Python for Evaluation Analytics Training Course

Professional Development Training Course Outline

Category	Monitoring and Evaluation	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s data-driven world, evaluation professionals need advanced analytical tools to make informed, evidence-based decisions. Python for Evaluation Analytics Training Course equips participants with cutting-edge skills to harness Python for data collection, processing, visualization, and statistical analysis. Leveraging real-world evaluation datasets, this course emphasizes predictive analytics, data modeling, and program impact assessment, empowering participants to transform raw data into actionable insights.

This course integrates practical applications, case-based learning, and hands-on exercises to bridge the gap between theory and practice. Participants will gain proficiency in Python programming, data cleaning, visualization, and machine learning techniques specifically tailored for monitoring and evaluation (M&E) contexts. By the end of the training, learners will be confident in conducting complex data analyses, automated reporting, and evidence-based decision-making to improve program outcomes and organizational impact.

Programme Curriculum

Python for Evaluation Analytics Training Course

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Course Objectives

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

1. Master Python fundamentals for evaluation and analytics.
2. Perform data cleaning, preprocessing, and transformation for M&E datasets.
3. Apply descriptive and inferential statistics using Python.
4. Develop interactive dashboards for evaluation reporting.
5. Conduct impact analysis using Python-driven methods.
6. Implement data visualization techniques to communicate findings effectively.
7. Use Pandas and NumPy for large-scale data manipulation.
8. Apply machine learning models for predictive evaluation analytics.
9. Integrate Python with Excel and other M&E tools for streamlined workflows.
10. Conduct time-series analysis for program performance monitoring.
11. Automate data collection and reporting using Python scripts.
12. Interpret evaluation findings and generate actionable insights.
13. Apply ethical and reproducible data practices in evaluation analytics.

Target Audience

1. Monitoring and Evaluation (M&E) professionals
2. Program Managers and Coordinators
3. Data Analysts and Statisticians
4. Social Scientists and Researchers
5. Impact Assessment Specialists
6. Policy Analysts
7. Nonprofit and Development Sector Staff
8. Graduate students in Evaluation, Statistics, or Data Science

Course Modules

Module 1: Introduction to Python for Evaluation

- Python environment setup
- Python syntax and basic programming concepts
- Variables, data types, and operations
- Functions and control structures
- Case Study: Python automation for a survey dataset

Module 2: Data Cleaning and Preprocessing

- Handling missing data and duplicates
- Data normalization and transformation
- Outlier detection and correction

- Data integration from multiple sources
- Case Study: Cleaning multi-source M&E data

Module 3: Data Manipulation with Pandas

- Series and DataFrame operations
- Filtering, sorting, and indexing
- Aggregations and group operations
- Merging and joining datasets
- Case Study: Evaluating health program outcomes

Module 4: Numerical Analysis with NumPy

- Array operations and broadcasting
- Statistical functions
- Matrix manipulations
- Advanced numerical computations
- Case Study: Analysis of school performance data

Module 5: Data Visualization with Matplotlib & Seaborn

- Line, bar, scatter, and pie charts
- Customizing plots and aesthetics
- Heatmaps and correlation matrices
- Time-series visualization
- Case Study: Visualizing nutrition program data trends

Module 6: Exploratory Data Analysis (EDA)

- Summary statistics and distributions
- Identifying patterns and anomalies
- Feature selection and correlation
- EDA best practices for M&E
- Case Study: Survey data pattern discovery

Module 7: Statistical Analysis in Python

- Descriptive statistics
- Hypothesis testing and confidence intervals
- ANOVA and regression analysis
- Python libraries for statistics (SciPy, Statsmodels)
- Case Study: Evaluating project interventions

Module 8: Predictive Analytics and Regression

- Linear and logistic regression
- Model evaluation and validation
- Predictive insights for M&E programs
- Handling categorical and continuous variables
- Case Study: Predicting beneficiary outcomes

Module 9: Machine Learning for Evaluation

- Supervised vs unsupervised learning
- Decision trees, random forests, and clustering
- Model selection and performance metrics
- Python ML libraries (scikit-learn)
- Case Study: Segmenting community beneficiaries

Module 10: Time-Series Analysis

- Understanding time-series data
- Trend and seasonality analysis
- Forecasting using Python
- Visualization of time-based metrics
- Case Study: Monitoring program performance over time

Module 11: Automated Data Collection

- Web scraping for evaluation data
- API integration with Python
- Scheduling data collection tasks
- Storing data securely and ethically
- Case Study: Collecting online survey responses automatically

Module 12: Interactive Dashboards with Plotly & Dash

- Creating web-based dashboards
- Interactive charts and filters
- Dashboard layout and user experience
- Sharing dashboards with stakeholders
- Case Study: Real-time project monitoring dashboard

Module 13: Integrating Python with Excel and Other Tools

- Reading and writing Excel files with Python
- Automating Excel reports
- Integration with M&E software (Kobo, DHIS2)
- Best practices for reproducible reports
- Case Study: Automating monthly M&E reporting

Module 14: Ethical Considerations and Data Privacy

- Data anonymization techniques
- Ethical handling of sensitive data
- Compliance with data protection regulations
- Reproducible and transparent analysis
- Case Study: Maintaining privacy in health program data

Module 15: Capstone Project and Real-World Application

- Designing a full evaluation analytics project
- Data collection, cleaning, and analysis
- Visualization and reporting of findings
- Presentation to stakeholders

- Case Study: Full-scale impact evaluation of a youth empowerment program

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	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

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