UỶ BAN NHÂN DÂN TỈNH ĐỒNG THÁP
**TRƯỜNG CAO ĐẲNG CỘNG ĐỒNG ĐỒNG THÁP**

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# GIÁO TRÌNH

MÔN HỌC: ANH VĂN CHUYÊN NGÀNH

NGÀNH, NGHỀ: PHÒNG VÀ CHỮA BỆNH THỦY SẢN

TRÌNH ĐỘ: CAO ĐẲNG

*(Ban hành kèm theo Quyết định Số:..../QĐ-CĐCĐ-ĐT ngày… tháng… năm 2018 của Hiệu trưởng Trường Cao đẳng Cộng đồng Đồng Tháp)*

Đồng Tháp, năm 2018

# TUYÊN BỐ BẢN QUYỀN

Tài liệu này thuộc loại sách giáo trình nên các nguồn thông tin có thể được phép dùng nguyên bản hoặc trích dùng cho các mục đích về đào tạo và tham khảo.

Mọi mục đích khác mang tính lệch lạc hoặc sử dụng với mục đích kinh doanh thiếu lành mạnh sẽ bị nghiêm cấm.

# PREFACE

*The course "English for Aquaculture" is meant for the students of the Aquaculture Faculty who are intending to become aquaculture engineers. This course is designed for aquaculture students who have passed the Certificate of English Level A or scored 300 points on the TOEIC test.*

*The aim of the course is to help students obtain their English skills and specialized vocabulary so that they can read English documents and books on aquaculture. I hope that the course "English for Aquaculture" will help students achieve the basic knowledge of English for Aquaculture.*

*The course includes seven chapters. Each chapter contains four parts;*

**Part 1**: *Getting started*
**Part 2**: *Reading*
**Part 3**: *Further Practice*
**Part 4**: *Vocabulary Learning Cards*

*This course was completed with the help of colleagues to whom I am indebted. At this time, I am seeking edits and corrections from colleagues.*

*Dong Thap, May 26th 2018.*

Compiled by

Pham Thi Oanh

# BẢNG NHỮNG CHỮ VIẾT TẮT

| | | |
|---|---|---|
| adj | adjective | tính từ |
| adv | adverb | phó từ |
| n | noun | danh từ |
| v | verb | động từ |
| etc | et cetera | vân vân |
| e.g. | exampli gratia | thí dụ |

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# GIÁO TRÌNH MÔN HỌC

**Tên môn học:** ANH VĂN CHUYÊN NGÀNH

**Mã môn học:** CNN585

**Vị trí, tính chất của môn học:**

- Vị trí: Môn Anh văn chuyên ngành Nuôi Trồng Thủy Sản là môn học, mô đun tự chọn thuộc nhóm các môn học chuyên môn, thuộc ngành Nuôi Trồng Thủy Sản được bố trí giảng dạy sau khi đã học xong các học môn học tiếng Anh cơ bản.

- Tính chất: Môn Anh văn chuyên ngành Nuôi Trồng Thủy Sản giúp cho sinh viên có thể tham khảo tài liệu, sách Anh văn về chuyên ngành và làm nền tảng để học tiếng Anh chuyên ngành ở cấp độ cao hơn, góp phần nâng cao chất lượng đào tạo ngành và phát triển nguồn nhân lực trong giai đoạn mới.

- Ý nghĩa và vai trò của môn học: Môn học Anh văn chuyên ngành Nuôi Trồng Thủy Sản là môn học tự chọn có ý nghĩa hỗ trợ cho ngành Nuôi Trồng Thủy Sản và có vai trò giúp sinh viên có thêm nhiều nguồn kiến thức về Nuôi Trồng Thủy Sản.

**Mục tiêu môn học:**

- Kiến thức: Cung cấp vốn từ vựng tiếng Anh về một số kiến thức căn bản của chuyên ngành Nuôi Trồng Thủy Sản.

- Kỹ năng:

*Sau khi học xong môn học này sinh viên sẽ có khả năng:*

+ Nghe, nói, đọc, viết được một số hoạt động thông dụng bằng tiếng Anh.

+ Đọc, hiểu và dịch được một số nội dung chính các tài liệu cơ bản về chuyên ngành Nuôi Trồng Thủy Sản viết bằng tiếng Anh.

