MINISTRY OF EDUCATION AND TRAINING
CAN THO UNIVERSITY

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

COURSE OUTLINE DETAILS

1. Course: Planning for Aquaculture Development ***(Quy hoạch Phát triển Thủy sản)***

- **Code number: AQ311E**
- **Credits:** 2
- **Hours:** 30 theory hours, 0 practice hours, 0 internship hours, 0 project hours, 0 thesis hours, 30 teaching on class and 60 self-study hours.

2. Management Unit:

- **Department:** Department of Fisheries Management and Economics
- **Faculty/School/Institute/Center/Department: College of Aquaculture and Fisheries**

3. Requisites:

- **Prerequisites:** Non
- **Corequisites:** Non

4. Course objectives:

Objectives	Descriptions	Program Outcomes
4.1	Providing student knowledge on the status of Vietnam aquaculture development of high economic value species, basic concepts in aquaculture planning and management; prospect, benefits, issues of ecological impacts in aquaculture; aquaculture farming systems and scales, especially intensive and supper intensive applying advanced technology for high economic value species. Explaining related elements and principles to aquaculture planning and management towards effective and sustainable and environmental friendly production.	2.1.3a 2.1.3b
4.2	Student can design, implement planning and management in aquaculture; apply the methods and tools for aquaculture development.	2.2.1
4.3	Developing professional moral awareness, self-studying, working group and sharing knowledge as well as communication skills	2.2.2

Objectives	Descriptions	Program Outcomes
4.4	Training student self-study ability, awareness in professional responsibility and the importance of aquaculture development	2.3

5. Course learning outcomes:

COs	Descriptions	Objectives	POs
	Knowledge		
CO1	Providing student knowledge on the status of Vietnam aquaculture development of high economic value species; basic concepts in aquaculture planning and management; Natural resources, environment, biodiversity and management; prospect, benefits, issues of ecological impacts in aquaculture; aquaculture farming systems and scales, especially intensive and supper intensive applying advanced technology for high economic value species.	**4.1**	2.1.3a
CO2	Explaining related elements and principles to aquaculture planning and management towards effective and sustainable and environmental friendly production. Describing for aquaculture farming systems, scales and commercial aquaculture species, especially intensive and supper intensive applied advanced technology for high economic value species.	**4.1**	2.1.3b
	Skills		
CO3	Designation and implementation of planning and management in aquaculture development Applying the methods and tools in aquaculture planning and management	**4.2**	2.2.1
CO4	Developing for student communication skills, working group and sharing knowledge	**4.3**	2.2.2

COs	Descriptions	Objectives	POs
	Knowledge		
	Developing professional moral awareness, English communication skills, good cooperation with working partnership in group working and presentation; scientific research and studying.		
	Attitudes/Autonomy/Responsibilities		
CO5	Developing of awareness on studying seriously, self-study, confidence in study and research	**4.4**	2.3

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

6. Brief description of the course:

This course provides student knowledge on (1) The status of Vietnam aquaculture development, basic concepts, prospects, benefits and ecological impacts in aquaculture; (2) Natural resources, environment, biodiversity and management in aquaculture and fishery; (3) Design and implementation in planning and management; principles of planning and management; and (4) Tools and methods of aquaculture planning.

7. Course structure:

7.1.	Theory		
	Contents	**Hours**	**COs**
Chapter 1.	**Vietnam aquaculture development**	**4**	**CO1**
1.1	Understanding and explaining on Vietnam aquaculture development of high economic value species; basic concepts in aquaculture planning and management, prospect, benefits, ecological impacts in aquaculture.	2	
1.2	Explaining related elements and principles to aquaculture planning and management towards effective and sustainable and environmental friendly production. Describing for aquaculture farming systems, scales and commercial aquaculture species, especially intensive and supper intensive applied advanced technology for high economic value species.	2	**CO2**
Chapter 2.	**Natural resources, environment, biodiversity and management**	**4**	**CO1**

2.1	Natural resources and environment	2	
2.2	Biodiversity and management	2	
Chapter 3.	**Designation and implementation of planning and management**	**10**	**CO2, CO3, CO4**
3.1	Planning process	2	CO3
3.2	Aquaculture governance, policy formulation, strategy development and planning	4	CO3, CO4
3.3	Principles of planning and management	4	CO2
Chapter 4.	**Tools and methods of aquaculture planning**	**12**	**CO3, CO5**
4.1	Administrative and economic instrument	2	CO3
4.2	Institutional, political and stakeholder analysis	2	CO3
4.3	Technique of participatory rural appraisal (PRA)	4	CO5
4.4	Environmental impact and socio-economic assessment	2	CO3
4.5	Application of remote sensing and geographical information system	2	CO3
4.6	Analytical technique in suitable aquaculture zoning		

7.2. Practice: No

8. Teaching methods:

- Using active method, interaction and students is considered as center of teaching; online teaching via familiar apps following university's regulations will be implemented.

