

Course Description

FISHERIES COURSES

AQUA 100. AQUACULTURE I

Principles, methods and developments in the cultivation of commercially important aquatic organisms in fresh, brackish and marine waters, to include pertinent fishery and environmental laws and Fisheries Administrative Orders (FAOs).

Prerequisite: none

3 hours a week lecture

Credit: 3 units

AQUA 105. Aquaculture Engineering

Application of engineering principles in aquaculture, site selection, survey methodology, designs and construction of facilities to farming systems of selected species

Prerequisites: MATH 105 and AQUA 100

4.5 hours a week (2 lec; 2.5 lab)

Credit: 4 units

AQUA 110. FISH GENETICS

Theories and principles of genetics and its application to fisheries.

Prerequisites: STAT 200; CHEM 215 & AREM 205

4.5 hours a week (2 lec; 2.5 lab)

Credit: 3 units

AQUA 115. AQUACULTURE II

Application of farming systems of selected species, project and case studies; and aquaculture planning and development

Prerequisites: AQUA 100

4.5 hours a week (2 lec; 2.5 lab)

Credit: 3 units

AQUA120. AQUACULTURE SPECIES NUTRITION AND FEEDING MANAGEMENT

Principles of nutrition, nutrient requirements, feed formulation and preparation, and feeding management applied to finfishes and crustaceans

Prerequisites: AREM 205 and CHEM 200

4.5 hours a week (2 lec; 5 lab)

Credit: 4 units

AQUA 125. AQUATIC ANIMAL HEALTH

Identification of organisms and other factors causing diseases in commercially important finfishes and invertebrates; principles and measures of prevention and control

Prerequisites: BIOSCI 100 and AREM 205

4.5 hours a week (2 lec; 5 lab)

Credit: 4 units

AQUA 130. FISH BREEDING AND HATCHERY MANAGEMENT

Fundamentals and techniques of fish breeding and propagation, hatchery, and nursery operations of commercially important finfishes and invertebrates

Prerequisites: AQUA 100 and AQUA 120

4.5 hours a week (2 lec; 5 lab)

Credit: 4 units

AQUA 135. BASIC BIOTECHNOLOGY

Principles of biotechnology and its application product research and development with emphasis on fisheries and aquaculture

Prerequisite: none

3 hours a week lecture

Credit: 3 units

AQUA 140. FISH AND SHELLFISH IMMUNOLOGY

Structure and function of the immune system, innate and acquired immunity, bodily distinction of self from nonself, and interaction of antigens with antibodies.

Prerequisite: none

3 hours a week lecture

Credit: 3 units

AQUA 145. CELLULAR SIGNALLING

System of communication that governs basic cellular activities and coordinates cell actions, and the ability of cells to perceive and correctly respond to their microenvironment

Prerequisite: none

3 hours a week lecture

Credit: 3 units

AQUA 150. FISH PHYSIOLOGY

The normal mechanical, physical, and biochemical processes or functions of fish or any of its parts

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AQUA 155. GENE EXPRESSION

Important gene expressions in fish and shellfishes and conversion of the information encoded in a gene first into messenger RNA and then to a protein

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AQUA 160. MARICULTURE

Application of principles and methods of aquaculture in the cultivation of marine plants and animals in their natural environment for commercial purposes

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AQUA 165. NATURAL FOOD PRODUCTION

Techniques in the culture of natural food organisms for aquaculture

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AQUA 170. INLAND FISHERIES MANAGEMENT

Principles and methods of inland fisheries management.

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AQUA 175. SPECIAL TOPIC IN AQUACULTURE

Special topics in fisheries and aquaculture.

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AREM 200. GENERAL CAPTURE FISHERIES

Principles and fundamentals of commercial fisheries and its fish biology and ecology, with emphasis on fisheries, management and conservation including pertinent fishery laws and Fisheries Administrative Orders; general survey of Philippine fishing grounds including the status of fisheries resources and their utilization.

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AREM 205. ICHTHYOLOGY

Biology, classification and life histories of commercially important fishes.

Prerequisite: ZOO 100
8 hours a week (3 lec; 5 lab)
Credit: 5 units

AREM 210. AQUATIC BIOLOGY

General biology, taxonomy and distribution of non-fish aquatic resources including their ecological and medical importance and as source of food. General knowledge of threatened and endangered aquatic species.

Prerequisites: BOT 100 and ZOO 100
8 hours a week (3 lec; 5 lab)
Credit: 5 units

AREM 215. AQUATIC ECOLOGY

Basic ecological principles in freshwater, estuarine and marine environments; physico-chemical and biological characteristics of the three environments governing the association, distribution and adaptation of aquatic organisms; techniques in water quality sampling and analysis

Prerequisites: CHEM 100; AREM 210
and PHYS 105
8 hours a week (3 lec; 5 lab)
Credit: 5 units

AREM 220. FISHERIES ENTREPRENEURSHIP AND MANAGEMENT

Principles and practices of managing fisheries and aquaculture enterprises including case and feasibility studies; introduction to fisheries cooperative principles and practices

Prerequisite: AGMG 100
3 hours a week lecture
Credit: 3 units

AREM 225. FISHERIES RESEARCH DESIGNS AND METHODOLOGIES

Statistical designs, approaches, data analysis and case examples of researches in fisheries
Pre-requisite: STAT 200

3 hours a week lecture
Credit: 3 units

AREM 230. OCEANOGRAPHY

Geological, physical, chemical and biological properties of ocean waters including pertinent fishery and environmental laws

Prerequisites: PHYS 105 and CHEM 100

3 hours a week lecture
Credit: 3 units

AREM 235. METEOROLOGY

Elements of weather – forecasting and techniques as applied to fisheries investigation.

