

# PYTHON PROGRAMMING

**What you will learn?** 1. Learn to use Python professionally, learning both Python 2 and Python 3! 2. Describe the basics of the Python programming language 3. Use variables to store, retrieve and calculate information. 4. Utilize core programming tools such as functions and loops. 5. Advanced topics such as Numpy, Pandas, Matplotlib. Reading and writing data files, Data Analysis and Visualization. 6. Web scrapping and Machine Learning basics 7. You will be trained to write programs on variety of problems

Course is

Beginners who have never programmed before.

Programmers switching to Python language.

Intermediate Python programmers who want to level up their skills!

Day / Session	Topic	Sub Topics	Duration (hrs)
1 and 2	Introduction to Python	Getting Started and Python Installation	3
		Keywords and Identifiers	
		Statements & Comments	
		Variables and Datatypes	
		Type Conversion	
		I/O and import	
		Operators	
2 and 3	Control Structures	if...else	3
		for Loop	
		while Loop	
		break, continue ,pass	
4 and 5	Functions	Introduction to Functions	3
		Defining and calling Functions	
		Passing arguments to a function	
		Returning values from a function	
		Function Recursion	
		Anonymous Function	
		Global Keyword	
		Modules and packages	
<b>Assignment - I</b>			
5 and 6	Data Structures	Working with Numbers	3
		List	
		Tuple	
		String	
		Set	
		Dictionary	
<b>Assignment - II</b>			
		OOP introduction	

7	Object Oriented Programming	defining a class and define objects	2
		Inheritance	
		Multiple Inheritance	
8 and 9	Numpy Arrays	Numpy and ndarray Basics	3
		Reshaping Arrays	
		Array Math Operations	
9 and 10	Pandas DataFrames	Pandas Series	3
		DataFrame Creation and Indexing	
		Exploring DataFrames	
		Python Working Directory and File Paths	
		Reading CSV and TSV Files	
		Reading Excel Files	
	Writing Data		
<b>Assignment - III</b>			
11 and 12	Data Exploration and Cleaning	Descriptive Statistics	3
		Initial Data Exploration and Preparation	
		Working With Text Data	
		Preparing Numeric Data	
		Dealing With Dates	
		Merging Data	
		Frequency Tables	
<b>Assignment - IV</b>			
12 and 13	Web Scrapping With Python	Introduction to web scrapping	3
		Understanding HTML elements	
		Using Python to extract data from web	
		writing the data to file	
14 and 15	Machine Learning	Introduction to ML	4
		Applications of ML Algorithms	
		Different machine Learning Algorithms	
		Linear and Logistic Regression	
<b>Assignment - V</b>			
Total Duration			30

#### Outcome

- 1 Python Developer
- 2 Software Engineer
- 3 Web Scrapper
- 4 Data Analyst