

Public Health Engineering 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

Public Health Engineering is a critical discipline focused on the design, implementation, and management of systems that safeguard community health through safe water supply, sanitation, wastewater management, and environmental hygiene. Public Health Engineering Training Course is designed to build advanced technical and managerial competencies in WASH (Water, Sanitation and Hygiene) systems, environmental sanitation engineering, urban infrastructure resilience, and climate-smart public health solutions. It equips professionals with the latest tools and methodologies aligned with global standards such as WHO guidelines, SDG 6 (Clean Water and Sanitation), and sustainable urban development frameworks.

In today's rapidly urbanizing and climate-impacted world, public health engineering plays a vital role in preventing disease outbreaks, improving water quality, and ensuring sustainable sanitation systems. This course integrates smart water management systems, GIS-based infrastructure planning, wastewater treatment innovations, and climate-resilient sanitation engineering. Participants will gain hands-on expertise in designing scalable infrastructure solutions that address cholera prevention, groundwater contamination, solid waste management, and urban flood control systems.

Programme Curriculum

Public Health Engineering Training Course

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Course Duration

5 days

Course Objectives

1. Understand principles of Public Health Engineering & Environmental Sanitation Systems
2. Design sustainable water supply and distribution networks
3. Apply wastewater treatment technologies and circular water reuse systems
4. Implement WASH program planning and community hygiene interventions
5. Develop skills in stormwater management and urban drainage design
6. Integrate GIS and remote sensing in infrastructure planning
7. Analyze water quality parameters and contamination control methods
8. Design solid waste management and recycling systems
9. Apply climate-resilient infrastructure engineering solutions
10. Strengthen capacity in rural and urban sanitation system design
11. Use smart water monitoring and IoT-based environmental systems
12. Manage public health risk assessment and epidemic prevention engineering
13. Align infrastructure planning with SDG 6 and global sustainability frameworks

Target Audience

1. Civil and Environmental Engineers
2. Public Health Officers and Practitioners
3. Urban and Regional Planners
4. Water Utility Managers
5. NGO and WASH Program Coordinators
6. Government Infrastructure Officers
7. Environmental Scientists and Researchers
8. Development Agency and Donor Project Officers

Course Modules

Module 1: Fundamentals of Public Health Engineering

- Principles of environmental health engineering
- Relationship between water, sanitation, and disease control
- Global frameworks (WHO, SDGs, WASH)
- Overview of infrastructure systems
- Case Study: Cholera outbreak prevention through sanitation upgrades in urban settlements

Module 2: Water Supply Systems & Distribution Networks

- Design of piped water supply systems
- Hydraulic analysis and pressure management
- Groundwater and surface water sourcing
- Leak detection and system efficiency
- Case Study: Urban water supply optimization in rapidly growing cities

Module 3: Wastewater Treatment Engineering

- Primary, secondary, and tertiary treatment processes
- Activated sludge and biofiltration systems
- Decentralized wastewater treatment systems (DEWATS)
- Sludge management techniques
- Case Study: Industrial wastewater reuse in manufacturing zones

Module 4: Sanitation & Hygiene Systems (WASH)

- Community-led total sanitation (CLTS)
- Hygiene behavior change models
- Latrine design and ecological sanitation
- Rural sanitation planning
- Case Study: Rural sanitation transformation program reducing open defecation

Module 5: Stormwater & Urban Drainage Engineering

- Urban flood risk assessment
- Drainage system design principles
- Rainwater harvesting systems
- Green infrastructure and permeable surfaces
- Case Study: Flood mitigation in coastal urban environments

Module 6: Solid Waste Management Systems

- Waste segregation and collection systems
- Recycling and circular economy models
- Landfill design and management
- Hazardous waste handling
- Case Study: Municipal solid waste-to-energy conversion project

Module 7: Water Quality Monitoring & Environmental Health

- Physical, chemical, and biological water testing
- Pollution control strategies
- Groundwater contamination assessment
- Environmental risk mapping
- Case Study: Arsenic contamination mitigation in rural water supplies

Module 8: Smart & Climate-Resilient Public Health Engineering

- IoT in water and sanitation systems
- GIS-based infrastructure planning
- Climate change adaptation strategies
- Smart city water management systems

- Case Study: Climate-resilient sanitation infrastructure in flood-prone regions

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.com 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
07 Sep 2026	11 Sep 2026	Online	\$1,500
14 Sep 2026	18 Sep 2026	Online	\$1,500

Start Date	End Date	Location	Price
21 Sep 2026	25 Sep 2026	Online	\$1,500
28 Sep 2026	02 Oct 2026	Online	\$1,500
05 Oct 2026	09 Oct 2026	Online	\$1,500
12 Oct 2026	16 Oct 2026	Online	\$1,500
19 Oct 2026	23 Oct 2026	Online	\$1,500
26 Oct 2026	30 Oct 2026	Online	\$1,500

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