Business Intelligence with Jupyter Notebooks Training Course

Professional Development Training Course Outline

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

Course Introduction

Business Intelligence with Jupyter Notebooks is rapidly transforming how organizations leverage data-driven decision-making, predictive analytics, and real-time reporting. BI with Jupyter Notebooks Training Course is designed to equip professionals with advanced data analytics, machine learning integration, and data visualization skills using Python-based Jupyter Notebooks. Participants will gain hands-on experience in data wrangling, exploratory data analysis, and dashboard creation while applying modern BI tools and frameworks aligned with industry 4.0 standards. The course emphasizes practical application of big data analytics, cloud-based BI solutions, and automation techniques to drive operational efficiency and strategic growth.

In today's competitive digital economy, organizations require scalable, agile, and intelligent BI systems powered by AI, data science, and advanced analytics. This training focuses on building expertise in data storytelling, predictive modeling, and interactive reporting using Jupyter Notebooks. Learners will develop competencies in SQL integration, API data extraction, and real-time analytics pipelines, ensuring they can transform raw data into actionable insights. The course integrates trending technologies such as data lakes, cloud computing, and business analytics automation to prepare participants for high-impact roles in data-driven organizations.

Programme Curriculum

BI with Jupyter Notebooks Training Course

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Course Objectives

1. Develop advanced data analytics and business intelligence capabilities using Jupyter Notebooks
2. Master data visualization techniques for interactive dashboards and reporting
3. Apply machine learning algorithms for predictive analytics and forecasting
4. Perform data cleaning, transformation, and preprocessing using Python
5. Integrate SQL and APIs for seamless data extraction and automation
6. Implement real-time data analytics and streaming data solutions
7. Design scalable BI solutions using cloud computing platforms
8. Utilize big data technologies for handling large datasets
9. Enhance data storytelling and presentation skills for decision-making
10. Build automated reporting systems for business performance tracking
11. Apply statistical analysis and data modeling techniques
12. Understand data governance, security, and compliance frameworks
13. Optimize business processes using AI-driven analytics

Organizational Benefits

- Improved decision-making through real-time data insights
- Enhanced operational efficiency using automated analytics workflows
- Increased competitiveness through predictive analytics capabilities
- Better resource allocation using data-driven strategies
- Strengthened data governance and compliance practices
- Improved customer insights and personalization strategies
- Faster reporting cycles with automated dashboards
- Enhanced collaboration through shared analytics platforms
- Scalable BI infrastructure for growing data needs
- Reduced operational costs through optimized processes

Target Audiences

1. Data Analysts
2. Business Intelligence Professionals
3. Data Scientists
4. IT Professionals
5. Business Managers
6. Financial Analysts
7. Operations Managers

8. Researchers and Academics

Course Duration: 5 days

Course Modules

Module 1: Introduction to Business Intelligence and Jupyter Notebooks

- Overview of business intelligence and data analytics trends
- Introduction to Jupyter Notebooks environment and setup
- Understanding Python libraries for BI
- Data-driven decision-making frameworks
- BI architecture and components
- Case study: Implementing a basic BI workflow using Jupyter

Module 2: Data Collection and Integration

- Data sources and data extraction techniques
- SQL integration for structured data access
- API integration for real-time data
- Data ingestion pipelines and automation
- Handling structured and unstructured data
- Case study: Building a data pipeline from multiple sources

Module 3: Data Cleaning and Preprocessing

- Data wrangling techniques using Python
- Handling missing and inconsistent data
- Data transformation and normalization
- Feature engineering basics
- Data quality assessment methods
- Case study: Cleaning and preparing a real-world dataset

Module 4: Exploratory Data Analysis (EDA)

- Statistical analysis techniques
- Data visualization using matplotlib and seaborn
- Identifying trends and patterns
- Correlation and regression analysis
- Data profiling and summary statistics
- Case study: Performing EDA on business sales data

Module 5: Data Visualization and Dashboarding

- Interactive visualization tools
- Dashboard design principles
- Storytelling with data
- Creating dynamic reports
- Visualization best practices
- Case study: Building an interactive BI dashboard

Module 6: Machine Learning for BI

- Introduction to machine learning concepts
- Predictive modeling techniques
- Classification and regression models
- Model evaluation and optimization
- Integration of ML with BI workflows
- Case study: Predicting customer churn using ML

Module 7: Real-Time Analytics and Automation

- Streaming data concepts
- Real-time analytics tools
- Automation of reporting processes
- Scheduling and workflow management
- Integration with cloud platforms
- Case study: Implementing real-time analytics for operations

Module 8: Advanced BI Solutions and Deployment

- Cloud-based BI solutions
- Data lakes and big data frameworks
- BI solution deployment strategies
- Data governance and security
- Performance optimization techniques
- Case study: Deploying a scalable BI solution

Training Methodology

- Instructor-led interactive sessions with real-world examples
- Hands-on practical exercises using Jupyter Notebooks
- Group discussions and collaborative problem-solving
- Case study analysis and project-based learning
- Live demonstrations of BI tools and techniques
- Continuous assessment through quizzes and assignments
- Capstone project for practical implementation

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:

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