

COURSE OUTLINE DETAILS

1. Course: FOOD QUALITY MANAGEMENT AND SAFETY (Vệ sinh an toàn thực phẩm thủy sản)

- **Code number:** AQ227

- **Credits:** 02

- **Hours:** 20 theory hours, 20 hours of Assignment, and 60 self-study hours.

2. Management Unit:

- **Department:** Aquatic Products Processing

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

3. Requisites:

- **Prerequisites:** No

- **Corequisites:** No

4. Course objectives:

Objectives	Descriptions	Program Outcomes
4.1	Providing the knowledge on the most important aspects of food safety, forbidden and legal veterinary drugs used in aquaculture and livestock, understanding of elimination of antimicrobials in fish; environmental contaminants e.g. pesticides, PAHs, heavy metals related to food safety, and analytical methods of antimicrobial residues; an overview of biological food safety hazards in food products; (v) physical food safety hazards (vi) an introduction on food safety management systems (good practices and HACCP).	2.1.3b
4.2	Training the skills in analysis of food safety databases and sources of contamination.	2.2.1b
4.3	Training on data collection and improving the students' ability to work independently or/and in group.	2.2.2
4.4	Indulging in career, lifelong learning skills, and competence for academic specialization and professional experiences in practical works in food safety.	2.3

5. Course learning outcomes:

COs	Descriptions	Objectives	POs
	Knowledge		
CO1	Generalize the chemical, physical and microbial contaminants in aquatic food products.	4.1	2.1.3b
CO2	Describe forbidden and legal veterinary drugs used in aquaculture and summary different contaminants e.g. pesticide, PAHs, heavy metals related to food safety.	4.1	2.1.3b

COs	Descriptions	Objectives	POs
CO3	Generalize physical and microbial contaminants in aquatic food products and quality assurance standards applied in aquaculture.	4.1	2.1.3b
	Skills		
CO4	Analysis of food safety database and source of contamination	4.2	2.2.1b
CO5	Work independently or/and in group	4.3	2.2.2
	Attitudes/Autonomy/Responsibilities		
CO6	Develop the self-studying ability, scientific style in learning and research, lifelong learning skills.	4.4	2.3

Note: "COs" means Course Outcomes; "POs" means Program Outcomes

6. Brief description of the course:

This subject aims to provide students with knowledge and information on food quality management and safety. The subject will focus on the main contents (i) provide general information on the most important aspects of food safety, (ii) forbidden and legal veterinary drugs used in aquaculture; (iii) environmental contaminants e.g. pesticide, PAHs, heavy metals related to food safety (iv) an overview of biological food safety hazards in food products; (v) physical food safety hazards (vi) an introduction on food safety management systems. Teaching methods are theories and discussions in-class activities.

7. Course structure:

7.1. Theory

	Content	Hours	COs
Chapter 1. Introduction		2	CO1; CO6
1.1.	Introduction to food safety and food quality		
1.2.	Overview of different categories of chemical, microbial and physical contaminants in aquaculture and livestock products.		
Chapter 2. Chemical hazards		8	CO2; CO6
2.1.	Forbidden substances (hormones, toxic antimicrobials, malachite green)		
2.2.	Legal veterinary drugs		
2.3.	Pesticides		
2.4.	Environmental contaminants		
2.5.	PAH, heavy metals		
2.6.	Biogenic amine		
2.7.	Additives		
2.8.	Residue management, examples from EU		
Chapter 3. Biological aspects of food safety		4	CO3; CO6
3.1.	Foodborne pathogens		
3.2.	Food intoxicating bacteria		
3.3.	Virus and parasite in food		

	Content	Hours	COs
3.4.	Control measures		
Chapter 4.	Physical hazards in food	2	CO3; CO6
	Origin and types of physical hazards		
	Control measures		
Chapter 5.	Quality management systems	4	CO3; CO6
5.1.	Quality management systems in seafood processing company		
5.2.	Quality management systems in aquaculture		

7.2. Assignment

	Content	Hours	COs
1.1.	Access the database from EU, RASFF system, and the Japanese authorities	10	CO4, CO5, CO6
1.2.	Prepare the report and presentation		

8. Teaching methods:

- For theory, active teaching and learning offer opportunities for interaction between lecturers and students, among the students themselves, as well as between students and the materials, the topic itself or the academic discipline.
- For the practice, each group of students (4-5 students) will conduct the data collection, analysis and prepare reports and presentations.

