Jupyter Notebooks for Data Science Training Course

Professional Development Training Course Outline

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

Course Introduction

Jupyter Notebooks for Data Science Training Course is designed to transform beginners and intermediate learners into proficient data scientists capable of analyzing, visualizing, and modeling data using the most popular open-source tools. Participants will gain hands-on experience in Python programming, data wrangling, machine learning, and interactive data visualization, all within the versatile Jupyter Notebook environment. With real-world case studies and practical exercises, learners will master the skills needed to tackle complex business intelligence, predictive analytics, and AI-driven projects efficiently.

Our training program emphasizes a practical, project-oriented methodology, ensuring that every concept is reinforced through hands-on exercises and industry-relevant scenarios. By leveraging Jupyter Notebooks, participants can seamlessly combine code, visualizations, and narratives to produce reproducible and shareable analyses. This course is perfect for aspiring data scientists, analysts, developers, and business professionals who want to accelerate their career in data science, enhance problem-solving skills, and drive insights from complex datasets.

Programme Curriculum

Jupyter Notebooks for Data Science Training Course

Introduction

Jupyter Notebooks for Data Science Training Course is designed to transform beginners and intermediate learners into proficient data scientists capable of analyzing, visualizing, and modeling data using the most popular open-source tools. Participants will gain hands-on experience in Python programming, data wrangling, machine learning, and interactive data visualization, all within the versatile Jupyter Notebook environment. With real-world case studies and practical exercises, learners will master the skills needed to tackle complex

business intelligence, predictive analytics, and AI-driven projects efficiently.

Our training program emphasizes a practical, project-oriented methodology, ensuring that every concept is reinforced through hands-on exercises and industry-relevant scenarios. By leveraging Jupyter Notebooks, participants can seamlessly combine code, visualizations, and narratives to produce reproducible and shareable analyses. This course is perfect for aspiring data scientists, analysts, developers, and business professionals who want to accelerate their career in data science, enhance problem-solving skills, and drive insights from complex datasets.

Course Duration

5 days

Course Objectives

1. Master Python programming for data science applications.
2. Gain expertise in Jupyter Notebook workflow for interactive coding.
3. Perform data wrangling and cleaning using Pandas and NumPy.
4. Develop skills in data visualization using Matplotlib, Seaborn, and Plotly.
5. Implement exploratory data analysis (EDA) on real-world datasets.
6. Apply statistical analysis to derive meaningful insights.
7. Build machine learning models using scikit-learn.
8. Understand supervised and unsupervised learning techniques.
9. Learn feature engineering and model optimization strategies.
10. Work with time series and predictive analytics in Jupyter.
11. Create interactive dashboards and reports within notebooks.
12. Solve real-life business problems through data-driven projects.
13. Enhance reproducibility and collaboration in data science projects.

Target Audience

1. Aspiring data scientists and analysts
2. Python developers looking to transition into data science
3. Business analysts seeking data visualization skills
4. Students in computer science or statistics
5. Machine learning enthusiasts
6. Professionals in finance, marketing, and operations
7. Researchers handling large datasets
8. IT professionals aiming to implement data-driven solutions

Course Modules

Module 1: Introduction to Jupyter Notebook & Python for Data Science

- Understanding the **Jupyter Notebook interface**
- Writing and executing **Python scripts interactively**
- Overview of **Python libraries for data science**
- Installing and configuring **Anaconda environment**
- **Case Study:** Setting up a Jupyter Notebook project for exploratory analysis

Module 2: Data Wrangling with Pandas & NumPy

- Handling **structured and unstructured data**
- Cleaning and transforming datasets using **Pandas**
- Efficient **array operations with NumPy**
- Combining, merging, and reshaping datasets
- **Case Study:** Data cleaning and preparation for sales analysis

Module 3: Data Visualization Techniques

- Creating **interactive plots with Matplotlib and Seaborn**
- **Customizing graphs and dashboards**
- Using **Plotly for interactive visualizations**
- Visual storytelling for **business insights**
- **Case Study:** Visualizing customer behavior trends

Module 4: Exploratory Data Analysis (EDA)

- Identifying **patterns, correlations, and outliers**
- Generating **summary statistics and insights**
- Feature selection and dimensionality reduction
- Automating EDA using **Python libraries**
- **Case Study:** EDA on marketing campaign datasets

Module 5: Statistical Analysis for Data Science

- Descriptive and inferential statistics
- Hypothesis testing and confidence intervals
- Regression and correlation analysis
- Probability distributions for predictive modeling
- **Case Study:** Analyzing survey data for actionable insights

Module 6: Machine Learning Fundamentals

- Introduction to **supervised and unsupervised learning**
- Building models using **scikit-learn**
- Model evaluation and performance metrics
- Implementing **classification, regression, and clustering**
- **Case Study:** Predicting customer churn with logistic regression

Module 7: Advanced Machine Learning & Model Optimization

- Hyperparameter tuning and cross-validation
- Feature engineering and selection techniques
- Handling **imbalanced datasets**
- Deploying models in **Jupyter Notebooks**
- **Case Study:** Predictive analytics for sales forecasting

Module 8: Data Science Projects & Interactive Reporting

- Creating **interactive dashboards in notebooks**
- Automating **data pipelines and workflows**
- Documenting analyses for reproducibility
- Presenting results to stakeholders with **storytelling techniques**

- **Case Study:** End-to-end project: Customer segmentation and insights

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	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
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