Digital Epidemiology 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

Digital Epidemiology is transforming the future of global health by leveraging big data analytics, artificial intelligence, mobile health (mHealth), and real-time disease surveillance systems to predict, monitor, and control disease outbreaks. In an era shaped by pandemics, climate-sensitive diseases, and rapidly evolving pathogens, this training equips learners with cutting-edge skills in data-driven public health intelligence, epidemic modeling, and digital disease tracking systems.

Digital Epidemiology Training Course bridges the gap between traditional epidemiology and modern digital health technologies, machine learning in healthcare, health informatics, and predictive analytics for outbreak response. Participants will gain practical expertise in using digital tools to enhance early warning systems, public health surveillance, and global health security frameworks for faster and smarter decision-making.

Programme Curriculum

Digital Epidemiology Training Course

Introduction

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Course Duration

5 days

Course Objectives

1. Understand fundamentals of Digital Epidemiology and Public Health Informatics
2. Apply AI and Machine Learning in disease outbreak prediction
3. Use big data analytics for epidemic tracking and surveillance
4. Design real-time disease surveillance systems
5. Analyze social media and mobile data for outbreak detection
6. Implement GIS mapping for epidemiological visualization
7. Develop predictive models for infectious disease spread
8. Integrate mHealth technologies in disease monitoring
9. Evaluate global health security and emergency response systems
10. Interpret data from wearable devices and IoT health sensors
11. Strengthen data privacy and ethical health data governance
12. Build dashboard reporting systems for health decision-making
13. Enhance public health response using digital transformation tools

Target Audience

1. Public Health Professionals
2. Epidemiologists and Biostatisticians
3. Medical Doctors and Healthcare Practitioners
4. Health Data Scientists and Analysts
5. NGO and Humanitarian Health Workers
6. Government Health Policy Makers
7. Research Scholars in Biomedical and Health Sciences
8. IT Professionals transitioning into **HealthTech & Digital Health**

Course Modules

Module 1: Foundations of Digital Epidemiology

- Introduction to digital health ecosystems
- Evolution from traditional to digital epidemiology
- Key concepts: surveillance, outbreak detection, health informatics
- Role of AI in modern epidemiology
- Case Study: COVID-19 digital tracking systems (global response comparison)

Module 2: Big Data Analytics in Public Health

- Sources of health-related big data
- Data cleaning and preprocessing techniques
- Health data integration from multiple platforms
- Real-time analytics for disease surveillance
- Case Study: Ebola outbreak data analytics in West Africa

Module 3: Artificial Intelligence in Disease Prediction

- Machine learning models for outbreak forecasting

- Neural networks in epidemiological modeling
- Predictive analytics for pandemic preparedness
- AI-based risk mapping systems
- Case Study: AI-based COVID-19 prediction models in Asia

Module 4: GIS and Spatial Epidemiology

- Introduction to Geographic Information Systems (GIS)
- Disease mapping and hotspot detection
- Spatial clustering and transmission tracking
- Integration of satellite and health data
- Case Study: Malaria mapping in Sub-Saharan Africa

Module 5: Mobile Health (mHealth) & IoT Surveillance

- Mobile apps for disease reporting
- Wearable health devices in monitoring outbreaks
- IoT sensors for real-time health data
- SMS-based surveillance systems in low-resource settings
- Case Study: Dengue surveillance using mobile reporting systems

Module 6: Social Media & Digital Disease Detection

- Infodemiology and digital signals analysis
- Sentiment tracking for outbreak awareness
- Social media mining for early warning systems
- Misinformation detection in public health crises
- Case Study: Twitter-based flu outbreak detection

Module 7: Health Data Ethics, Privacy & Governance

- Data protection regulations in health systems
- Ethical AI in healthcare analytics
- Patient confidentiality in digital surveillance
- Cybersecurity in health data platforms
- Case Study: GDPR impact on health data management in Europe

Module 8: Digital Dashboards & Decision Support Systems

- Building epidemiological dashboards
- Visualization tools (Power BI, Tableau in health)
- Real-time reporting systems for policymakers
- Integrating multi-source health intelligence
- Case Study: WHO COVID-19 dashboard analytics system

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

Start Date	End Date	Location	Price
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:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com