

Course Name : Python 3 Basics to Intermediate
Duration : 2 Days
Skill Level : Beginner

Course Description :

The candidates will learn to represent and store data using Python data types and variables, and use conditionals and loops to control the flow of your programs. Apart from basics, the trainer will teach the candidates the intermediate modules like Functional, Object Oriented Programming, Error Handling & Packaging. At the end the of the course, the candidates will build a course project to practice the knowledge into real application.

MODULE 1: INTRODUCTION

- Welcome
- What you need to know?
- Introduction to Python

MODULE 2: BASIC CONCEPTS

- Introduction
- What is Python?
- Your First Program
- Simple Operations
- Floats
- Other Numerical Operations
- Strings
- Simple Input & Output
- String Operations
- Type Conversion
- Variables
- In-Place Operators
- Using an Editor

MODULE 3: CONTROL STRUCTURES

- Booleans & Comparisons
- If Statements
- Else Statements
- Boolean Logic
- Operator Precedence
- while Loops
- Lists
- List Operations
- List Functions
- Range
- For Loops
- Simple Calculator

MODULE 4: FUNCTION & MODULES

- Code Reuse
- Functions
- Function Arguments
- Returning from Functions
- Comments & Docstrings
- Functions as Objects
- Modules
- The Standard Library & PIP

MODULE 5: EXCEPTIONS & FILES

- Exceptions
- Exception Handling
- finally
- Raising Exceptions
- Assertions
- Opening Files
- Reading Files
- Writing Files
- Working with Files

MODULE 6: MORE TYPES

- Harmony, ES6, ES2015...
- None
- Dictionaries
- Dictionary Functions
- Tuples
- List Slices
- List Comprehensions
- String Formatting
- Useful Functions
- Text Analyzer

MODULE 7: FUNCTIONAL PROGRAMMING

- Functional Programming
- Lambdas
- map & filter
- Generators
- Decorators
- Recursion
- Sets
- Itertools

- Designing the Program
- Implementing the Program
- Iterative Programming
- Finishing Touches

MODULE 12: CONCLUSION

- QA
- Useful Python Resources
- Feedback

MODULE 8: OBJECT-ORIENTED PROGRAMMING

- Classes
- Inheritance
- Magic Methods & Operator Overloading
- Object Lifecycle
- Data Hiding
- Class & Static Methods

MODULE 9: REGULAR EXPRESSIONS

- Regular Expressions
- Simple Metacharacters
- Character Classes
- More Metacharacters
- Groups
- Special Sequences
- Email Extraction

MODULE 10: PYTHONICNESS & PACKAGING

- The Zen of Python
- PEP
- More on Function Arguments
- Tuple Unpacking
- Ternary Operator
- More on else Statements
- `_main_`
- Major 3rd-Party Libraries
- Packages
- Packaging for Users

MODULE 11: COURSE PROJECT: WIKIPEDIA WEBCRAWL

- Case Study Introduction
- Laying the Groundwork