Course duration

- 2 days

Course Benefits

- JupyterLab.
- Jupyter notebooks.
- Markdown.
- The purpose of NumPy.
- One-dimensional NumPy arrays.
- Two-dimensional NumPy arrays.
- Using boolean arrays to create new arrays.
- The purpose of pandas.
- Series objects and one-dimensional data.
- DataFrame objects to two-dimensional data.
- Creating plots with matplotlib.

Available Delivery Methods

Public Class
Public expert-led online training from the convenience of your home, office or anywhere with an internet connection. Guaranteed to run .

Private Class
Private classes are delivered for groups at your offices or a location of your choice.

Self-Paced
Learn at your own pace with 24/7 access to an On-Demand course.

Course Outline

1. JupyterLab
    1. Exercise: Creating a Virtual Environment
    2. Exercise: Getting Started with JupyterLab
    3. Jupyter Notebook Modes
    4. Exercise: More Experimenting with Jupyter Notebooks
    5. Markdown
    6. Exercise: Playing with Markdown

7. Magic Commands
8. Exercise: Playing with Magic Commands
9. Getting Help

2. NumPy
    1. Exercise: Demonstrating Efficiency of NumPy
    2. NumPy Arrays
    3. Exercise: Multiplying Array Elements
    4. Multi-dimensional Arrays
    5. Exercise: Retrieving Data from an Array
    6. More on Arrays
    7. Using Boolean Arrays to Get New Arrays
    8. Random Number Generation
    9. Exploring NumPy Further
3. pandas
    1. Getting Started with pandas
    2. Introduction to Series
    3. np.nan
    4. Accessing Elements in a Series
    5. Exercise: Retrieving Data from a Series
    6. Series Alignment
    7. Exercise: Using Boolean Series to Get New Series
    8. Comparing One Series with Another
    9. Element-wise Operations and the apply() Method
    10. Series: A More Practical Example
    11. Introduction to DataFrames
    12. Creating a DataFrame using Existing Series as Rows
    13. Creating a DataFrame using Existing Series as Columns
    14. Creating a DataFrame from a CSV
    15. Exploring a DataFrame
    16. Exercise: Practice Exploring a DataFrame
    17. Changing Values
    18. Getting Rows
    19. Combining Row and Column Selection
    20. Boolean Selection
    21. Pivoting DataFrames
    22. Be careful using properties!
    23. Exercise: Series and DataFrames
    24. Plotting with matplotlib
    25. Exercise: Plotting a DataFrame
    26. Other Kinds of Plots

Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the

class examples.

Class Prerequisites

Experience in the following *is required* for this Python class:

- Basic Python programming experience. In particular, you should be very comfortable with:
    1. Working with strings.
    2. Working with lists, tuples and dictionaries.
    3. Loops and conditionals.
    4. Writing your own functions.

Prerequisite Courses

Courses that can help you meet these prerequisites:

- Introduction to Python 3 Training
- Advanced Python 3 Training