Health Security & Surveillance Training Course

Professional Development Training Course Outline

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

Course Introduction

Health Security & Surveillance is a critical pillar in modern global public health systems, focusing on the prevention, early detection, rapid response, and containment of infectious diseases, biological threats, and public health emergencies. In an era marked by pandemics, antimicrobial resistance, climate-sensitive diseases, and global mobility, strengthening epidemiological intelligence, disease surveillance systems, and biosecurity frameworks has become a top priority for governments, healthcare institutions, and international organizations. Health Security & Surveillance Training Course is designed to build advanced competencies in real-time health monitoring, outbreak investigation, and risk-based surveillance strategies aligned with WHO International Health Regulations (IHR 2005).

The course integrates cutting-edge methodologies in digital epidemiology, One Health approach, data-driven surveillance systems, and public health informatics to equip participants with practical and operational skills. Learners will gain expertise in early warning systems (EWS), contact tracing technologies, health data analytics, and emergency preparedness planning. By combining theory, simulation exercises, and case-based learning, the program prepares professionals to respond effectively to emerging global health threats, strengthen national surveillance networks, and enhance global health security resilience.

Programme Curriculum

Health Security & Surveillance Training Course

Introduction

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Course Duration

5 days

Course Objectives

1. Strengthen global health security systems and compliance with IHR (2005)
2. Develop expertise in infectious disease surveillance and outbreak detection
3. Enhance capabilities in epidemiological data analysis and interpretation
4. Build skills in real-time digital disease monitoring systems
5. Implement early warning and response systems (EWARS) effectively
6. Apply One Health surveillance approach across human-animal-environment interfaces
7. Improve risk assessment and pandemic preparedness planning
8. Strengthen contact tracing and case investigation protocols
9. Integrate GIS mapping and spatial epidemiology tools
10. Develop proficiency in public health emergency operations centers (PHEOC)
11. Promote biosecurity and biosafety risk management practices
12. Enhance use of AI and big data in health surveillance systems
13. Build leadership capacity in crisis communication and emergency response coordination

Target Audience

1. Public health officers and epidemiologists
2. Healthcare professionals and clinicians
3. Disease surveillance officers
4. Ministry of Health officials and policymakers
5. NGO and humanitarian response teams
6. Laboratory scientists and microbiologists
7. Emergency preparedness and disaster management teams
8. Academic researchers and public health students

Course Modules

Module 1: Introduction to Health Security Systems

- Concepts of global health security and governance
- International Health Regulations (IHR 2005) framework
- National and regional surveillance structures
- Health system preparedness levels

- Case Study: COVID-19 global surveillance response failures and lessons learned

Module 2: Disease Surveillance Systems

- Passive vs active surveillance systems
- Indicator-based and event-based surveillance
- Data reporting channels and structures
- Surveillance indicators and thresholds
- Case Study: Ebola virus outbreak detection in West Africa

Module 3: Epidemiology & Outbreak Investigation

- Principles of descriptive and analytical epidemiology
- Outbreak confirmation and case definitions
- Line listing and epidemic curves
- Source identification and transmission mapping
- Case Study: Cholera outbreak investigation in Haiti

Module 4: Digital Health & Data Analytics

- Digital disease surveillance platforms
- Big data in public health monitoring
- AI-based predictive modeling
- Mobile health (mHealth) reporting systems
- Case Study: AI-driven COVID-19 tracking systems in Asia

Module 5: One Health Approach

- Human-animal-environment health integration
- Zoonotic disease surveillance
- Environmental health monitoring systems
- Intersectoral collaboration frameworks
- Case Study: Avian influenza surveillance in Southeast Asia

Module 6: Emergency Preparedness & Response

- Public health emergency operations centers (PHEOC)
- Incident management systems (IMS)
- Risk communication strategies
- Emergency response coordination mechanisms
- Case Study: SARS outbreak emergency response model

Module 7: Risk Assessment & Biosecurity

- Biological risk classification systems
- Biosafety levels and laboratory safety protocols
- Health threat risk assessment tools
- Border health security systems
- Case Study: Anthrax bioterrorism preparedness in the USA

Module 8: Contact Tracing & Field Surveillance

- Contact tracing methodologies and tools

- Field epidemiology techniques
- Mobile tracking applications
- Community-based surveillance systems
- Case Study: COVID-19 contact tracing success in South Korea

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
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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