

## Python Programming

**Duration: 40 hrs**

### Audience:

- System Analysts
- Business Analysts
- System Architects
- Developer
- Application Developers
- PL/SQL Developer

### Suggested Prerequisites:

- None

#### Installing Python

Installing Python In Windows

#### Writing Your First Program - Hello, World!

Entering And Running A Program In Windows  
Exercise 1

#### Python Basic Data Types And Variables

Expressions, Statements, Variables  
Working With Numbers  
Working With Strings  
Working With Booleans  
Working With Lists  
Working With Dictionaries  
Working With Tuples  
Exercise 1  
Exercise 2

#### Python Input/Output

Using The Print Function - Part 1  
Using The Print Function - Part 2  
Getting Input From The User  
Exercise 1

#### Making Decisions - if Statements

The Relational Operators  
The Logical Operators  
Simple if Statement  
if-else Statement  
if-elif Statement  
Exercise 1  
Exercise 2

#### while Loops

Introduction To while Loops  
Count-Controlled while Loops  
Event-Controlled while Loops  
Using continue  
Using break  
Working With Files - Part 1  
Working With Files - Part 2  
Exercise 1  
Exercise 2

#### for Loops

Introduction To for Loops - Part 1  
Introduction To for Loops - Part 2  
for Loops With Lists  
for Loops With Tuples  
for Loops With Dictionaries  
for Loops With Files  
Exercise 1  
Exercise 2

#### Iterators

Understanding Iterators  
Using iter And next  
Iterators And Dictionaries  
Other Iterators  
Exercise 1

#### List Comprehensions

Introduction To List Comprehensions  
Using List Comprehensions With Files

Exercise 1

### Functions

Introduction To Functions - Why  
Defining Functions  
Calling Functions  
Functions With Multiple Arguments  
Predicate Functions  
Exercise 1  
Exercise 2

### More On Functions

Recursive Functions - Part 1  
Recursive Functions - Part 2  
Function Objects  
Anonymous Functions  
Higher-Order Functions  
Exercise 1  
Exercise 2

### Scope

Global Scope  
Local Scope  
Nested Scope  
Exercise 1 - Part 1  
Exercise 1 - Part 2

### Modules

Using Built-In Modules  
User-Defined Modules - Part 1  
User-Defined Modules - Part 2  
Module Namespaces  
Exercise 1

### Object-Oriented Programming - Part 1

Abstract Data Types  
Designing A Class, Fields And Constructors  
Designing A Class, Methods  
Data Structure For Fields  
Exercise 1  
Exercise 2

### Object-Oriented Programming - Part 2

Creating A Derived Class - Part 1  
Creating A Derived Class - Part 2  
Exercise 1  
Exercise 2

### Exception Handling

Exceptions Demonstrated  
Try-Except Statements  
Try-Except-Finally Statements  
The raise Statement  
Exercise 1

### Using Data Structures

Exercise 1 - Lists  
Exercise 2 - Tuples  
Exercise 3 - Dictionaries

### Date Handling

Retrieve Time  
Formatted Time  
time module  
Calendar  
Calendar module

### Using Numpy for Data Science