BLACKBIRD FOR TRAINING

Python for Data Analysis, Modeling, and Machine Learning

19 – 23 July 2027
Barcelona (Spain)



Python for Data Analysis, Modeling, and Machine Learning

Ref: 3255655_347518 **Date:** 19 – 23 July 2027 **Location:** Barcelona (Spain) **Fees:** 5900 GBP

Introduction

The ability to analyze data and build predictive models has become essential in modern work environments where data-driven decision-making plays a key role. Python for Data Analysis, Modeling, and Machine Learning provides powerful tools that help transform raw data into meaningful insights, supporting improved performance and operational efficiency.

This training course is designed for professionals across different fields who work with data or need to understand it more effectively. It focuses on building practical skills that enable participants to manage, analyze, and interpret data, and to develop models that support informed decision-making.

The course follows a structured approach that combines fundamental concepts with practical applications. Participants will work with real data scenarios, apply analytical techniques, and develop models in a clear and progressive manner that reflects real-world use.

Course Objectives

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

- Understand the fundamentals of Python for data analysis and modeling.
- Work with structured and unstructured data effectively.
- Apply data cleaning and preprocessing techniques.
- Analyze data to identify patterns and relationships.
- Build basic machine learning models.
- Evaluate model performance and improve results.
- Use appropriate tools for data analysis and modeling.
- Interpret results to support data-driven decisions.

Course Outlines

Day 1: Python Fundamentals and Data Analysis

- Introduction to the Python working environment.
- Basic syntax and data handling techniques.
- Using essential libraries for data analysis.
- The process involves the importation of data from various sources.
- Initial data exploration techniques.
- Practical exercises on data analysis.



Day 2: Data Cleaning and Preparation

- Understanding the importance of data quality.
- Handling missing values.
- Managing outliers and inconsistent data.
- Transforming data into suitable formats.
- Merging data from multiple sources.
- Practical exercises on data preprocessing.

Day 3: Exploratory Data Analysis

- Applying exploratory data analysis techniques.
- Identifying relationships between variables.
- Using visualization tools to understand data.
- Analyzing trends and distributions.
- Interpreting analytical results.
- Hands-on exercises using real datasets.

Day 4: Machine Learning Modeling

- Introduction to machine learning concepts.
- Selecting appropriate models for datasets.
- Training models using available data.
- Evaluating model performance.
- Improving model accuracy using different techniques.
- Practical implementation of a model.

Day 5: Practical Application and Final Evaluation

- Developing a complete data analysis project.
- Building a machine learning model.
- Evaluating and interpreting results.
- Presenting outcomes in a structured format.
- Reviewing key concepts.
- Final participant assessment.

Why Attend this Course: Wins & Losses!

- Gain practical skills in Python for data analysis, modeling, and machine learning.
- Improve ability to analyze data and support decision-making.
- Understand machine learning applications in real scenarios.
- Strengthen data handling and analytical capabilities.
- Enhance efficiency in working with data tools.
- Apply learned concepts directly in work environments.



Conclusion

This training course provides a comprehensive understanding of Python for data analysis, modeling, and machine learning by combining foundational knowledge with practical application. Participants learn how to handle data from the initial stages of collection and cleaning, through analysis and interpretation, to building predictive models that support informed decisions.

The course prioritizes practical implementation, enabling participants to acquire hands-on experience that they can directly apply in real work environments. This contributes to improving analytical accuracy, enhancing performance, and enabling more effective use of data.

By the end of the course, participants will clearly understand how to transform data into actionable insights and apply modeling techniques to support better decision-making across various professional fields.

