

# Python® Programming: Introduction

**Duration: 2 Days**

## Course Description:

Python® has been around for decades, but it's still one of the most versatile and popular programming languages out there. Whether you're relatively new to programming or have been developing software for years, Python is an excellent language to add to your skill set. In this course, you'll learn the fundamentals of programming in Python, and you'll develop applications to demonstrate your grasp of the language.

## Course Objectives:

In this course, you will develop simple command-line programs in Python.

You will:

- Set up Python and develop a simple application.
- Declare and perform operations on simple data types, including strings, numbers, and dates.
- Declare and perform operations on data structures, including lists, ranges, tuples, dictionaries, and sets.
- Write conditional statements and loops.
- Define and use functions, classes, and modules.
- Manage files and directories through code.
- Deal with exceptions.

## Prerequisites:

It is recommended, but not required, that you have at least six months experience programming in an object-oriented language. Even if you don't, this course can be useful to those that are new to programming. To ensure your success in the course, you should have at least a foundational knowledge of personal computer use. You can obtain this level of skills and knowledge by taking either of the following Logical Operations courses, or have equivalent experience:

- Using Microsoft® Windows® 8.1
- Microsoft® Windows® 8.1: Transition from Windows® 7

## Target Audience:

This course is designed for people who want to learn the Python programming language in preparation for using Python to develop web and desktop applications.

## Course Outlines:

### Lesson 1: Setting Up Python and Developing a Simple Application

- Topic A: Set Up the Development Environment
- Topic B: Write Python Statements
- Topic C: Create a Python Application
- Topic D: Prevent Errors

### Lesson 2: Processing Simple Data Types

- Topic A: Process Strings and Integers
- Topic B: Process Decimals, Floats, and Mixed Number Types

### Lesson 3: Processing Data Structures

- Topic A: Process Ordered Data Structures
- Topic B: Process Unordered Data Structures

### Lesson 4: Writing Conditional Statements and Loops in Python

- Topic A: Write a Conditional Statement
- Topic B: Write a Loop

### Lesson 5: Structuring Code for Reuse

- Topic A: Define and Call a Function
- Topic B: Define and Instantiate a Class
- Topic C: Import and Use a Module

### Lesson 6: Writing Code to Process Files and Directories

- Topic A: Write to a Text File
- Topic B: Read from a Text File
- Topic C: Get the Contents of a Directory
- Topic D: Manage Files and Directories

### Lesson 7: Dealing with Exceptions

- Topic A: Handle Exceptions
- Topic B: Raise Exceptions

Appendix A: Major Differences Between Python 2 and 3

Appendix B: Python Style Guide

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training@trends.com.ph  
(+632) 8863-2123  
www.trendssacademy.com.ph