# Epidemiological Statistics for Demographers Training Course

Professional Development Training Course Outline

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|---|---|---|---|
| **Category** | Demography and Population Studies | **Duration** | 5 Days |
| **Base Fee** | $1,500 USD | **Delivery Mode** | Online / On-site Hybrid |

## Course Introduction

Epidemiological Statistics for Demographers is a specialized professional training program designed to strengthen competencies in population health analytics, demographic modeling, disease surveillance, biostatistics, health indicators, mortality analysis, fertility trends, health forecasting, spatial epidemiology, causal inference, and evidence-based public health planning. Epidemiological Statistics for Demographers Training Course equips participants with advanced skills in epidemiological data interpretation, demographic projections, health systems research, outbreak analytics, longitudinal population analysis, and applied statistical modeling for national development planning and global health reporting.

This course integrates public health statistics, population-based research methods, demographic transition analysis, predictive analytics, geographic health mapping, time-series modeling, health inequality assessment, monitoring and evaluation frameworks, and health informatics systems. Participants gain hands-on experience using real-world datasets to generate actionable insights for disease burden estimation, health equity strategies, demographic forecasting, and population-centered policy formulation.

## Programme Curriculum

**Epidemiological Statistics for Demographers Training Course**

**Introduction**

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**Course Objectives**

- Strengthen epidemiological statistics competencies for demographic analysis
- Apply biostatistical methods to population health measurement
- Analyze mortality, morbidity, and fertility trends using health data
- Enhance disease surveillance and outbreak modeling capabilities
- Build predictive analytics skills for population forecasting
- Improve causal inference and impact evaluation techniques
- Apply spatial epidemiology for geographic health pattern analysis
- Strengthen demographic transition and projection modeling
- Enhance interpretation of health indicators for policy decision-making
- Develop statistical reporting and data storytelling competencies
- Support health equity and vulnerability assessments
- Strengthen monitoring and evaluation of population health programs
- Improve integration of epidemiological evidence into demographic planning

**Organizational Benefits**

- Strengthens institutional capacity in population health analytics
- Improves evidence-based public health planning and decision-making
- Enhances disease burden estimation and forecasting accuracy
- Strengthens surveillance systems and outbreak preparedness
- Improves demographic projections for national development planning
- Enhances health equity targeting and risk stratification
- Strengthens monitoring and evaluation frameworks
- Improves staff productivity in health data interpretation
- Enhances quality of reporting to donors and stakeholders
- Supports achievement of national and global health targets

**Target Audiences**

- Demographers and population researchers
- Public health officers and epidemiologists
- Health policy analysts and planners
- Monitoring and evaluation specialists
- Biostatisticians and data analysts
- Health program managers and coordinators

- Academic researchers and postgraduate students
- Development practitioners and humanitarian analysts

**Course Duration:** 5 days

**Course Modules**

**Module 1: Foundations of Epidemiological Statistics**

- Epidemiological concepts and population health measures
- Disease frequency, rates, and health indicators
- Data quality assurance, bias control, and validity testing
- Statistical inference for population health analysis
- Interpretation of epidemiological findings for policy use
- Case study: Estimating disease prevalence across demographic groups

**Module 2: Mortality, Morbidity, and Fertility Analysis**

- Life tables, survival analysis, and life expectancy estimation
- Cause-specific mortality and burden of disease metrics
- Morbidity surveillance and health utilization indicators
- Fertility patterns, reproductive health, and demographic transitions
- Age-standardization and comparative rate analysis
- Case study: Analyzing mortality trends using national health surveys

**Module 3: Epidemiological Study Designs and Data Sources**

- Cross-sectional, cohort, and case-control study designs
- Population surveys, censuses, and health registries
- Surveillance systems and routine health information platforms
- Sampling strategies, weighting, and representativeness
- Measurement error reduction and data validation techniques
- Case study: Designing a population-based disease surveillance system

**Module 4: Biostatistical Methods for Population Health**

- Descriptive and inferential statistics for epidemiology
- Regression modeling for health outcomes analysis
- Risk ratios, odds ratios, and attributable risk estimation
- Multivariable analysis and confounding control
- Model diagnostics and goodness-of-fit testing
- Case study: Identifying predictors of non-communicable diseases

**Module 5: Advanced Epidemiological Modeling and Forecasting**

- Time-series analysis for disease trend prediction
- Population projections and demographic forecasting
- Multivariate modeling and causal inference techniques
- Survival models and event history analysis
- Sensitivity analysis and uncertainty quantification
- Case study: Forecasting infectious disease incidence

**Module 6: Spatial Epidemiology and Health Inequality Analysis**

- Geographic information systems for health mapping
- Spatial clustering and hotspot detection techniques
- Area-based deprivation indices and equity analysis
- Environmental exposure and risk modeling
- Small-area estimation for local health planning
- Case study: Mapping malaria risk across regions

**Module 7: Health Systems Data Analytics and Policy Evaluation**

- Routine health data analysis and performance indicators
- Monitoring and evaluation frameworks for health programs
- Cost-effectiveness and health impact evaluation methods
- Translating analytics into policy-relevant insights
- Dashboard development and data visualization strategies
- Case study: Evaluating maternal health program outcomes

**Module 8: Data Ethics, Reporting, and Evidence Communication**

- Ethical standards in population health data use
- Data governance, confidentiality, and compliance requirements
- Scientific reporting and publication writing skills
- Policy briefs and decision-support communication techniques
- Data storytelling for public health advocacy
- Case study: Communicating outbreak analytics to policymakers

**Training Methodology**

- Interactive lectures using real-world population datasets
- Hands-on statistical software labs and guided exercises
- Case-based learning and applied demographic analysis

- Group problem-solving and collaborative modeling sessions
- Scenario simulations for outbreak detection and response
- Peer review of analytical outputs and presentations
- Practical assignments using survey and surveillance data
- Expert-led discussions on global health analytics trends
- Continuous assessment through quizzes and applied projects
- Capstone epidemiological data analysis project

**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:

**Register Online Now**

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