

# Python Course Content

## **Module 1: An Introduction to Python**

- What can Python do?
- Why Python?
- Good to know
- Python Syntax compared to other programming languages
- Python Install

## **Module 2: Beginning Python Basics**

- The print statement
- Comments
- Python Data Structures & Data Types
- String Operations in Python
- Simple Input & Output
- Simple Output Formatting
- Operators in python

## **Module 3: Python Program Flow**

- Indentation
- The If statement and its' related statement
- An example with if and it's a related statement
- The while loop
- The for loop
- The range statement
- Break &Continue
- Assert
- Examples for looping

## **Module 4: Functions& Modules**

- Create your own functions
- Functions Parameters
- Variable Arguments
- Scope of a Function
- Function Documentation
- Lambda Functions& map
- n Exercise with functions
- Create a Module
- Standard Modules

## **Module 5: Exceptions Handling**

- Errors
- Exception handling with try
- handling Multiple Exceptions
- Writing your own Exception

## **Module 6: File Handling**

- File handling Modes
- Reading Files
- Writing& Appending to Files
- Handling File Exceptions
- The with statement

## **Module 7: Classes In Python**

- New Style Classes
- Creating Classes
- Instance Methods

- Inheritance
- Polymorphism
- Exception Classes & Custom Exceptions

## **Module 8: Generators and iterators**

- Iterators
- Generators
- The Functions any and all
- With Statement
- Data Compression

## **Module 9: Data Structures**

- List Comprehensions
- Nested List Comprehensions
- Dictionary Comprehensions
- Functions
- Default Parameters
- Variable Arguments
- Specialized Sorts

## **Module 10: Collections**

- namedtuple()
- deque
- ChainMap
- Counter
- OrderedDict
- default dict
- UserDict

- UserList
- user string

## **ADVANCE PYTHON**

### **Module 11: Writing GUIs in Python (Tkinter)**

- Introduction
- Components and Events
- An Example GUI
- The root Component
- Adding a Button
- Entry Widgets
- Text Widgets
- Check buttons

### **Module 12: Python SQL Database Access**

- Introduction
- Installation
- DB Connection
- Creating DB Table
- INSERT, READ, UPDATE, DELETE operations
- COMMIT & ROLLBACK operation
- handling Errors

### **Module 13: Network Programming**

- Introduction
- A Daytime Server
- Clients and Servers
- The Client Program

- The Server Program

## **Module 14: Date and Time**

- sleep
- Program execution time
- more methods on date/time

## **Module 15: Few more topics in-detailed**

- Filter
- Map
- Reduce
- Decorators
- Frozen set
- Collections

## **Regular expression**

- Split
- Working with special characters, date, emails
- Quantifiers
- Match and find all
- character sequence and substitute
- Search method

## **Module 17: Threads ESSENTIAL**

- Class and threads
- Multi-threading
- Synchronization
- Threads Life cycle

- use cases

## **Module 18: Accessing API ESSENTIAL**

- Introduction
- Facebook Messenger