

Introduction to Python for Data Science

Modality: On Demand

Duration: 24 Hours

About the course:

Python is amongst the fastest growing programming languages in the world. Since it's a very beginner friendly and user friendly language in general, it has been used by people from a lot fields especially for the ones in data science for the purpose Data Analysis. The community around this program has created ways to work with it in the most efficient way possible.

This course teaches you all the basics revolving around python. From the very basics like arithmetic and variables to how to manage data structures which include Numpy arrays, Python lists and Pandas DataFrames. You will also learn about the different functions of Python and how the control flow works. Another important part of this course is being able to make your own visualizations with the aid of python. All of this will be based on real data.

Aims:

- Learning the basics of Python
- How to make and manipulate the Python lists
- Learn different functions of python and being able to import lists
- Knowledge of building Numpy arrays and being able to perform different calculations
- How to make build and customize plots that are based on real data
- Being able to supercharge your scripts with the aid of control flow and familiarizing yourself with the Panda DataFrame

Targeted Audience:

- Data Scientists

Prerequisites:

You should have basic knowledge and experience of working with different data that could be either from excel, text files or other databases.

Course Outline:

1. Python Basics

- Lecture: Hello Python!
- Lab: Hello Python!
- Lecture: Variables and Types
- Lab: Variables and Types

- Further Readings

2. List - A Data Structure

- Lecture: Python Lists
- Lab: Python Lists
- Lecture: Subsetting Lists
- Lab: Subsetting Lists
- Lecture: Manipulating Lists
- Lab: Manipulating Lists
- Further Readings

3. Functions and Packages

- Lecture: Functions
- Lab: Functions
- Lecture: Methods
- Lab: Methods
- Lecture: Packages
- Lab: Packages
- Further Readings

4. Numpy

- Lecture: Numpy
- Lab: Numpy
- Lecture: 2D Numpy Arrays
- Lab: 2D Numpy Arrays
- Lecture: Basic Statistics with Numpy
- Lab: Basic Statistics with Numpy
- Further Readings

5. Plotting with Matplotlib

- Lecture: Basic Plot with matplotlib
- Lab: Basic Plots with matplotlib
- Lecture: Histograms
- Lab: Histograms
- Lecture: Customization
- Lab: Customization
- Further Readings

6. Control Flow and Pandas

- Lecture: Boolean Logic and Control Flow
- Lab: Boolean Logic and Control Flow
- Lecture: Pandas
- Lab: Pandas

- Further Readings

Final Lab

- Final Lab

Final Exam

- Final Exam
- Course Wrap-up?