9. Duties of student:

Students have to do the following duties:

- Academic participating in at least 80% of the total number of theory periods.
- Conduct the assignment.
- Physical participation in the final exam.
- Independent study activities

10. Assessment of course learning outcomes:

10.1. Assessment

No.	Point components	Rules and Requirements	Weights	COs
1	Assignment	Submit report and present in class	20%	CO4; CO5; CO6
2	Final test	Physical attending the test, the writing (60 minutes)	80%	CO1- CO6

10.2. Grading

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

11. Learning materials:

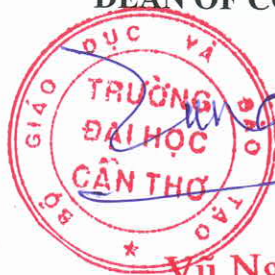
Learning materials information	Barcode number
[1] Lecture notes on food safety	TS.005841
[2] Food Quality Assurance- Principles and Practices – Inteaz Alli- CRC Press -2003	NN.003142
[3] Food processing principles and applications. Ramaswamy, Hosahalli - Boca Raton, FL.: CRC Press, 2006	MON.021084
[4] Foodborne pathogens: Hazards, risk analysis, and control. 2002. Boca Raton, FL: CRC Press	CNSH.000190
[5] Food toxicology. 2001. Boca Raton: CRC Press	CNSH.000195
[6] Fish and fished products hazards and controls guidance	338.372/D419

12. Self-study Guide:

Week	Content	Theory (Hours)	Practice (Hours)	Student's Tasks
1	Chương 1: Introduction 1.1 Introduction to food safety and food quality 1.2 Overview of different categories of chemical, microbial and physical contaminants in aquaculture products.	2	0	Required reading before class attending: + Document [1-6]: read Chapter 1. + Collect data for assignment
2-5	Chapter 2: chemical hazards 2.1. Forbidden substances (hormones, toxic antimicrobials, malachite green) 2.2. Legal veterinary drugs 2.3. Pesticides 2.4. Environmental contaminants 2.5. PAH and heavy metal 2.6. Biogenic amines 2.7. Additives 2.8. Residue management, examples from EU	8	0	Required reading before class attending: + Document [1]: read Chapter 2-10 + Documents [2] and [4] read chemical hazard sections.
6-7	Biological aspects of food safety 3.1. Foodborne pathogens 3.2. Food intoxicating bacteria 3.3. Virus and parasite in food 3.4. Control measures	4	0	Required reading before class attending: + Document [1]: read Chapter 11. + Documents [2] and [5] read biological hazard sections.

Week	Content	Theory (Hours)	Practice (Hours)	Student's Tasks
8	Chapter 4. Physical hazards in food 4.1. Origin and types of physical hazards. 4.2. Control measures	2	0	Required reading before class attending: + Document [1]: read Chapter 12. + Documents [2] refer section of physiological hazard
9-10	Chapter 5: Quality management system 5.1 Quality management systems in seafood processing company 5.2 Quality management systems in aquaculture	4		Required reading before class attending: Document [6]: refer Section HACCP and provided documents and website.
12-15	Assignment		10	Access the database from EU, RASFF system, and Japanese authorities, prepare the report and presentation

ON BEHALF OF RECTOR
DEAN OF COLLEGE



Vũ Ngọc Út

Can Tho, 30/...8.../2022
HEAD OF DEPARTMENT

Lê Thị Minh Thủy