

Python for Data Science Bootcamp

Gain Python skills for data science in this five-day course, where you'll learn fundamentals, object-oriented programming, and key data science libraries. You'll also get to manipulate data with NumPy and Pandas, perform statistical analyses, and visualize your findings using Matplotlib.

Group classes in NYC and onsite training is available for this course. For more information, email corporate@nobledesktop.com or visit: <https://training-nyc.com/courses/python-data-science-nyc>



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Course Outline

Python Fundamentals

Python Fundamentals: Variables & Data Types

- Declare variables of basic types: integers, floats, strings, booleans
- Perform input/output with `print()` and `input()`
- Apply arithmetic, relational, and logical operators

Control Flow I: Conditional Logic

- Use Boolean operators `==`, `!=`, `<`, `>`, `<=`, `>=`
- Write `if/else` and nested conditionals
- Combine conditions with `and/or` for complex logic

Control Flow II: Loops & Iteration

- Implement `for` loops over ranges and lists; understand iterables
- Understand `map` and `filter` operations.
- Use list comprehensions to simplify operations.

DataFrames & Data Manipulation with Pandas

- Construct `DataFrames` from various data formats via `pd.DataFrame()`
- Concatenate multiple `DataFrames` using `pd.concat()`
- Inspect `DataFrame` shape and handle missing values (`NaN`)
- Perform `Panda` data analysis operations to glean insight

Data Visualization: Charting Basics

- Plot time series with `plt.plot()` for line charts
- Create scatter plots using `plt.scatter()` to reveal correlations
- Decide between line vs. scatter based on data context and purpose

Trend Analysis with Regression Lines

- Understand least-squares regression concept and its interpretation
- Compute a best-fit line via `numpy.polyfit()`
- Overlay regression lines on scatter plots and make predictions

Advanced Plot Customization

- Annotate charts with titles, axis labels, and legends
- Highlight key data points (e.g., min/max) directly on plots
- Use stacked bar charts, pie charts, and animated charts to visualize data