

Python Programming Course

Course Flow:

- Python Programming
- Project
- Assessment and Certificate

Python Programming:

➤ Python Fundamentals:

- Python Installation, Python Idle & Set path in Environment variable
- Test Python Version
- Python First Code using print() Function
- Python For Web Development

➤ Python Comments, Control Structure and Loops:

- Python Multiline Comment, Single Line Comment
- Python With If
- Python With if and else
- Python with Nested if
- Python if with pass statement
- Use of While Loop in Python

➤ Python Operators:

- Boolean Operators in Python (>, <, ==, ==)
- Evaluate Boolean, bool() as a Function
- Arithmetic Operator
- Assignment Operator
- Comparison Operator
- Logical Operator
- Exponential Operator

➤ Python Lists:

- List Creation in Python
- Print List Item Using Index Number
- Change List Values
- Check List length in Python
- Check Data type using type() function
- Python List as a constructor
- List With index Range
- Add Item in list using append() function
- Add Item in list using insert() function at specific position
- Remove list item using remove(), pop() function & del keyword
- Clear list & delete list using list keyword
- Use of for loop to extract lists

➤ **Python Tuple:**

- Creation of tuple which is unchangeable
- Tuple Items extraction using index number
- Check length using len()
- Tuple creation using one item
- Check type using type() function
- Tuple as a constructor
- Tuple access using For loop
- Tuple access using range index
- Tuple with negative range index
- Check item exist in tuple
- Update tuple & check
- Update tuple using append & list
- Remove tuple value using list
- Unpack tuple
- Join multiple tuple
- Multiply Tuple
- Check count of tuple
- Use of index() in tuple

➤ **Python Set:**

- Creation of set
- Set creation using constructor method
- Length of set
- Check data type of set
- Access set item using for loop
- Check item in set using in keyword
- Update set using update()
- Remove item from set
- Discard item from set
- pop() in set
- Del keyword for set
- Join set value using union & update

➤ **Python Dictionary:**

- Creation of dictionary using key and value
- Print dictionary item using keys
- Check length of dictionary
- Complex dictionary
- Check data type of dictionary
- Use of get() method
- Get all keys
- Change values in dictionary
- values() in dictionary
- items() in dictionary
- Check key exist in dictionary
- Change item in dictionary
- Update dictionary with key

- pop() function to remove from dictionary
- popitem() in dictionary
- Del keyword
- Clear dictionary
- Extract dictionary using for loop
- copy() & dict() function for duplicate

➤ **Python Function, Lambda:**

- Function Creation in Python
- Calling Function in Python
- Empty Function in Python
- Function with Arguments
- Function with Control Structure
- Use of List, Tuple, set & Dictionary in Function
- Python anonymous or lambda function
- Need of lambda function

➤ **Python File handling:**

- Use of mode in File handling, 'r' mode, 'w' mode, 'a' mode, 'x' mode
- open() function to read file
- read() function to access all data
- read() file using characters
- readline()
- Read file using for loop
- close() file
- write() function for append data
- Create file using 'x' mode & 'w' mode
- Delete file using OS module
- remove() & rmdir() function

➤ **Python Type Casting, Numbers & Data Types:**

- Check data type using type() function
- Str, int, float, boolean, list, tuple, set, dict
- Convert data type from list to tuple, int to float
- Types of number in python
- int(), float(), str() function

➤ **Python Custom Module, Date & Math Module:**

- Creating Custom Module in Python
- Use of module in py file using import keyword
- Import datetime module
- Use now() method
- Set custom datetime
- Access year, month, date, hour, minute, second using format
- Import math module
- min(), max(), pow(), abs(), sqrt(), ceil(), pow(), factorial(), fsum(), fmod(), isfinite(), isnan(), prod() Functions

➤ **Python String Formatting:**

- String format()
- String Format() Multiple Values
- String Format() With Index
- String Format() With Named Index

➤ **Python Variable Scope:**

- Local Scope
- Variable with local scope in Function
- Global Scope
- Global Keyword

➤ **In-Class Project**

Goal: In this module, you will do an in-class project based on all the concepts you have learned in the entire course

Objectives: After completing this module, you should be able to:

- Apply the python coding to the real world problems and develop the applications using Python programming and its libraries.

➤ **Assessment and Certificate**