- Về năng lực tự chủ và trách nhiệm:

Chuẩn bị bài trước khi đến lớp, tham gia lớp học đầy đủ. Tập trung chú ý trong giờ học, tự giác chủ động phát biểu, tham gia đóng xây dựng bài và tích cực làm bài tập thực hành trên lớp cũng như các bài tập về nhà. Nghiên cứu các tài liệu, bài báo và sách tham khảo ...v.v về Anh văn chuyên ngành Nuôi Trồng Thủy Sản để tự trao dồi thêm kiến thức và kỹ năng.

Trung thực trong kiểm tra và thi.

**Nội dung môn học:**

| Số TT | Tên chương, mục | Thời gian (giờ) | | | |
|---|---|---|---|---|---|
| | | Tổng số | Lý thuyết | Thực hành, thí nghiệm, thảo luận, bài tập | Kiểm tra |
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# Chapter 1

## SCOPE AND DEFINITION OF AQUACULTURE
## MH35 - 01

In this Chapter

**Objectives:**

***By the end of the Chapter, learners are able to:***

- Define scope of aquaculture.
- Give the definition of aquaculture.

## 1. Getting Started

### 1.1. *Match the words in the box and the pictures.*

1 

15 

14 

13 


2

| |
|---|
| seaweed culture |
| wetland |
| pond culture |
| coastal |
| raft culture |
| upland |
| pen culture |
| sea water |
| cage culture |
| fresh water |
| oyster culture |
| estuarine |
| crab culture |
| lowland |
| raceway culture |

12

3

11

4

10

5

9

**6**  **7**  **8** 

**1.2.** ***Fill in the blanks with words from the reading.***

1. The word “aquaculture” denotes all forms of culture of aquatic animals and plants in _____, _____ and _____ environments.

2. The word “aquaculture” is still used by many in a more _____ sense.

3. The word “aquaculture” is also sometimes used as a synonym for_____.

4. The word “aquaculture” only needs a clarification that it doesn’t include the culture of essentially terrestrial _____ or terrestrial_____.

5. The word “_____” needs to be used to denote the type of culture techniques or systems, the type of _____ cultured, the environment in which the culture is done and a specific character of the _____used for culture.

6. Aquaculture is generally considered as a part of _____ science.

**2. Reading:** ***Read the following text and do the exercises that follow.***

## SCOPE AND DEFINITION OF AQUACULTURE

The word “aquaculture”, though used rather widely for over a decade to denote all forms of culture of aquatic animals and plants in fresh, brackish and marine environments, is still used by many in a more restrictive sense. For some, it means aquatic culture other than fish farming or fish husbandry, whereas others understand it as aquatic farming other than mariculture. It is also sometimes used as a synonym for mariculture. However, the term aquaculture is sufficiently expressive and all-inclusive. It only needs a clarification that it does not include the culture of essentially terrestrial

plants (as, for example, in hydroponics) or of basically terrestrial animals. However, when it needs to be used to denote (***i***) the type of culture techniques or systems (e.g. pond culture, raceway culture, cage culture, pen culture, raft culture); (***ii***) the type of organism cultured (e.g. fish culture or fish husbandry, oyster, mussel, shrimp or seaweed culture); (***iii***) the environment in which the culture is done (e.g. fresh water, brackish water, salt water or marine aquaculture or mariculture); or (***iv***) a specific character of environment used for culture (e.g. cold-water or warm-water aquaculture, upland, low land, inland, coastal, estuarine), the use of restrictive terms would probable be more appropriate.

While aquaculture is generally considered as a part of fisheries science, there is now a tendency to denote the distinction between the two by using the term "fisheries and aquaculture", because of some of the basic differences in development and management.

*Pillay,1990.*
*In Aquaculture: Principles and Practices.*
*Fishing News Books Publication.*

***Exercise 1*: Choose True (*T*) False (*F*) or Unknown (*U*) to complete the following sentences.**

1._____ The word "aquaculture", though used rather widely for over twenty years.

2._____ It is also sometimes used as the same meaning for mariculture.

3._____ The majority of aquatic animals currently being cultured are representatives of three phyla.

4._____ The atmosphere in which the culture is done (e.g. fresh water, brackish water, salt water or marine aquaculture or mariculture).

5._____ Representatives from other phyla could become important to aquaculture in the future.

***Exercise 2*: Answer the following questions.**

1. What is the word "aquaculture" used to denote?

➦_____

2. What is the word "aquaculture" sometimes used as a synonym for?

➦_____

3. How many items does the word “aquaculture” need to denote? And what is the third item?

➦_____

4. Can we culture aquatic animals and plants in brackish environments?

➦_____

5. What are types of culture techniques, types of organism cultured, the environment in which the culture is done, a specific character of the culture environment?