- Students have to read the lecture material before coming to the class and bran storming to answer questions during 2 hours studying. Lecturer will summarize the lecture at the end of study section.

- Students will be watched video clips on procedure catfish production of Hung Vuong Cooperation, intensive shrimp production of Minh Phu Cooperation and supper intensive white leg shrimp culture of Long Manh Company.

- Students are provided the topics of group assignment and guided to find and select scientific articles and writing group report and presentation. Groups have to prepare power point, word files report and submit to the Lecturer 1 day before presenting in class.
- Students will be selected randomly to present their group assignment 15 minutes and answer questions 15 minutes.

9. Duties of student:

- Lecture attendance: at least 80% of the course theory
- Implementing group presentation reports (power point and word files) and submit to the Lecture before presentation.
- Present group assignment and answer questions (20% grade)
- Attending mid-semester exam: Requisite (30%)
- Attending final exam: Requisite (50%)

10. Assessment of course learning outcomes:

10.1. Assessment

Online assessment methods

No.	Point components	Rules and Requirements	Weights (%)	COs
1	Assignment	Group assignment and presentation	20	CO1, CO2, CO4
2	Mid-semester test	Writing (60 minutes)	30	CO1, CO2, CO3, CO5
3	Final exam	Writing (60 minutes)	50	CO1, CO2, CO3, CO5

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] Truong Hoang Minh, Tran Van Viet and Tran Ngoc Hai, and, 2021. Planning aquaculture development. 97p, 27 cm. Can Tho University 2021	693 / H103 MFN: 240189

[2] FAO, 2010. Aquaculture planning Policy formulation and implementation for sustainable development/Cécile Brugere and Neil Ridler, Graham Haylor, Graeme Macfadyen and Nathanael Hishamunda. *Fisheries and aquaculture technical report*, No. 542. O FAO, Rome. 2010. 70p., 30 cm	639/ A656/N542 MFN:233012
[3] FAO, 2001. Planning and management for sustainable coastal aquaculture development. 90p. cm. GESAMP Reports and studies of Marine Environmental Protection (GESAMP), No. 68. Rome, Italy: FAO, 2001.	338.3727 / P713 MFN: 49781
[4] FAO, 1997. Rapid rural appraisal, participatory rural appraisal and aquaculture. FAO fisheries technical paper N.358. 109p.	639 / F533/N358 MFN: 22172

12. Self-study Guide:

Week	Content	Theory (hours)	Practice (hours)	Student's Tasks
1	**Chapter 1: National aquaculture development** 1.1 Aquaculture and fisheries development in the Vietnam 1.2 Coastal and inland aquaculture systems in Vietnam and Mekong Delta	**8** 4	0	Reading materials before study: + Material [1]
2	1.3. Basic concepts, prospects, benefits, ecological impacts in aquaculture	4	0	+ Material [1]
3	**Chapter 2: Natural resources, environment, biodiversity and management** 2.1 Natural resources and environment	**8** 4	0	Reading materials before study: + Material [1] & [3]
4	2.2 Biodiversity and management	4	0	Reading materials before study: +Material [1] & [3]
5	**Chapter 3: Design and implementation of planning and management** 3.1. Planning process	**20** 4	0	Reading materials before study: + Material [1], [2]: p. 3-9 & 19-30, [3]: p. 20-40.

6	3.2 Aquaculture governance, policy formulation, strategy development and planning	4	0	+ Material [1], [2]: p. 3-9 & 19-30, [3]: p. 20-40,
7	3.2. Aquaculture governance, policy formulation, strategy development and planning (cont.)	4	0	+ Material [1], [3]: p. 20-40
8	3.3. Principles of planning and management	4	0	+ Material [1], [3]: p. 20-40
9	3.3. Principles of planning and management (cont.)	4	0	+ Material [1], [3]: p. 20-40
10	**Chapter 4: Tools and methods of aquaculture planning** 4.1. Administrative and economic instrument 4.2. Institutional, political and stakeholder analysis	**24** 4	0 0	Reading materials before study: + Material [1], [2] [3], [4]: Part 2 (tools and methods, 2.1, 2.12)
11	4.3. Technique of participatory rural appraisal (PRA)	4	0	+Material: [1], [4]: Part 2 (tools and methods, 2.2), [4]: p. 9-17 & 21-54,
12, 13	4.4. Environmental impact and socio-economic assessment	8	0	+Material: [1], [3], [4]: Part 2 (tools and methods, 2.2, 2.3, 2.4, 2.5, , 2.6)
14	4.5. Application of remote sensing and geographical information system	4	0	+Material: [1], [3]: Part 2 (tools and methods,),
15	4.6. Analytical technique in suitable aquaculture zoning	4	0	+Material [1], [3] [4]: Part 2 (2.11)

Can Tho, 08/09/2022

ON BEHALF OF RECTOR
DEAN OF COLLEGE

TRƯỜNG ĐẠI HỌC CẦN THƠ

Vũ Ngọc Út

HEAD OF DEPARTMENT

Huỳnh Văn Hiền