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AREM 240. FISHERIES BIOLOGY

Introduction to fish stock assessment, application of mathematical models and population dynamics of fish and other aquatic organisms

Prerequisites: MATH 105 and STAT 200
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AREM 245. FISHERIES EXTENSION

Philosophy, organization, programming, methods of extension

Prerequisite: none
3 hours week lecture
Credit: 3 units

AREM 250. NAVIGATION AND SEAMANSHIP

Principles, instruments and methods used in coastal and celestial navigation; application of marine rules and regulations of the road; and fishing boat management to include pertinent fishery and maritime laws and Fisheries Administrative Orders (FAOs)

Prerequisite: none
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AREM 255. FISHING METHODS AND GEARS, BOAT DESIGN AND CONSTRUCTION

Principles and methods of fishing operations; design, construction, and maintenance of fishing gear and devices; fishing boat design and construction to include pertinent fishery laws and Fisheries Administrative Orders

Prerequisites: AREM 200
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AREM 260. GEOGRAPHIC INFORMATION SYSTEM FOR FISHERIES

Introduction to geographic and information System and its application to fisheries

Prerequisites: COMSCI 100 and MATH 100
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AREM 265. FISHERIES LAWS

Laws, regulations, policies and orders affecting fisheries.

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AREM 270. AQUATIC BIODIVERSITY

Principles and concepts in aquatic biodiversity in relation to the conservation management of selected aquatic resources.

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AREM 275. AQUATIC RESOURCES

Non-fish aquatic resources and their production and biology, fish habitats and their rehabilitation and aquatic ecology.

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AREM 280. MOLECULAR IDENTIFICATION OF AQUATIC ORGANISMS

Techniques and use of molecular tools in the identification of different aquatic organisms

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AREM 285. SPECIAL TOPIC IN AQUATIC RESOURCES, ECOLOGY AND MANAGEMENT

Special topics in fisheries and aquaculture.

Prerequisite: none
3 hours a week lecture
Credit: 3 units

AQPH 300. FISH BIOCHEMISTRY

Integrated application of the theories of organic chemistry to the properties and chemical activities of proteins, fish and carbohydrates and their reactions postmortem; instrumental methods of analysis

Prerequisite: CHEM 215
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AQPH 305. FISH PROCESSING TECHNOLOGY

Principles, methods and development in the processing of fishery products with emphasis on curing and thermal processing

Prerequisites: BIOSCI 100 and CHEM 215
8 hours a week (3 lec; 5 lab)
Credit: 5 units

AQPH 310. QUALITY ASSURANCE, PACKAGING AND MARKETING

Methods in quality assessment, packaging and marketing of fish and fishery products

Prerequisite: AQPH 300
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AQPH 315. FISH HANDLING AND REFRIGERATION

Principles and techniques of handling and refrigeration of processing fish and other fishery products

Prerequisites: none
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AQPH 320. PLANT SANITATION AND HYGIENE

Principles of plant sanitation and personal hygiene; good manufacturing practice

Prerequisite: AQPH 315
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AQPH 315. FISH HANDLING AND REFRIGERATION

Principles and techniques of handling and refrigeration of processing fish and other fishery products

Prerequisite: none
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AQPH 320. PLANT SANITATION AND HYGIENE

Principles of plant sanitation and personal hygiene; good manufacturing practice

Prerequisite: AQPH 315
4.5 hours a week (2 lec; 2.5 lab)
Credit: 3 units

AQPH 325. SPECIAL TOPIC IN AQUATIC POST HARVEST

Special topics in fisheries and aquaculture

Prerequisite: none
3 hours a week lecture
Credit: 3 units

OTHER COURSES

FISH 398. SEMINAR

Review of current developments in capture fisheries and aquaculture aquatic resources, ecology and management; aquatic post harvest

Prerequisite: Standing Fourth Year

Credit: 1 unit

FISH 399. APPRENTICESHIP

Prerequisite: Must have passed at least 60 percent of the fisheries courses during the 2nd and 3rd year

Credit: 3 units

FISH 400a. THESIS 1

Development and presentation of thesis protocol

Prerequisite: STAT 200

Credit: 1 unit

FISH 400b. THESIS 2

Conduct of thesis

Prerequisite: FISH 400a

Credit: 1 unit

FISH 400c. THESIS 3

Thesis writing and presentation of results

Pre-requisite: FISH 400b

Credit: 1 unit