

THE FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE, NIGERIA



DEPARTMENT OF FISHERIES AND AQUACULTURE TECHNOLOGY

FAT 504 - Production of Other Marine Fish Products: Crustacean

### COURSE PARTICULARS.....

**Course Code:** FAT 504

**Course Title:** Production of Other Marine Fish Products: Crustacean

**No. of Units:** 2

**Course Duration:** One hour of theory and three hours of practicals per week for 15 weeks.

**Status:** Compulsory

**Course Email Address:** [fat504@gmail.com](mailto:fat504@gmail.com)

**Course Webpage:**

**Prerequisite:** NIL

### COURSE INSTRUCTORS

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and

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### COURSE DESCRIPTION

This course is a follow up on FAT 411; Production and Marketing of other marine products – **Molluscs**. It involves Mariculture and Aquaculture of shellfish. **FAT 504** is on Crustacean production. The course synopsis is as follows;

Production and management of decapods. Reproductive biology, pathology, endocrinology. Production of tropical shrimp and prawn species; culture of commercially important crustaceans. Penaeid shrimp culture, freshwater Macrobrachium culture, marine and freshwater crab culture. Extensive, semi-intensive and intensive techniques. Harvesting and marketing of portunid crabs, lobsters and crayfish. Crustacean health, pests and diseases

The course is to expose student to the act of farming crustacean for food security. This will lead to job creation among the youths, generation of fund, the products can be exported, to generate foreign exchange. However, it also meets the need of students, as students would be able to collect, and transport crustacean from the wild to the laboratory, stock them in to concrete and earthen ponds. They will prepare feed and rear them up to marketable sizes. The various ways of processing and storing these animals shall be examined.

### COURSE OBJECTIVES

The objectives of this course are to:

Introduce students to the act of crustacean farming; and provide students with opportunities to develop basic skills with respect to Pond preparation, stocking and harvesting of prawns, shrimp and crab.

### COURSE LEARNING OUTCOMES / COMPETENCIES

Upon successful completion of this course, the student will be able to:

- a) acquire knowledge about the crustacean's abundance, distribution and their production level all over the world
- b) identify various species of shrimps, prawns and crabs of commercial importance where they a
- c) culture prawns and crabs in different medium; and
- d) learn how to process and preserve other crustacea

### GRADING SYSTEM FOR THE COURSE

This course will be graded as follows:

Class Attendance	10%
Practical	30%
Test(s)	20%
<u>Final Examination</u>	<u>40%</u>
<b>TOTAL</b>	<b>100</b>

### GENERAL INSTRUCTIONS

**Attendance:** It is expected that every student will be in class for lectures and also participate in all practical exercises. Attendance records will be kept and used to determine each person's qualification to sit for the final examination. To sit for the terminal examination student cumulative attendance should not be less than 65%. In case of illness or other

unavoidable cause of absence, the student must communicate as soon as possible with any of the instructors, indicating the reason for the absence.

**Academic Integrity:** Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited. You are not allowed to make copies of another person's work and submit it as your own; that is plagiarism. All cases of academic dishonesty will be reported to the University Management for appropriate sanctions in accordance with the guidelines for handling students' misconduct as spelt out in the Students' Handbook.

**Assignments and Group Work:** Students are expected to submit assignments as scheduled. Failure to submit an assignment as at when due will earn you zero for that assignment. Only under extenuating circumstances, for which a student has notified any of the instructors in advance, will late submission of assignments be permitted.

**Code of Conduct in Lecture Rooms and Laboratories:** Students should turn off their cell phones during lectures. Students are prohibited from engaging in other activities (such as texting, watching videos, etc.) during lectures. Food and drinks are not permitted in the laboratories.

**Lateness:** Coming late to lecture is an act of indiscipline. Student should be sitting at least 5 minutes before the commencement of the lecture. Latecomers shall not be allowed into the class 10 minutes into the lecture.

#### List of Text Books

1. *Aquaculture and Water Resource Management*, by D. Baird, M. Beveridge, L. Kelly and J. Muir
2. *Aquaculture: The Farming and Husbandry of Freshwater and Marine Organisms*, by John E. Bardach, William O. McLarney and John H. Ryther
3. *Aquaculture Sourcebook: A Guide to North American Species*, by Edwin S. Iverson and Kay K. Hale
4. *Fundamentals of Aquaculture: A Step-by-Step Guide to Commercial Aquaculture*, by J.W. Avault
5. *Handbook of Mariculture, Volume 1: Crustacean Aquaculture*, by James P. McVey
6. *Introduction to Aquaculture*, by Matthew Landau
7. *Introduction to the General Principles of Aquaculture*, by H. Ackefors, J.V. Huner and M. Konikoff
8. *Principles of Aquaculture*, by Robert R. Stickney
9. *Sustainable Aquaculture*, by John E. Bardach

#### COURSE OUTLINE

Weeks	Topics	Remarks
1	Introduction; General features, taxonomy and distribution	Classification of crustacean and its importance

2&3	Biology of Decapods: Anatomy and morphology; respiration, nutrition, food and feeding habits	Taxonomy, morphology, food and feeding habit,
4&5	Reproduction: Life history and life cycle of crustacean; Larval development in Shrimp, Prawn, Crab Crayfish and Lobster	Distinguish between the larval stages of the various animals
6	Abundance and Distribution of Tropical and sub tropical shrimp/prawns Test	Able to distinguish between prawn and shrimp
7	Production of Tropical Shrimp/prawn; Culturing methods (Aquaculture) of Shrimps in Asia, Brazil, North America	Know different ways of shrimp/prawn production
8 & 9	Marine/Freshwater shrimp culture practices	Mariculture
10 & 11	Endocrinology: Types of reproductive crustacean hormones their locations; Ablation	Know how to stimulate egg production naturally
12	Aquaculture of freshwater and Brackish water Crabs	Be able to culture crabs in tanks
13	Harvesting and marketing of Portunid crabs, lobster and crayfish	Know the marketing channels.
14	Crustacean health, Pests and diseases: Shrimp diseases, symptoms and control	Able to Identify signs of diseases.
15	Test and Revision	