➦_____

***Exercise 3*: Translate the following sentences into Vietnamese.**

1. The type of culture techniques or systems (e.g. pond culture, raceway culture, cage culture, pen culture, raft culture).

➦_____

_____

2. The word “aquaculture”, though used rather widely for over a decade to denote all forms of culture of aquatic animals and plants in fresh, brackish and marine environments, is still used by many in a more restrictive sense.

➦_____

_____

_____

_____

3. A specific character of environment used for culture (e.g. cold-water or warm-water aquaculture, upland, low land, inland, coastal, estuarine), the use of restrictive terms would probable be more appropriate.

➦_____

_____

_____

_____

4. The type of organism cultured (e.g. fish culture or fish husbandry, oyster, mussel, shrimp or seaweed culture).

➦_____

_____

5. The term aquaculture is sufficiently expressive and all-inclusive. It only needs a clarification that it does not include the culture of essentially terrestrial plants (as, for example, in hydroponics) or of basically terrestrial animals.

↳_____

_____

_____

_____

_____

6. The environment in which the culture is done (e.g. fresh water, brackish water, salt water or marine aquaculture or mariculture).

↳_____

_____

_____

_____

**3. Further Practice**

***Exercise 1*: Circle the odd one out.**

| | | | |
|---|---|---|---|
| 1. pond culture | cage culture | oyster culture | raft culture |
| 2. shrimp culture | pen culture | mussel culture | seaweed culture |
| 3. water table | brackish water | fresh water | salt water |
| 4. upland | lowland | inland | island |

***Exercise 2*: Work in groups. Write a short account of the development of aquaculture in your country (about 100 words).**

*The following questions may help you get started*:

1. In your area, how many people have fish ponds? Does your family have one?

2. Do people in your area construct fish ponds by machine, or by hand?

3. What are the comparative costs of each method?

4. What advantages do farmers gain by having a fish pond?

5. What are some of the problems?

**4. Vocabulary Learning Cards: *Learn by heart the following words.***

| | |
|---|---|
| Aquaculture | : nuôi thuỷ sản |
| Cage culture | : nuôi bè, nuôi lồng |
| Pen culture | : nuôi đăng |
| Pond culture | : nuôi ao |

**CARD 1**

**CARD 2**

| | |
|---|---|
| Artemia culture | : nuôi Artemia |
| Crab culture | : nuôi cua |
| Fish culture | : nuôi cá |
| Oyster culture | : nuôi hầu |
| Seaweed culture | : trồng rong biển |
| Shrimp culture | : nuôi tôm |

**CARD 3**

| | |
|---|---|
| Brackish water | : nước lợ |
| Fresh water | : nước ngọt |
| Marine water | : nước biển |
| Saline water | : nước mặn |
| Salt water | : nước mặn |
| Sea water | : nước biển |

**CARD 4**

| | |
|---|---|
| Coastal | : ven biển |
| Estuarine | : cửa sông |
| Inland | : nội địa, nội đồng |
| Lowland | : vùng thấp, trũng |
| Upland | : vùng cao, gò, đồi |
| Wetland | : đất ướt, ngập nước |

| | |
|---|---|
| Brackish water aquaculture | : nuôi nước lợ |
| Coastal aquaculture | : nuôi ven biển |
| Estuarine aquaculture | : nuôi vùng cửa sông |
| Fresh water aquaculture | : nuôi nước ngọt |

**CARD 5**

## Chapter 2

# SITE SELECTION FOR AQUACULTURE
# MH35 - 02

**In this Chapter**

**Objectives:**

***By the end of the Chapter, learners are able to:***

- Ascertain the factors to be investigated in the selection of suitable sites for aquaculture affect all systems.
- Select the sites for aquaculture in the case of small-scale aquaculture.
- Know how the choice of sites in land-based aquaculture, for raceway farms and for integrated aquaculture are

**1. Getting Started**

***Which of the following factors will you investigate for the site selection for aquaculture? Why do you examine them?***

1. Agro-climatic conditions
2. Access to markets
3. Suitable communications
4. Protective from natural disasters
5. Availability of skilled and unskilled labor
6. Public utilities
7. Security

**2. Reading:** ***Read the following text and do the exercises that follow.***

## SITE SELECTION FOR AQUACULTURE

Although many of the factors to be investigated in the selection of suitable sites will depend on the culture system to be adopted, there are some which affect all systems, such as agro-climatic conditions, access to markets, suitable communications, protective from natural disasters, availability of skilled and unskilled labor, public utilities, security, etc. It is possible to find solutions when these factors are unfavorable and present problems, but it would involve in increased investment and operating costs and would affect profitability. In the case of small-scale aquaculture, it is necessary to determine that the selected site has easy access to materials that cannot be produced on the farm and that the necessary extension services are available.

