**DAY 1:**

* **Introduction To Python Fundamentals**
  + History of python
  + What is Python
  + Python Installation
  + Python Interpreter
  + Running first hello world program
  + Output with print
  + Indentation
  + Input via keyboard
* **Data Types, Variables and Operators**
  + Numbers
  + Strings
    - Strings manipulation
    - String formatting
  + Variable declaration
  + Arithmetic Operators
  + Assignment Operators
  + Comparison Operators
  + Logical (or Relational)
  + Operators
* **Conditional statements/Control Structures**
  + if Statements

**DAY 2:**

* + while construct
  + for Statements
  + Looping Techniques over arrays, dictionary, etc.
  + The range() Function
  + Break and continue
  + Statements, and else
  + clauses on Loops
  + Pass Statements
  + Error Handling

**DAY 3:**

* **Basic Data Structures**
  + Arrays
  + Lists
    - List Manipulations
    - List Comprehensions
    - Map
    - Reduce
  + Tuples
  + Set
  + Dictionaries
  + Operations on data structures

**DAY 4:**

* **Functions**
  + Local variables
  + Parameter passsing
  + Default Argument Values
  + Returning Values
  + Keyword & Positional
  + Arguments

**DAY 5:**

* **Modules**
  + Built-in modules
  + User-defined modules
  + Concept of \_\_name\_\_=” \_\_main\_\_”
  + Standard Libraries
  + Packages and Import Statements
* **File handling**
  + Opening a File
  + Reading from a file, writing to a file
  + Closing a File

**DAY 6:**

* **Handling Exceptions**
  + try-except
  + else clause
  + finally clause
* **Introduction to OOP** 
  + OOP features : Abstraction, Encapsulation, Polymorphism, Inheritance
  + Class Definition Syntax
  + Class Objects, Instance
  + Constructor
  + Destructor
  + Data Member – Class variable/Instance Variable
  + Static
  + Properties vs getters/setters

**DAY 7:**

* **OOP Concepts**
  + Overriding
  + Overloading
  + Inheritance Types
  + Magic Methods
  + Operator Overloading

**DAY 8:**

**Advance Python:**

* 1. Introduction to NumPy & Pandas
  + Create arrays using NumPy
  + Basics of Data Analysis
  + NumPy - Arrays
  + Operations on Arrays
  + Indexing Slicing and Iterating
  + NumPy Array Attributes
  + Matrix Product

NumPy Functions

* + Array Manipulation
  + Use NumPy to perform mathematical operations on arrays

Data Manipulation using pandas

* Read and write data from text/CSV files into arrays and vice-versa
  + Understand Pandas and employ it for data manipulation
  + Understand and use the data structures available in Pandas
  + Data Frames Importing and Exporting Files in Python

**DAY 9:**

Data Visualisation using Python modules

* + Matplotlib library
  + Grids, axes, plots
  + Markers, colours, fonts and styling
  + Types of plots - bar graphs, pie charts, histograms

Couse conclusion

* + Reference books, videos and blogs
  + Next steps
  + Final Q&A
  + Final assessment (optional)