



PYTHON TRAINING

Python Data Analysis Course

Master Python for data analysis, visualization, and manipulation. Transform raw data into actionable insights for informed decision-making.

DURATION

48 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

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- Globally Recognized Certification
 - Expert-Led Hands-On Training
 - Flexible Scheduling

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COURSE OVERVIEW

The Python Data Analysis Course at Computer Pride is meticulously designed for professionals and aspiring data enthusiasts eager to unlock the power of data through Python. This intensive 48-hour program transforms raw data into actionable insights, providing you with the essential skills to navigate the data-driven world. You'll master core technologies such as NumPy for numerical operations, Pandas for robust data manipulation, and Matplotlib and Seaborn for compelling data visualization.

This intermediate-level course goes beyond basic Python programming, focusing specifically on the analytical toolkit. You will learn to perform comprehensive data cleaning, wrangling, transformation, and aggregation techniques. By the end of this course, you will be proficient in exploratory data analysis, capable of identifying patterns, trends, and anomalies, and effectively communicating your findings through professional-grade visualizations. These skills are critical for data-driven decision-making across various industries.

The professional benefits of this certification are substantial, opening doors to advanced analytical roles. Graduates will be equipped to tackle real-world data challenges, enhancing their problem-solving capabilities and contributing significantly to strategic business objectives. This course is your gateway to a rewarding career in data science, business intelligence, and analytical research.

Duration	48 hours
Level	Intermediate
Vendor	Python

COURSE CURRICULUM

01 Module 1: Python Fundamentals & Environment Setup for Data Analysis

- Review of Python basics (data types, control flow, functions)
- Introduction to Jupyter Notebooks and VS Code
- Working with file systems and basic I/O (CSV, Excel)
- Python package management (pip, conda)

02 Module 2: Data Manipulation with NumPy & Pandas

- Introduction to NumPy arrays and operations
- Pandas Series and DataFrames: creation and essential attributes
- Indexing, selecting, and filtering data
- Handling missing data (NaN values) and duplicates
- Data cleaning, transformation, and aggregation techniques
- Merging, joining, and concatenating DataFrames

03 Module 3: Data Visualization with Matplotlib & Seaborn

- Introduction to Matplotlib for basic plotting
- Creating line plots, bar charts, histograms, and scatter plots
- Customizing plots: titles, labels, legends, and styles
- Introduction to Seaborn for enhanced statistical visualizations
- Generating heatmaps, box plots, violin plots, and pair plots
- Understanding best practices for effective data storytelling through visuals

04 Module 4: Practical Data Analysis and Statistical Foundations

- Descriptive statistics and measures of central tendency/dispersion
- Group operations and aggregations (groupby)
- Time series data analysis basics
- Introduction to hypothesis testing concepts (t-tests, ANOVA basics)
- Practical case studies and mini-projects applying learned techniques

05 Module 5: Introduction to Machine Learning Concepts (Basic Scikit-learn)

- Feature engineering and selection basics
- Introduction to basic supervised learning: Linear Regression
- Introduction to basic unsupervised learning: K-Means Clustering
- Model evaluation metrics overview (accuracy, RMSE)
- Building simple predictive models for data analysis applications

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Junior Data Analyst**
- > **Business Intelligence Specialist**
- > **Data-focused Research Assistant**

FREQUENTLY ASKED QUESTIONS

Q: What specific data analysis libraries will I master in this course?

This course provides in-depth training on essential Python libraries including NumPy for efficient numerical operations, Pandas for robust data manipulation and analysis, Matplotlib for foundational plotting, and Seaborn for advanced statistical visualizations. We'll also introduce basic applications of scikit-learn for introductory machine learning concepts relevant to data analysis.

Q: Is prior programming experience required to enroll in this intermediate Python Data Analysis course?

While this is an intermediate course, it is designed for individuals with foundational Python programming knowledge. You should be comfortable with basic Python syntax, data types, control flow, and functions. A brief refresher on Python fundamentals is included, but a prior understanding of core programming concepts will ensure optimal learning and progression.

Q: How will this course prepare me for real-world data analysis challenges?

The "Python Data Analysis Course" at Computer Pride emphasizes practical application through hands-on labs, real-world case studies, and project-based learning. You will gain proficiency in data cleaning, exploratory data analysis, extracting meaningful insights, creating compelling visualizations, and building foundational predictive models, equipping you with a robust toolkit for diverse analytical roles in various industries.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

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