Aquatic Epidemiology Training Course

Professional Development Training Course Outline

Category	Veterinary and Animal Science	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Aquatic Epidemiology is an emerging field that integrates disease surveillance, aquatic health management, and pathogen control in freshwater and marine environments. Aquatic Epidemiology Training Course equips professionals with cutting-edge knowledge and practical skills to monitor, prevent, and control aquatic diseases, ensuring sustainable aquaculture and environmental conservation. Participants will gain expertise in biosecurity strategies, outbreak investigation, risk assessment, and diagnostic techniques, positioning them at the forefront of aquatic animal health and public health intersection.

With the growing demand for sustainable aquaculture, global seafood trade, and environmental safety, the need for skilled aquatic epidemiologists has never been higher. This program combines interactive workshops, real-world case studies, and hands-on laboratory sessions to enhance participants' capabilities in disease modeling, surveillance data analysis, and policy implementation. Graduates will be prepared to lead aquatic health programs, contribute to research, and support regulatory frameworks, driving innovation in the management of aquatic animal populations worldwide.

Programme Curriculum

Aquatic Epidemiology Training Course

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Course Duration

5 days

Course Objectives

1. Understand principles of aquatic disease epidemiology.
2. Identify and classify pathogens in aquaculture.
3. Develop effective biosecurity protocols for fish and shellfish.
4. Conduct epidemiological surveillance and outbreak investigations.
5. Apply risk assessment models in aquaculture environments.
6. Utilize molecular and diagnostic techniques for aquatic pathogens.
7. Implement disease prevention and control strategies.
8. Analyze epidemiological data for decision-making.
9. Integrate One Health approaches in aquatic ecosystems.
10. Design and evaluate aquaculture health management plans.
11. Promote sustainable aquaculture and environmental conservation.
12. Assess economic impacts of aquatic disease outbreaks.
13. Enhance policy development and regulatory compliance skills.

Target Audience

1. Aquaculture professionals and farm managers
2. Veterinary epidemiologists
3. Public health officials
4. Fisheries researchers
5. Environmental scientists
6. Policy makers in aquatic health
7. Laboratory and diagnostic technicians
8. Students pursuing marine biology, aquaculture, or veterinary sciences

Course Modules

Module 1: Introduction to Aquatic Epidemiology

- History and scope of aquatic epidemiology
- Epidemiological principles applied to aquatic systems
- Key aquatic pathogens and disease classification
- Role of epidemiology in sustainable aquaculture
- Case study: Viral outbreaks in shrimp farms

Module 2: Disease Surveillance and Monitoring

- Designing surveillance programs for fish and shellfish
- Sampling methods and statistical approaches

- Real-time monitoring and data collection
- Early warning systems for disease outbreaks
- Case study: Bacterial infections in freshwater fish

Module 3: Biosecurity and Disease Prevention

- Principles of biosecurity in aquaculture
- Quarantine and movement control measures
- Sanitation and disinfection strategies
- Vaccination and immunoprophylaxis in aquatic species
- Case study: Biosecurity success in commercial tilapia farms

Module 4: Epidemiological Investigations

- Outbreak investigation frameworks
- Identifying sources and routes of infection
- Contact tracing and risk mapping
- Data collection and interpretation
- Case study: Fish kill analysis in lake ecosystems

Module 5: Diagnostic Techniques and Laboratory Methods

- Molecular diagnostics: PCR, ELISA, qPCR
- Microbiological and parasitological methods
- Sample collection and handling protocols
- Data validation and reporting
- Case study: Diagnosis of viral hemorrhagic septicemia

Module 6: Risk Assessment and Management

- Hazard identification and risk analysis
- Quantitative vs qualitative risk assessment
- Scenario modeling and predictive analytics
- Risk mitigation strategies
- Case study: Risk assessment of emerging fish pathogens

Module 7: Disease Control Strategies

- Therapeutic interventions and treatment protocols
- Environmental and habitat management
- Integrated pest management in aquaculture
- Policy and regulation compliance
- Case study: Controlling white spot syndrome virus in shrimp

Module 8: Data Analysis, Policy, and One Health Integration

- Epidemiological data visualization and interpretation
- Policy frameworks and regulatory guidelines
- One Health approach for aquatic environments
- Economic impact assessment
- Case study: Cross-sectoral management of zoonotic aquatic diseases

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

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

Start Date	End Date	Location	Price
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

Ready to enroll or request a customized program? Book online or contact us:

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