**CORPORATE TRAINING COURSES**

Course Name: **Intro to Python Programming**

Duration: 2 **Full Days**

**Learning Objectives**

* Install Python on personal computer.
* Learn the Python programming language by doing hands-on activities.
* Learn about Jupyter (iPython) notebooks and how they are used.
* Learn the unique features of the Python and why it has become so popular.
* Learn many of the ways in which Python is used (e.g., data science, web development, database access).
* Learn Object Oriented Programming with Python classes.
* Create 2 different projects using Python.
* Understand How Python Can be Used on Personal and Professional Projects.

**Brief Description**

This course will introduce you to the Python programming language and why it has become so popular. Being able to code in Python will open up a world of opportunities, such as doing data analytics and data science, developing for the web, and working with databases. In this course, you will learn Python 3. We will start by helping you get Python installed on your computer. You will then be introduced to Jupyter Notebooks – an interactive way to learn Python. We will use a practical, hands-on approach to help you learn the structure of Python. You will learn the various mathematical and string operations, in addition to Python’s various data structures. You’ll also learn how to effectively communicate in Python using statements and how to use .py files. We’ll then move forward to learn about Functions, Methods, and Object Oriented Programming in Python and its advantages. Importantly, there will be 3 Milestones that you’ll implement along the way to ensure understanding.

**Course Outline**

1. Course Introduction

2. Overview of the Language

3. Installing Python

4. Introduction to Notebooks

5. Python Data Types

6. Introduction to Numbers and Mathematical Operations in Python

7. Using Variables

8. Introduction to Strings

9. Print Formatting

10. Python Data Structures (Lists, Dictionaries, Tuples, Sets)

11. Comparison and Logical Operators in Python

12. Python Statements (If, Elif, Else, For Loops, While Loops)

13. Milestone 1: Solve FizzBuzz problem using “if” statements

14. Methods and Functions

15. File I/O

16. Milestone Project 2 – Analyze Personal Finances using Functions

17. Object Oriented Programming

18. Modules and Packages

19. Milestone Project 3 – Create a Small Game using Object Oriented Programming

20. Conclusion: Moving Forward with Python

**Structured Activity/Exercises/Case Studies**

Milestone Project 1: Solve the “FizzBuzz” problem using “if” statements.

Milestone Project 2: Write a program to analyze your personal finances using Functions.

Milestone Project 3: Write a small game using Object Oriented Programming.