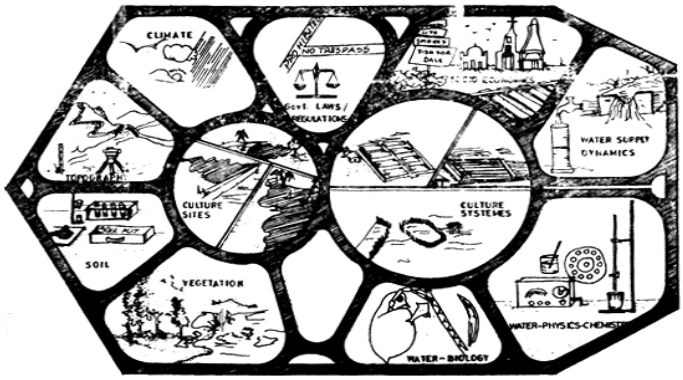


**Fig. 2.1.A Factors affecting site selection in aquaculture.**

All available meteorological and hydrological information about the area (generally available from meteorological and irrigation authorities), such as range and mean monthly air temperature, rainfall, evaporation, sunshine, speed and direction of winds, floods, water table, etc., have to be examined to assess their suitability.

In land-based aquaculture, the most commonly used installations are pond farms and hatcheries. Since most such farms have earthen ponds, soil characteristics, the quality and quantity of available water and the ease of filling and drainage, especially by gravity, are basic considerations. For freshwater pond farms, the land available consists mainly of swamps, unproductive agricultural land, valleys, stream and riverbeds exposed due to changes of water flow, etc. Land elevation and flood levels have to be ascertained. The maximum flood level in the last ten years or the highest astronomical tide (in the case of brackish water sites) should not be higher than the normal height of the dikes that will be constructed for the farm. It will be advantageous to select land with slopes not steeper than 2 percent. The area should be sufficiently extensive to allow future expansion and preferably of regular shape to facilitate farm design and construction.

The nature of the vegetation indicates the soil type and elevation of the water table. Obviously dense vegetation, particularly tall trees, make clearing more difficult and expensive. Land under grass or low shrubs is much better suited in this respect. However, in areas exposed to strong winds and cyclones or similar weather conditions, sufficiently tall vegetative cover around the farm can serve as effective windbreakers. High ground-water level may create problems in farm operation, as drainage will become

difficult and expensive. The use of mechanical equipment for pond construction will also become inconvenient.

Among the other important general factors to be considered are the existing and future sources of pollution and the nature of pollutants. In this connection, information on development plans for the neighborhood areas will be necessary. It will be useful to ascertain the past use of the site, if any. Croplands that have been treated for long periods with pesticides may have residues that are harmful to fish and shellfish. If the site is located adjacent to croplands that are sprayed from air or land, there is the risk of contamination occurring directly or through run-off water. Similarly, the possible effects of discharges from the pond farms into the waterways and irrigation systems in the neighboring area should be considered. This can greatly influence the attitudes of the neighborhood communities to the proposed farming and hence their future cooperation.

When a hatchery is planned in connection with a pond rearing facility, the selection of its site depends on the location of the nursery and rearing ponds. The more important consideration is the unrestricted availability of good water quality, such as from springs, tube wells, reservoirs, etc. If earthen nursery ponds are to be constructed alongside the hatchery, it is necessary to ensure the quality of the soil for pond construction and pond management. In many modern hatcheries, fry rearing is mostly done in tanks and troughs, with as much control over ambient conditions as possible. So the main consideration is the availability of essential utilities like electricity. The situation is very similar for the selection of sites for raceway farms. When the raceways are made of cement concrete, the main consideration is the availability of adequate quantities of good quality water and essential utilities.

The choice of sites for integrated aquaculture, such as fish culture combined with crop and livestock farming, is governed by factors other than their mere suitability for aquaculture. Land available for integrated aquaculture is generally agricultural land, even if it is somewhat less productive. A satisfactory irrigation system is likely to have been developed for agriculture, in which case water and soil management can be expected to be easier. Since integrated farming is based on the recycling and utilization of farm wastes, problems of pollution can be expected to be minimal.

*Pillay,1990.*
*In Aquaculture: Principles and Practices.*
*Fishing News Books Publication.*

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