Department of Fisheries
University of Dhaka

M.Phil./Ph. D. Courses in Fisheries

Final Version
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University of Dhaka
Department of Fisheries
Curriculum of Courses
for
M. Phil./Ph. D. in Fisheries

At the time of admission, the student shall have to submit a thesis proposal. In the first year the student have to undertake two compulsory courses, i. e. course No. FPG-601 and FPG-602, each carrying 100 marks. The student shall have to pass the written examination having 50% marks in both courses. After passing the written examination the student will devote himself in thesis work. The thesis examination will be governed by existing Dhaka University rules.

Course No.	Course Title	Marks
FPG-601	Aquaculture and Post Harvest Technology, Fish Nutrition and Fish Health Management	100
FPG-602	Fish Population Dynamics, Aquatic Environment and Biodiversity conservation	100
FPG-603	Viva voce	100

FPG-601 Aquaculture and Post Harvest Technology, Fish Nutrition and Fish Health Management.

Aquaculture and Post Harvest Technology:

Current status and development of Aquaculture. Farming system and technology. Integration with other system. Management and operational techniques of aqua farms. Waste water aquaculture. Bio-economics of aquaculture. Extension problems for aquaculture development and their possible solution. Aquaculture and risk management, Impact of aquaculture on environment and impact of environment on aquaculture. Policy making, planning, legal, institutional and regulatory framework for Aquaculture development and management. Technological, Institutional, socio-economic, environment and marketing issues of sustainable aquaculture.

Brood stock management and improvement. Environmental control of breeding. Reproductive biology and hatchery production of peneaids and caridian shrimps:

General principles of fish preservation. Technological, chemical and bacteriological problems related to preservation. Quality test for fresh and preserved fishery goods. Fish processing plant management, operating system and HACCP set up.

Fish Nutrition and Fish Health Management:

Nutritional requirements of fish and shellfish. Ingestion, digestion absorption and metabolism of food. Naturally produced food and supplementary feed. Larval and broodstock nutrition, nutritional pathology, and methods used in nutritional studies.

Conventional and non-conventional feed stuff. Dietary ingredients available in Bangladesh. Food formulation, preparation and processing. Digestibility study of fish feed. Feeding methods for supplementary and complete diets. Techniques and methodologies for fish feeding experiments. Cost-effective feeding methods.

General significance of diseases in aquatic organisms. The relationship among host, aquatic environment, pathogens and diseases. Infectious, non infectious and dietary diseases in fish. Histopathology of fish and shellfish. Epidemiology; fish health control; vaccination; chemotherapy etc.

FPG – 602 Fish Population Dynamics, Aquatic Environment and Biodiversity conservation

Fish Population Dynamics:

Unit stock, relative abundance-catch per unit effort, absolute abundance-partial counts, stratified sampling, swept area method, mark-recapture method, depletion method, underwater visual census method, acoustic methods and egg production method.

Length frequency analysis; measurement of growth; reproduction and recruitment. Catch curves; Surplus yield models; Biomass models; Simulation models; Fishery simulation model FISHSIM; Bioeconomic-models; Spatial bio-economic model.

Development of policies and strategies for fisheries management. Management strategies for inland, coastal and marine fisheries. Institutional, legal, and policy framework of fisheries management. Organizations involved

in fisheries resource management, their activities, and regulations. Government fisheries management policies.

Aquatic Environment and Bio-diversity Conservation:

Distribution and diversity of the plants and organisms in the freshwater, estuaries, coral reefs and mangrove swamps. Impact of dams, deforestation, culture system, siltation, increase of salinity floods and cyclones on wild stock and environment. Coastal zone protection and management.

Pollution in inland water, coast and open sea. Effects of pollution on aquatic environment and public health. Monitoring of aquatic pollution-different monitoring programs, indicator species and their role. Pollution management policies

Status of bio-diversity at global and country level. Conservation of bio-diversity. Causes of depletion and threatening bio-diversity. Organizations involved in conservation. Genetic resource exploration, collection, documentation and evaluation. Effects of species introduction in aquatic environments. Impact of aquaculture and hatcheries on wild fish. Aquatic bio-diversity conservation strategies in Bangladesh.
