**Python Course Syllabus**

* What is Python?
* Comparison of Python with other languages like C/C++, Java etc
* Execution model of Python
* Salient features of Python
* How Python runs Programs?
* Areas where Python is in use
* Industries that are using Python

**Introduction**

* Installing Python in Windows/Linux/Mac OS
* Using Python interpreter
* Execute a Script
* Structuring with Indentation
* Editors

**Datatype and Variables**

* Variables
* Variables v/s identifiers
* Naming convention of variables
* Keywords

**String**

* Single-quote, double quote and multi-line strings
* String Operations ( Concatenation,  Repetition, Indexing, Slicing, Splitting and joining )

**Control Flow**

* If/Else Statements
* For/while Statements
* Range() function
* Break and continue statements
* Else clauses on Loops
* Pass statements

**Functions**

* Defining Function
* Default Argument
* Keyword Argument
* Arbitrary Arguments List
* Unpacking Argument List
* Documentation Strings

**List Data Structure**

* Indexing
* Slicing
* Sorting
* List Comprehensions
* Appending to the list
* Extending the list
* Repetitions

**Tuples**

* Immutable objects
* Indexing
* Slicing
* Sorting
* Tuple Comprehensions

**Sets**

* Immutable objects
* Add, Clear, Copy Sets
* Difference
* Intersection

**Dictionaries**

* Iterating over dictionaries
* Accessing non existing keys
* Copy dictionaries
* Lists from dictionaries

**Input and Output**

* Input function
* Input with raw\_input()
* Output with old string format
* Python format function

**File handling**

* Reading from the file
* Writing to the file
* Methods of file objects

**Error and Exceptions**

* Syntax Errors
* Exceptions
* Handling Exceptions (try, except)
* Raising Exceptions (raise)
* Clean-up Actions (try… finally)
* Else Clause
* Assert statements

**Class Concept**

* Class Syntax
* Class Objects
* Instance Objects
* Method Objects
* Class and Instance Variables

**Inheritance**

* Multiple Inheritance

**Data Encapsulation**

* Public
* Private
* Protected

**Module**

* Creating Modules
* Import a module
* Import the names
* Executing modules as scripts

**Standard Modules**

* sys module – access to exit(), stdout, sdin, argv…
* Re module for regular expressions
* sys – file system, operating system interface.
* math – math functions
* datetime – date and time libraries
* dir() function

**Packages**

* Importing \* from a Package
* Intra Package Reference