanism on parasitic disease	Indicator 1: Determine veterinary parasite immunology definition Indicator 2: Determine immune mechanism on helminth disease Indicator 3: Determine immune mechanism on protozoa disease Indicator 4: Determine immune mechanism on ecto-parasitic disease
K2. Apply immunology on diagnosis of parasitic disease	Indicator 5: Apply immunology on diagnosis of parasitic disease
K3. Apply immunology on parasitic disease treatment	Indicator 6: Apply immunology on treatment of parasitic disease
K4. Design experiment on diagnosis and treatment of parasitic disease	Indicator 7: Expert on design diagnosis method for detection of parasitic disease Indicator 8: Expert on using immuno techniques for analyse parasite antigen and imunodiagnosis methods (ELISA)
K5. Improve understanding of parasite veterinary immunology	Indicator 9: Apply knowledge to improve parasite veterinary immunology skill follows the law and related requiments

4. Requirements and regulations for the module

Submission of internship report: All cases of absent from a practice session will not be allowed to take the final exam.

Taking exams: Failure to take the mid-term exam or final exam will get 0 points for the whole subject.

Ethical requirements: Students must adhere to the ethical standards of the university environment

VIII. Curriculum/reference materials

* Textbooks/Lectures: (List at least 1 textbook)

1. Nguyễn Văn Thọ, Nguyễn Thị Hồng Chiên, Dương Đức Hiếu, Bùi Khánh Linh, Nguyễn Thị Nhiên, Nguyễn Văn Phương, Nguyễn Thị Hoàng Yến, 2019. Parasitology text book, Vietnam national University of Agriculture publisher

2. Bùi Khánh Linh, Nguyễn Văn Thọ, Nguyễn Thị Hoàng Yến, Nguyễn Văn Phương, Nguyễn Thị Hồng Chiên, Dương Đức Hiếu, Nguyễn Thị Nhiên, Trần Hải Thanh, 2021. Parasitology practical text book. Vietnam National University of Agriculture Publisher

* Other references

1. Pham Sy Lang, Nguyen Huu Hung, Nguyen Van Dien, Nguyen Ba Hien, Bach Quoc Thang and Ha Thuy Hanh (2015). Parasitic disease in Vietnamese cattle and poultry. Agricultural Publishing House.

2. Dwight D. Bowman (2013). Georgis' Parasitology for Veterinarians. 10th Edition.

3.Charles M. Hendrix, Ed Robinson CVT (2011). Diagnosis parasitology for investigation technicians. 4th Edicion.

IX. Module details

Week	Content	Expected result
1	***Chapter 1: Overview of Veterinary Parasite Immunology***	K1, K5
	A / Main contents at class: *(3 periods)* **Theoretical content:** 1.1. Concept of immunology 1.2. Parasitic immunology 1.3. Relations between Parasitic Immunology with other subjects	
	B / Contents for self-study at home: *(6 periods)* 1.4. Overview of Veterinary Parasite Immunology	
2, 3, 4	***Chapter 2***: ***Mechanism of parasite immunology***	**K1-K5**
	A / Summary of main contents at class: *(9 periods)* **Theoretical content:** 1.1. Immunology of helminths 1.1.1. Mechanism of immune response in helminths 1.1.2. Basic characteristics of the immune response in helminths 1.1.3. Helminths antigen 1.2. Immunology in unicellular diseases 1.2.1. The mechanism of immune response in unicellular diseases 1.2.2. Basic characteristics of the immune response in unicellular diseases 1.2.3. Single cell antigen 1.3 Exogenous parasite immunology 1.3.1. Mechanism of immune response in exogenous parasite diseases 1.3.2. Basic characteristics of the immune response in exogenous parasite diseases 1.3.3. Exogenous parasite antigen	
	B / Contents to self-study at home: *(18 periods)* 2.6. Mechanism of parasite immunology	
3	***Chapter 3 : Application of parasite immunology***	K1 – K5

	*A / **Summary of main contents at class:** (12 periods)*
	
	Theoretical content:
	
	      3.1. Immune interaction in parasite co-infection
	      3.3. Immunological application in diagnosis
	      3.4. Immunology application in manufacturing of supportive preparations for treatment of parasitic diseases
	      3.5. Immunology application in vaccine production	

	*B / **Contents for self-study at home**: (8 periods)* Immunological application in the diagnosis and prevention of parasitic diseases	

3,4,5	**Chapter 4. Practice of Parasitic Immunology** *(8 periods)*
	      4.1. Practice immune application in diagnosis of parasites
	      4.2. ELISA response
	      4.3. Technique for extracting parasite antigen
		K1-K5

X. Lectuers' requirements for modules :

- Classroom, practice room: There is a need for a classroom, a parasite practice room
- Teaching facilities : Projector, personal speaker, board, chalk.

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<tr>
<td>HEAD OF DEPARTMENT
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<td>MODULE DESIGNER
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APPENDIX
INFORMATION ABOUT MODULE LECTURERS

Lecturer in charge of module

Full name: BUI KHANH LINH	Academic title, degree: PhD.
Work address: Department of Parasitology - Faculty of Veterinary Medicine - Vietnam National University of Agriculture	Telephone: 043.8768270
Email: bklinh5@gmail.com	Website: http://www.vnua.edu.vn/khoa/thu_y/
How to contact the Lecturer: via email or telephone	

Lecturer in charge of module

Full name: NGUYEN THI HOANG YEN	Academic title, degree: PhD.
Work address: Department of Parasitology - Faculty of Veterinary Medicine - Vietnam National University of Agriculture	Telephone: 043.8768270
Email: hoangyenntqn@yahoo.com	Website: http://www.vnua.edu.vn/khoa/thu_y/
How to contact the Lecturer: via email or telephone	

Lecturer in charge of module

Full name: NGUYEN THI HONG CHIEN	Academic title, degree: Master
Work address: Department of Parasitology - Faculty of Veterinary Medicine - Vietnam National University of Agriculture	Telephone: 043.8768270
Email: chienty47b@yahoo.com	Website: http://www.vnua.edu.vn/khoa/thu_y/
How to contact the Lecturer: via email or telephone	

Lecturer in charge of module

Full name: NGUYEN VAN PHUONG	Academic title, degree: Master
Work address: Department of Parasitology - Faculty of Veterinary Medicine - Vietnam National University of Agriculture	Telephone: 043.8768270
Email: phuong.vetmed@gmail.com	Website: http://www.vnua.edu.vn/khoa/thu_y/
How to contact the Lecturer: via email or telephone	

Lecturer in charge of module

Full name: DUONG DUC HIEU	Academic title, degree: Master
Work address: Department of Parasitology - Faculty of Veterinary Medicine - Vietnam National University of Agriculture	Telephone: 043.8768270
Email: duchieu2606@gmail.com	Website: http://www.vnua.edu.vn/khoa/thu_y/
How to contact the Lecturer: via email or telephone	

RELATED SUMARYBETWEEN EXPECTED RESULT, TEACHING –LEARNING AND EVALUATION

Expected result	K1	K2	K3	K4	K5
Teaching and learning					
Theory	x				x
Practical		x	x		
Group working				x	
Evaluation					
Rubric 1. Attendance	x	x	x	x	x
Rubric 2. Middle term exam	x	x	x		
Rubric3. Final exam	x	x	x	x	x

CÁC LẦN CẢI TIẾN ĐỀ CƯƠNG:

- Lần 1: 3/2022. Thay đổi thông tin đội ngũ giảng viên giảng dạy học phần.