Wildlife Disease Ecology Training Course

Professional Development Training Course Outline

Category	Wildlife Management	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Wildlife disease ecology is a rapidly emerging field that combines ecology, epidemiology, conservation biology, and public health to understand the interactions between wildlife hosts, pathogens, and ecosystems. With growing global concerns about biodiversity loss, zoonotic spillovers, climate change, and the sustainability of ecosystems, wildlife disease ecology training has become an essential platform for conservation professionals, veterinarians, ecologists, and policymakers. This course provides hands-on learning and analytical insights into understanding the drivers of wildlife disease, its impacts on ecosystems, and strategies for disease monitoring, management, and control.

Wildlife Disease Ecology Training course emphasizes cutting-edge methods, case studies, and practical research applications in the field. By exploring the dynamics of host-pathogen interactions, habitat alterations, and human-wildlife interfaces, participants will gain critical knowledge to address emerging infectious diseases, conservation medicine, and ecological health. The training integrates modern tools such as GIS mapping, molecular diagnostics, and ecological modeling, ensuring participants acquire strong problem-solving skills and the ability to respond to complex ecological challenges.

Programme Curriculum

Wildlife Disease Ecology Training Course

Introduction

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Course Objectives

1. To provide participants with a strong foundation in wildlife disease ecology and conservation medicine.
2. To analyze host-pathogen-environment interactions in diverse ecosystems.
3. To enhance skills in disease surveillance and outbreak monitoring techniques.
4. To evaluate the impacts of climate change on disease transmission dynamics.
5. To strengthen knowledge of zoonotic diseases and One Health frameworks.
6. To integrate molecular diagnostics and laboratory methods in disease ecology.
7. To develop capacity for GIS mapping and spatial modeling of disease hotspots.
8. To build expertise in ecological risk assessment and predictive modeling.
9. To explore ethical and policy dimensions of wildlife disease management.
10. To investigate disease drivers in biodiversity conservation programs.
11. To utilize statistical tools and data analytics for disease research.
12. To apply fieldwork skills in wildlife disease monitoring and sample collection.
13. To prepare participants for leadership roles in ecological health and disease response programs.

Organizational Benefits

1. Strengthened capacity for early disease detection and prevention.
2. Enhanced institutional resilience to biodiversity threats.
3. Improved alignment with One Health and global health initiatives.
4. Access to cutting-edge research methods and technology.
5. Greater ability to respond to zoonotic disease outbreaks.
6. Expanded interdisciplinary collaboration in conservation and public health.
7. Increased organizational credibility in ecological health programs.
8. Strengthened workforce with advanced disease ecology expertise.
9. Improved ecological sustainability and ecosystem management outcomes.
10. Contribution to global biodiversity protection and environmental stewardship.

Target Audiences

1. Wildlife ecologists and conservation biologists
2. Veterinarians and wildlife health professionals
3. Epidemiologists and public health officers
4. Environmental scientists and ecotoxicologists
5. Graduate and postgraduate students in ecology and biology
6. Government officials and policymakers in conservation agencies
7. NGO professionals working in biodiversity and disease management
8. Research institutions focusing on wildlife and ecosystem health

Course Duration: 5 days

Course Modules

Module 1: Introduction to Wildlife Disease Ecology

- Fundamentals of wildlife disease ecology
- Importance of host-pathogen-environment interactions
- Understanding ecological drivers of disease emergence
- Zoonotic spillovers and biodiversity loss
- Climate change and disease ecology connections
- Case study: White-nose syndrome in bats

Module 2: Host-Pathogen Dynamics

- Concepts of host immunity and pathogen evolution
- Wildlife population health assessment
- Parasite-host coevolutionary dynamics
- Transmission routes and epidemiological models
- Wildlife disease hotspots and risk mapping
- Case study: Ebola virus spillover in primates

Module 3: Emerging Infectious Diseases

- Global patterns of emerging diseases
- Ecological and anthropogenic drivers
- Wildlife trade and disease transmission
- Ecosystem disruptions and pathogens
- One Health perspectives on emerging diseases
- Case study: Avian influenza outbreaks

Module 4: Disease Surveillance and Monitoring

- Field surveillance methods and protocols
- Diagnostic tools for wildlife health
- Data collection and reporting systems
- GIS-based disease surveillance
- Risk-based approaches in monitoring
- Case study: Rabies surveillance in wild carnivores

Module 5: Climate Change and Wildlife Diseases

- Climate impacts on vector-borne diseases
- Habitat alterations and disease shifts
- Extreme weather events and pathogen survival
- Predictive climate models in disease ecology
- Strategies for climate resilience in wildlife health
- Case study: Malaria spread in highland ecosystems

Module 6: Conservation Medicine and One Health

- Integrating conservation and health sciences
- Principles of One Health in disease ecology
- Human-wildlife interface management

- Policy and governance in One Health programs
- Ecosystem health and disease prevention
- Case study: Nipah virus in fruit bats

Module 7: Molecular Diagnostics in Disease Ecology

- Laboratory diagnostics in wildlife disease research
- Molecular markers and DNA sequencing
- PCR and next-generation sequencing applications
- Bioinformatics in pathogen identification
- Laboratory biosafety considerations
- Case study: Genetic typing of chytrid fungus

Module 8: Ecological Risk Assessment and Policy

- Risk analysis frameworks in wildlife disease ecology
- Decision-making in conservation health
- Policy interventions for disease prevention
- Ethical considerations in wildlife management
- International agreements and biodiversity health
- Case study: CWD (Chronic Wasting Disease) management

Training Methodology

- Interactive lectures and guided discussions
- Practical fieldwork exercises and demonstrations
- Case study analysis and group projects
- Laboratory-based molecular and diagnostic techniques
- GIS mapping and disease modeling simulations
- Role-playing scenarios for policy and decision-making

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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