Financial Data Analytics with Python Training Course

Professional Development Training Course Outline

Category	Data Science	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s data-driven financial landscape, professionals need more than basic spreadsheets to make strategic decisions. Training Course on Financial Data Analytics with Python is a high-impact training course designed to equip finance professionals, analysts, and data scientists with in-demand skills to analyze, visualize, and interpret complex financial datasets using Python, Pandas, NumPy, Matplotlib, seaborn, and machine learning tools. Through hands-on coding, real-world datasets, and interactive case studies, participants will unlock new capabilities in automated financial reporting, risk analysis, predictive modeling, and investment analytics.

Whether you are working in banking, asset management, corporate finance, or fintech, this course provides a practical foundation in financial analytics using open-source Python libraries. Participants will gain skills in data cleaning, financial forecasting, portfolio optimization, and time series analysis. This course bridges the gap between finance and technology by preparing you to harness data science tools for data-driven decision-making.

Programme Curriculum

Financial Data Analytics with Python Training Course

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Course Objectives

1. Master Python for financial data analytics and automation.
2. Learn to clean and preprocess financial datasets using Pandas and NumPy.
3. Apply exploratory data analysis (EDA) to uncover financial trends and patterns.
4. Visualize financial data using Matplotlib and Seaborn for business insights.
5. Build financial dashboards and interactive visualizations with Plotly.
6. Conduct time series analysis and forecasting for stock prices and financial KPIs.
7. Use machine learning models for risk assessment and fraud detection.
8. Understand quantitative finance concepts using Python scripting.
9. Perform portfolio optimization using Modern Portfolio Theory and Python.
10. Apply regression analysis and predictive modeling to financial data.
11. Evaluate financial models using real-world case studies.
12. Interpret statistical outputs and performance metrics in finance.
13. Develop data-driven financial strategies and presentations for stakeholders.

Target Audience

1. Financial Analysts
2. Data Scientists in Finance
3. Investment Bankers
4. Corporate Finance Professionals
5. Risk Managers
6. FinTech Entrepreneurs
7. Business Intelligence Analysts
8. Quantitative Researchers

Course Duration: 5 days

Course Modules

Module 1: Python Basics for Financial Analytics

- Introduction to Python programming
- Data types, functions, and loops
- Working with Jupyter Notebooks
- Python packages for finance (Pandas, NumPy, Matplotlib)
- Reading CSV, Excel, and API financial data
- **Case Study: Extracting and Cleaning Financial Statements**

Module 2: Data Wrangling with Pandas and NumPy

- Data frames and series manipulation
- Handling missing data
- Data merging, joining, and reshaping
- Working with time-indexed data
- Aggregation and groupby operations
- **Case Study: Preprocessing Historical Stock Data**

Module 3: Financial Data Visualization

- Matplotlib and Seaborn fundamentals
- Creating time series plots
- Bar charts and histograms for financial KPIs
- Heatmaps and correlation matrices
- Plotly for interactive finance dashboards
- **Case Study: Visualizing Sector-Wise Portfolio Performance**

Module 4: Time Series Analysis in Finance

- Understanding time series components
- Rolling statistics and smoothing
- Autocorrelation and stationarity
- ARIMA modeling in Python
- Forecasting future stock trends
- **Case Study: Predicting Apple Stock Prices with ARIMA**

Module 5: Financial Modeling and Predictive Analytics

- Linear and logistic regression for finance
- Model evaluation and selection (R^2, MAE, RMSE)
- Overfitting and cross-validation
- Feature engineering with financial indicators
- Using scikit-learn for model building
- **Case Study: Predicting Loan Default Risk**

Module 6: Portfolio Analysis and Optimization

- Risk and return metrics
- Covariance and correlation matrices
- Portfolio optimization using Markowitz theory
- Monte Carlo simulation
- Efficient frontier visualization
- **Case Study: Optimizing a 5-Asset Investment Portfolio**

Module 7: Machine Learning in Finance

- Supervised vs. unsupervised learning
- Decision trees and random forests
- Clustering for client segmentation
- Classification models for fraud detection
- Model tuning and interpretation
- **Case Study: Machine Learning for Credit Risk Scoring**

Module 8: Capstone Project & Dashboarding

- Integrating all techniques into a final project
- Building dynamic dashboards with Plotly Dash
- Automating data pipelines
- Communicating insights to stakeholders
- Final project presentation and peer review
- **Case Study: End-to-End Financial Analytics Capstone (Client Report)**

Training Methodology

- Hands-on coding sessions with real financial datasets
- Instructor-led demonstrations with step-by-step explanations

- Interactive exercises and coding challenges
- Group-based discussions and project reviews
- Live Q&A and peer feedback on final projects
- Case study-based learning with real-world financial problems

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
23 Nov 2026	27 Nov 2026	Physical	$6,000

Start Date	End Date	Location	Price
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