INSTITUTE OF WILDLIFE SCIENCE

Syllabus

Certificate Course in Aquatic Wildlife Conservation
(CCAWC)

UNIVERSITY OF LUCKNOW

Syllabus

Certificate Course in Aquatic Wildlife Conservation

Objectives:

- To generate qualified students who can directly get jobs in the allied fields of Aquatic Conservation and Management.
- To generate qualified certificate holders who can be part professional organizations working in the field of Aquatic Wildlife conservation.
- To generate a team of field experts who can take up jobs related to the aquatic ecosystem, Aquatic wildlife and Biodiversity in educational institutions.
- To generate a skilled certificate holder who can undertake research in the field of Aquatic Wildlife Conservation.

Qualification: 10+2 in any Stream and other eligibility according to admission norms of University of Lucknow.

Seats: 16+4 (sponsored candidates from any Institute, NGOs, Govt. department etc.) **=20 Candidates**

Duration: 6 months (July-December)

Number of Lecture: 40 Lecture /paper

No of Practical Period: 3 practicals of 2 lecture/week

Selection: Merit based

Certificate Course in Aquatic Wildlife Conservation
(CCAWC)

SYLLABUS IN BRIEF

CCAWC

Paper	Code	Lectures	Marks
Aquatic Wildlife Conservation and Management	**CCAWC 301**	**40**	**100**
Practical work and Project Report	**CCAWCP301**	**120**	**50**
TOTAL		**160**	**150**

SYLLABUS IN DETAIL

NOTE:

- **While teaching, examples from River, wetlands and aquatic animals (Dolphin, Turtle, Otter, Gharial etc.) should be covered, wherever applicable.**
- **Case studies (Indian &foreign), wherever applicable should be discussed as a part of the syllabus**
- **Ensure that students are in touch with latest developments especially with respect to civil society's movements, Government policies, International agreements etc.**

THEORY

CCAWC 301: Aquatic Wildlife Conservation and Management

Unit-1

- **Aquatic Ecosystem:** Definition, Freshwater (lentic and lotic), Marine and wetland ecosystems, classification of aquatic ecosystems and wetlands, Ecology of aquatic ecosystems, Energy flow in aquatic ecosystems, Pollution in aquatic ecosystems**;** What is aquatic biodiversity and why is it important?
- **Fresh water ecosystem**

  Lakes and Reservoirs: Community organization, productivity, trophic levels, food webs, eutrophication, Nutrient dynamics, Nutrient cycle, Climate change and impact on lakes and reservoirs,

  Rivers: Types of rivers, River biodiversity, Energy flow
- **Marine and Estuarine Ecosystems:** Structure and function of marine ecosystems, Estuary Types, Organisms in various ecological zones, Productivity, Nutrient cycling, mangroves, coral reefs; Biodiversity in Arctic and Antarctic oceanic environment.

Unit-2

Reptilia Classification/ its Character with Examples

- **Gharial conservation &Rehabilitation**
  - A brief introduction to Ghariyal, Taxonomic position, Distribution and habitat, Ecology and Behaviour, Basking, feeding, Breeding, Mythological significance, Morphology, Threats and conservation.
- **Turtle Conservation**
  - A brief introduction to turtle , Difference between turtle, tortoise and terrapin, Anatomy and Morphology, Behaviour, Ecology and Life History, Phylogeny, Classification of turtles, Conservation status, Types, Species identification, Morphology, Mythological significance, Distribution, Threats and Conservation (Ex-situ and In-situ).

Unit-3

- **Dolphin Conservation**
  - A brief introduction to Dolphins, Biology of Dolphins, Behaviour, Ex-situ and In-situ, Types, Species identification, Morphology, Mythological significance, Distribution, Reproduction, Threat sand Conservation.
- **Water birds Conservation**
  - Types, distribution, migration, classification, identification, significance, Distribution, Reproduction, Threats and Conservation.
- **Otters Conservation**

- What are otters, Classification of otters, Species identification, Threats to Sea otters**;** what can be done to conserve otter species.

Unit-4

- **In –situ and Ex-situ conservation:** In –situ and Ex-situ conservation, Advantages and Disadvantages of In –situ and Ex-situ conservation.

- **Artificial Breeding and Management:** Selective breeding, insemination, Reproduction management.
- **Aquarium:** Components of aquarium, aquarium management and maintenance,
- **Aquaculture**: Aquaculture, Aquaculture in India, Fishery and aquaculture.
- **Human &Wildlife Conflict:** Aquatic wildlife trade, Turtle trade

Unit-5

- **Threats and Conservation of Aquatic Biodiversity:** Overexploitation of species, Habitat modification, Pollution load, Poisonous pollutants, Thermal pollution, Sustainable development, Watershed management, specialized programmes, Public awareness.
- **Counting/Census Techniques**
  - Estimating population, Abundance estimation, Standardized survey methods.

Practical

Note:

- Field visits will be integral part of the Practical. Visits to nearby Rivers, Sanctuaries, Wetlands area, Ramsar Sites Nursery, Aquaria or any other relevant site must be arranged.
- The report of these visits will be submitted as part of the Practical work.

CCWSCP 201

Field Study of Aquatic Wildlife

1. 4 to 6 Field trips for aquatic wildlife study. The trip will be day trips
2. Three days' camp for study of aquatic wildlife and their habitats, river, Wetlands
3. Aquatic Wildlife Photography
4. Case study of aquatic animals, habitat, awareness and capacity building models for aquatic wildlife conservation
5. Preparing PPT and submit a report

QUESTION PAPER PATTERN

THEORY

Total Marks – 100
Total duration – Three hours
Total question – 05
Marks for each question – 20
Coverage of each question – each question will correspond to each unit taught in that semester
Compulsory questions – All five questions will be compulsory.

PRACTICAL

Total Marks – 50
Total duration – Five hours
Total questions – 05
Distribution of marks – Question No. 1, 2, and 3 –10 marks each (performance & results)
Question No. 4 – Reports of field visits – 15 marks
Question No. 5 – Viva voice –05 marks