Global Horizon
TRAINING CENTER

Training Course:
Digital Tools for Population Forecasting and Modeling

19 - 23 January 2026
London (UK)
Landmark Office Space - Portman Street

Training Course:
Digital Tools for Population Forecasting and Modeling

Training Course code: SC235901 From: 19 - 23 January 2026 Venue: London (UK) - Landmark Office Space - Portman Street Training Course Fees: 6000 Euro

Introduction:

Population forecasting and modeling play a crucial role in understanding demographic trends, predicting future population structures, and informing policy-making in sectors such as healthcare, education, urban planning, and social services. With the advancement of digital tools and technologies, the accuracy, efficiency, and scalability of population forecasting models have significantly improved.

This training program, designed by Global Horizon Training Center, introduces participants to the latest digital tools and techniques for population forecasting and modeling. Participants will gain hands-on experience with various software and methodologies used to create, test, and implement demographic models. They will also learn how these tools can help make informed decisions about resource allocation, urban development, and public policy.

Objectives:

By the end of the training program, participants will be able to:

- Understand the principles of population forecasting and modeling, and the role of digital tools in improving accuracy.
- Explore various digital tools and software used in demographic forecasting and data analysis e.g., Excel, R, Python, specialized modeling software.
- Learn the key methodologies and techniques for building population models, including cohort-component methods, regression analysis, and agent-based modeling.
- Apply forecasting tools to predict demographic trends, such as population growth, aging, migration, and fertility rates.
- Analyze and interpret model results to inform policy decisions and urban planning strategies.
- Gain hands-on experience with digital tools for simulating different demographic scenarios and outcomes.
- Integrate population forecasting models with real-world data to enhance decision-making in governmental and organizational settings.

Organizational Impact:

Organizations participating in this program will benefit from:

- Enhanced ability to use digital tools for more accurate and reliable population forecasting and demographic modeling.

- Improved decision-making capabilities related to resource allocation, urban planning, and public services.
- A better understanding of how population dynamics influence economic, social, and environmental outcomes, enabling more informed policy development.
- Increased capacity to integrate data from various sources into population models, providing a more holistic view of demographic trends.
- Strengthened data analytics capabilities, helping organizations stay ahead in population research and development.

Target Audience:

This program is designed for:

- Demographers and population scientists
- Urban planners and city developers
- Government officials in charge of census, social statistics, and public policy
- Data analysts, statisticians, and researchers working in demographic studies
- Professionals from international organizations e.g., UN, WHO, IOM focusing on population studies
- Social science researchers and academics
- Professionals in NGOs and think tanks involved in population-related research and policy

Outlines:

Day 1: Introduction to Population Forecasting and Modeling

- Overview of population forecasting: significance and challenges
- Key concepts in population modeling: fertility, mortality, migration, and population structure
- Introduction to the digital tools used in population forecasting Excel, R, Python, specialized software
- Methods of population forecasting: cohort-component method, time-series analysis, and regression models
- Case study: Understanding the population growth patterns of a major city using digital tools

Day 2: Data Collection and Preparation for Population Models

- Identifying and sourcing data for population forecasting: census data, surveys, migration records, etc.
- Data cleaning and preprocessing techniques for demographic data

- Integrating diverse datasets e.g., birth rates, death rates, migration statistics into forecasting models
- Practical session: Preparing real-world demographic data for modeling using Excel and R
- Case study: Creating a clean and structured dataset for a population forecasting project

Day 3: Building Population Forecasting Models

- Introduction to statistical techniques used in population forecasting e.g., regression analysis, time-series forecasting
- Building cohort-component models for population projection
- Understanding migration models and their role in population dynamics
- Practical session: Constructing a basic population forecasting model using R or Python
- Case study: Forecasting future population growth using demographic data and digital tools

Day 4: Advanced Modeling Techniques and Scenario Analysis

- Introduction to advanced modeling techniques: agent-based modeling, system dynamics models, and Bayesian networks
- Using machine learning algorithms for demographic predictions
- Scenario analysis: Simulating different future population trends based on varying assumptions e.g., low fertility, high migration
- Practical session: Running different forecasting scenarios and interpreting the results
- Case study: Using advanced modeling techniques to forecast the aging population and healthcare needs

Day 5: Analyzing Results, Decision-Making, and Policy Implications

- Analyzing model results: interpreting demographic outcomes and their implications for public policy
- Presenting forecasting results to stakeholders: data visualization and reporting tools Tableau, Power BI
- Integrating population forecasts into decision-making processes for urban planning, healthcare, and social services
- Group workshop: Developing a policy recommendation based on population modeling results
- Final project: Presenting a comprehensive population forecast for a specific region or city

Registration form on the Training Course: Digital Tools for Population Forecasting and Modeling

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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