

COURSE OUTLINE DETAILS

1. Course: Introduction to Fish Health and Clinical Fish Disease Diagnosis (Đại cương về bệnh thủy sản và phương pháp chẩn đoán)

- **Code:** AQ305

- **Credits:** 3

- **Hours:** 30 theory hours, 30 practice hours, 60 self-study hours

2. Management Unit:

- **Department:** Aquatic Pathology

- **Faculty:** College of Aquaculture and Fisheries

3. Prerequisites:

- **Prerequisites:** No

- **Corequisites:** No

4. Course objectives:

Objectives	Descriptions	Program Outcomes
4.1	To provide student concepts of fish health and interactions between the host, the environment, and pathogens and disease development, knowledge on infectious and non-infectious diseases that affect fish, the principles of disease diagnosis, management, treatments, water quality and disease in cultured fish.	2.1.3b
4.2	To train students to recognize disease problems through the interactions between the host, the environment, and pathogens and disease development, implement methods of prevention and treatments for specific diseases.	2.2.1a
4.3	To develop rational thinking skills, confidence	2.2.2
4.4	Strengthen habits of self-study and positive attitude for research	2.3

5. Course learning outcomes:

COs	Descriptions	Objectives	POs
	Knowledge		
CO1	Understand concept of fish health and interactions between the host, the environment, and pathogens and disease development	4.1	2.1.3b
CO2	Recognise and distinguish on infectious and non-infectious diseases that affect fish	4.1	2.1.3b
CO3	Understand the principles of disease diagnosis, management, treatments, water quality and disease in cultured fish	4.1	2.1.3b
	Skills		

CO4	To recognize disease problems through the interactions between the host, the environment, and pathogens and disease development, implement methods of prevention and treatments for specific diseases	4.2	2.2.1a
CO5	Organize group working or collaboration in the field of health management in aquaculture	4.3	2.2.2
	Attitudes/Autonomy/Responsibilities		
CO6	Display self-responsibility and awareness in research and application in health management in aquaculture	4.4	2.3

5. Brief description of the course:

The subject introduces students concept of fish health and interactions between the host, the environment, and pathogens and disease development, knowledge on infectious and non-infectious diseases that affect fish, the principles of disease diagnosis, management, treatments, water quality and disease in cultured fish.

6. Course structure:

	Content	Hours	COs
Chapter 1	Introduction to fish health	15	CO1; CO6
1.1.	Introduction to fish diseases and health	3	
1.2.	Fish Anatomy, physiology and concepts of fish health	6	
1.3.	Pathological changes related to disease and health management	6	
Chapter 2	Infectious and non-infectious diseases in fish	15	CO2; CO6
2.1.	Viral diseases	3	
2.2.	Bacterial diseases	3	
2.3.	Fungal diseases	3	
2.2.	Parasitic diseases	3	
2.2.	Non-infectious diseases	3	
Chapter 3	Principles of disease diagnosis, prevention and treatment of fish diseases	15	CO3; CO6
3.1.	Principles of disease diagnosis	5	
3.2.	Prevention of fish diseases	5	
3.3.	Treatment of fish diseases	5	

7. Teaching method:

- Theory
- Case study and report students
- Questions and discussions. Topic reports

8. Duties of student:

Students have to do the following duties:

- Lecture/Class attendance: 80% of lectures
- Attend oral presentations and all exams..

9. Assessment of student learning outcomes:

9.1. Assessment

No.	Point components	Rules and Requirement	Weights	COs
1	Attendance, participation, diligence and professionalism .	- Participate in all class of theory and exams - The instructor should be notified in advance of known absence.	10%	CO4; CO5; CO6
2	Scores of short exams	- Mid-term exams	40%	CO1; CO2; CO6
3	Scores of final exam	- Final exam	50%	CO3; CO6

9.2. Grading

- Grading components and final test scores will be marked on a scale of 10 (0 to 10), rounded to one decimal place.
- Subject score is the sum of all the components of the evaluation multiplied by the corresponding weight. The subject score is marked on a scale of 10 and rounded to one decimal place, then is converted to A-B-C-D score and score on a scale of 4 under the academic provisions of the University.

10. Materials:


Materials information	Code number
[1] Health Maintenance and Principal Microbial Diseases of Cultured Fishes. J. A. Plumb.	
[2] Fish Disease: Diagnosis and Treatment. Edward J. Noga. 2010. Wiley–Backwell. Publishing. Second edition, 519 pages	
[3] Asia Diagnostic Guide to Aquatic Animal Diseases. Melba G. Bondad-Reantaso (2001). FAO fisheries technical paper 402/2.	www.fao.org/docrep/005/Y1679E/Y1679E00.HTM .
[4] Manual of diagnostic Tests for Aquatic Animals, 2003.	http://www.oie.int
[5] Fish Diseases and Disorders. Woo, P. T. K. 2011. Vol. 1, 2, 3. CAB International, Wallingford, U. K.	

11. Self-study Guide:

Week	Content	Theory (hours)	Practice (hours)	Students' duties
1	Chapter 1 1.1. Introduction to fish diseases and health	2	0	Reading lecture notes and material [1]
2	Chapter 1: 1.2. Fish Anatomy, physiology	2	0	Reading lecture notes and material [1]
3	Chapter 1:	3	0	Reading lecture notes and material [1]

	1.2. Concepts of fish health			
4	Chapter 1: 1.3. Pathological changes related to disease	3	0	Reading lecture notes and material [1]
5	Chapter 1: 1.3. Fish health management	5	0	Reading lecture notes and material [1]
6	Chapter 2: 2.1 Viral diseases	3	0	Reading lecture notes and material [5]
7	Chapter 2: 2.2 Bacterial diseases	3	0	Reading lecture notes and material [5]
8	Chapter 2: 2.3 Fungal diseases	3	0	Reading lecture notes and material [5]
9	Chapter 2: 2.4 Parasitic diseases	3	0	Reading lecture notes and material [5]
10	Chapter 2: 2.5. Non-infectious diseases	5	0	Reading lecture notes and material [5]
11	Chapter 3: 3.1 Principles of disease diagnosis	3	0	Reading lecture notes and material [2] [3] [4]
12	Chapter 3: 3.1 Principles of disease diagnosis	3	0	Reading lecture notes and material [2] [3]
13	Chapter 3: 3.2 Prevention of diseases	5	0	Reading lecture notes and material [1] [2]
14	Chapter 3: 3.3 Treatment of fish diseases	5	0	Reading lecture notes and material [1] [2]
15	Topic presentations and discussions	3	0	Course review

ON BEHALF OF RECTOR
DEAN OF COLLEGE

 *Vũ Ngọc Út*
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Can Tho, 30.../...8.../2022
HEAD OF DEPARTMENT


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